THE EFFECTIVENESS OF INTENSIVE ENGLISH LANGUAGE PROGRAMS: PREPARING INTERNATIONAL STUDENTS LINGUISTICALLY, ACADEMICALLY, AND CULTURALLY FOR ACADEMIC STUDIES

by

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DEDICATION

Dedicated to the glory of God and . . .

to the amazing, beautiful international students I have met and taught at Montana State University. They enrich my life and guide me to new understandings of and appreciation for our differences and our similarities.

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TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUE

TABLE OF CONTENTS CONTINUED

TABLE OF CONTENTS CONTINUED

LIST OF TABLES

Table Page

LIST OF TABLES CONTINUED

Table Page

LIST OF FIGURES

Figure Page

LIST OF FIGURES CONTINUED

ACRONYMS

Acronym	
ACE/MSU	American Cultural Exchange Intensive Language Program
CEA	Commission on English Language Program Accreditation
CIGE	Center for Internationalization and Global Engagement
EAP	English for Academic Purposes
EFL	English as a Foreign Language
ETS	Educational Testing Service
ESL	English as a Second Language
ESP	English for Specific Purposes
IELTS	International English Language Testing Services
IEP	Intensive English Program
MSU	Montana State University
NAFSA	NAFSA: Association of International Educators
OIP	Office of International Programs
OPA	Office of Planning and Analysis
SLA	Second Language Acquisition
STEM	Science, Technology, Engineering, and Mathematics
TESOL	Teachers of English to Speakers of Other Languages
TOEFL	Test of English as a Foreign Language

ABSTRACT

The goal of this problem of practice institutional research study was to determine the effectiveness of the contracted intensive English language program (IEP) to prepare students for academic work. A further goal of the study was to consider the effect of culture on academic performance in the first two semesters of academic study. Problem of practice research was used because it is useful in providing institutions with information and analysis pertaining to their particular context. The study used a quantitative research approach using institutional and program historic, secondary data to examine the relationship between intensity of IEP participation and academic GPA in students' first and second semester of study at Montana State University (MSU). Univariate, bivariate and binary logistic regression analyses were conducted. GPA was the outcome variable. Predictor variables included factors related to participation in ACE/MSU such as entering and exiting program level, graduating or not graduating, and adjustment to the U.S. American academic culture. Variables that measured cultural background were country of passport and four of Hofstede's (2001) dimensions, Power Distance Index (PDI), Individualism versus Collectivism (IDV), Uncertainty Avoidance Index (UAI), and Masculinity versus Femininity (MAS). Confounding variables major field of study and cohort were considered. Results from the study indicated that a higher percentage of students who had adjusted to the academic culture (never failed a class) achieve a High GPA than students who failed one or more classes in IEP. Results also indicated that students who graduated from the IEP achieved High GPA at about the same rate as direct-entry students. The findings showed that the institutional IEP was effective in preparing students for academic studies. The research also suggested that students at the institution from Kuwait and Saudi Arabia were not well-prepared for academic success at the institution. Another outcome of the study revealed a strong, conceptually negative relationship between score for PDI and High GPA in the first and second semesters. Kuwait and Saudi Arabia have high PDI scores. Implications from the findings and recommendations for future research and for institutional program and policy changes were given.

INTRODUCTION

In U.S. American higher education, international students are valued for providing both diversity in the student population and economic benefits for the institution and host community (W. M. Martin & Lomperis, 2002; NAFSA: Association of International Educators, 2016; Pandit, 2013). According the Open Doors Data (Institute of International Education, 2020a), 1,095,299 international students were enrolled in higher education in the United States in the school year 2018/2019. This was double the number of international students enrolled 2004/2005 (IIE, 2020a). According to Altbach and Comparative Education Center (1991), "International students in the U.S. are considered the human embodiments of a world-wide trend towards the internationalization of knowledge and research in an integrated world economy" (p. 305). International students offer U.S. American institutions the benefit of increasing opportunities for the internationalization and globalization of the campus (Altbach, 2006, 2013; Altbach & Knight, 2007; Deardorff, 2006). An internationalized campus has the potential to benefit domestic and international students who will leave college and enter a global economy. In addition, international students have a wealth of cultural and experiential knowledge that has the "potential" to assist U.S. American students in their understanding of other cultures and languages (Hurtado, 2007). International students' views on political situations can potentially add diversity to the classroom discussions and personal interactions, thus further broadening domestic students' understanding of global situations. I emphasized the word "potential" because it is important for students,

both domestic and international, professors, administrators, and staff to recognize that all these potential benefits will not be realized without intentional effort and planning.

In addition to providing diversity, internationalization opportunities, and contributing to research, international students contribute financially. They create jobs and a significant stream of income to the institution, the state, and the nation. The contribution made by the over one million international students nationwide in 2015-2016 equaled almost $33 billion and provided over 400,000 jobs (NAFSA, 2016). IEPs provide a strong stream of international students and income which comes largely from outside the U.S. (Orlando, 2016). According to NAFSA (2020), from 2008 to 2018, international student enrollment in Montana schools ranged from 1219 to 2136 each year, supported from 404 to 642 jobs each year, and added from $28 million to almost $60 million per year to the economy. In the school year 2014 -2015, MSU hosted 673 international students (Montana State University, Office of Planning and Analysis, 2016); it could be calculated that they have contributed approximately $22.7 million to Montana's economy and supported 286 jobs (NAFSA, 2016).

As important as benefits to the hosting country and internationalization of campus are the benefits to the sending country (Kwai, 2009). For instance, the Kingdom of Saudi Arabia has been seeking to balance its oil culture with a knowledge culture by sending large numbers of students to study abroad. Most Saudi students who study abroad will return to work for the government (Walcutt, 2016, September 28). International students return home with cross-cultural skills ready for jobs in the globalized economy (Kwai, 2009). The sending countries also benefit from the transfer of technology skills and the

development of diplomatic and business ties. Andrade and Evans (2009) noted that hundreds of world leaders had received their education in the United States.

Gaining an U.S. American education is a central goal of international students (Andrade & Evans, 2009). Opportunities to study abroad provide the participants a path to upward mobility, particularly for women. International students gain technical skills that benefit not only them, but also benefit their home countries. The acquisition of advanced English language proficiency places international students in a position to be placed in positions of leadership and higher paying jobs. Of no small importance in today's political world, international students gain in their cross-cultural skills, revise their stereotypes of Americans, and become more open minded and accepting of other worldviews (Andrade & Evans, 2009). The benefits to international students and the institutions they attend are realized when they are welcomed and supported in meeting their academic and life goals. Indeed, the world benefits when international students return home with broader understanding of the global world.

Problem and Purpose:

Since 2010, Montana State University has been admitting a growing number of international students (Montana State University, Office of Planning and Analysis, 2018b). As a result of the rapid growth, MSU's international students' academic support services may not have kept pace with the growing population. The international students came from a variety of educational and cultural backgrounds. The general problem was that with the sudden increase in international students, the university may not have

increased its awareness and understanding of the specific challenges associated with studying in another language for the new recruits. The range of English language proficiency of enrolled students was quite broad. Research has shown that international students struggle academically if they have a low level of English language proficiency (P. Johnson, 1988; Ransom, Larcombe, & Baik, 2005). The language difficulties were compounded when the student was from a culturally different academic background (Eland, 2001). A low English language level, combined with academic cultural differences, placed students in an overwhelmingly challenging position. For MSU, the specific problem was that the largest, single group of international students enrolling at MSU were coming from Muslim-majority countries[1] such as Turkey, Saudi Arabia and Kuwait, countries that were culturally and academically distinct from the U.S. (Duignan, 2012; Hofstede, 2001a). Those countries also had low academic English preparation. According to Education First (2019), the average test scores for Saudi Arabia placed it 98th out of 100 countries in their database. Only two countries score lower than Saudi Arabia.

I discovered several reasons that institutions and stakeholders (students, instructors, professors, IEP administration, university administration, and International Recruitment and Admissions Department) (Orlando, 2016) may not give sufficient attention to international students' preparation for success in a U.S. American higher

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[1] I used the designation and list of Muslim-majority countries provided by Center for the Education of Women (Center for the Education of Women, n.d.)

education classroom. One reason was the marginalization of IEP on the U.S. American campus as suggested by Thompson (2013). A “possible reason for the lack of research in ESL programs is the unfortunate phenomenon of the marginalization of these programs in the university setting” (p. 213). While teaching Level 6 in the Language Institute A.C.E., hereafter referred to as ACE/MSU, intensive English language program, I became aware of the manifold benefits the program offered international students. I perceived the program addressed the four basic language skills of reading, writing, listening and speaking; moreover, it provided a thorough introduction to and preparation in academic English skills needed for academic success at MSU. (see Table 13 ACE/MSU Core Curriculum 2011 and Appendix A). Perhaps more importantly, I observed that the program exposed students to the U.S. American academic culture found at MSU while they were adjusting to life on campus and in a new country. As a result of my observations, I included in my study a thorough discussion of theories and research studies examining the purposes and effectiveness of intensive English programs in preparing students for academic study in English-speaking universities in North America (Cheng & Fox, 2008; Clark, Lippincott, & Kim, 2021; Dooey, 2010; Fox, Cheng, & Zumbo, 2014; James, 2006; Orlando, 2016; Storch & Tapper, 2009). Because I considered that the practices and curriculum of ACE/MSU had potential to inform practices and curriculum for other international student academic support programs, I conducted research to determine the effectiveness of ACE/MSU in preparing international students for academic success at MSU.

Significance:

My study provided the MSU International Recruitment and Admissions Department with the empirical evidence needed to guide them in making updates to current policy. Institutions should regularly review admissions policies to ensure that international students admitted have adequate language proficiency to reach their academic potential, and empirical evidence is needed. “The strategic use of data on program impact can be employed to validate the claim that resources committed to the program is in fact an investment that generates benefits to the institution that outweigh the costs of the program” (Tinto, 2007, p. 10).

Moreover, this study had significance because it substantiated past and current research regarding the efficacy of intensive English programs (IEPs) to prepare international students for academic studies. The results provided empirical evidence to inform future decisions regarding orientation, curriculum and programs for international students at MSU. Orlando (2016) maintains that administrators and other departments in universities are often unaware of IEP programs. Further, IEPs are marginalized in the university setting for a number of reasons according to Thompson (2013) and Clark, Lippincott, and Kim (2021). However, because these programs provide a steady stream of students and revenue, administrators need to take an interest in the programs and in what they have to offer to other university programs and departments.

Theoretic Frameworks and Previous Research:

Researcher's Positionality:

My experience in learning and teaching language had been extensive. I have taught English or conducted professional development seminars for English language teachers in 12 countries. Therefore, I reviewed the life experiences that had influenced my research interest in international students and the approaches and methods in second language teaching I had personally experienced.

Language: To position myself to make recommendations concerning policies and practices at MSU, I surveyed and presented accepted theories in the field of linguistics central to understanding second language acquisition (Ellis, 2014; Fromkin, Rodman, & Hyams, 2015; Lessard-Clouston, 2018). The literature review addressed theories of language learning, such as Chomsky's Universal Grammar Theory (Fromkin et al., 2015), and of second language acquisition (SLA), such as Krashen's Natural Approach (Krashen & Terrell, 1995). Second language acquisition (SLA) theory and research do not support several commonly held myths. Brown and Larson-Hall (2012b) wrote a book about SLA myths. Believing two myths students decide studying for the test is more important than studying in an intensive English program. Myth 5 Language students learn (and retain) what they are taught. Myth 8 Language acquisition is the individual acquisition of grammar. Resting solidly on these two beliefs, some students in IEP classes refuse to believe the teacher when he or she tells them that the IEP classes will

better prepare them for academic studies than achieving a minimal score on the test. Lessard-Clouston (2018) explained the situation.

> Students might value placement tests over learning [academic English] . . . . A student may require a TOEFL iBT [Test of English as a Foreign Language, internet-based test] score of 75 to gain admission to his or her university of choice . . . however, this TOEFL iBT score is in not what the student actually *needs* in order to succeed at the university after the test is taken. (p. 7)

I challenged the oft-accepted assumption that standardized test scores can be used as the main predictor of academic readiness by an institutional international student admission's policy. I did so by discussing a series of research articles on the predictive validity of one of the tests most used by admissions, Test of English as a Foreign Language (TOEFL) and the International English Language Testing Services (IELTS (Bridgeman, Cho, & DiPietro, 2016; Cho & Bridgeman, 2012; Fass-Holmes & Vaughn, 2015; P. Johnson, 1988; Light, Xu, & Mossops, 1987). Findings suggest that, while generally the TOEFL iBT has only a slight statistically significant predictive ability (Cho & Bridgeman, 2012), predictability increases when participants are grouped, for example, by country of origin or major field of study (Bridgeman et al., 2016).

Culture: I also reviewed theories and research studies that addressed cultural challenges international students encountered during academic studies (Hofstede, 2001a; Kaplan, 1987). Second Language Acquisition research, Lessard-Clouston (2018) contended, indicates the need for overt teaching of academic skills specific to U.S. American institutions of higher education. These included being self-regulated learners and addressing issues of academic integrity. In addition, English language learners need

support beyond general English language skills in learning the skills for academic reading, writing, listening, and speaking.

> By its very nature, foreign language teaching is predicated on the conviction that because we are all humans, we can easily understand each other provided we share the same code; all we have to do is learn that code and use it accurately and appropriately. … Where it [foreign language teaching] has encountered difficulties is in the teaching of culture: for culture is difference, variability, and always a potential source of conflict when one culture enters into contact with another. Culture in language learning is not an expendable fifth skill, tacked on, so to speak, to the teaching of speaking, listening, reading, and writing. It is always in the background, right from day one, ready to unsettle the good language learners when they expect it the least, making evident the limitations of their hard-won communicative competence, challenging their ability to make sense of the world around them. (Kramsch, 1993, p. 1)

Theories and research that address cultural influences on international student academic performance were explored. Hofstede's (2001) Cultural Distance Models helped to explain academic difficulties experienced by international students in a U.S. American setting. Individualism versus collectivism, power distance, uncertainty avoidance, masculinity vs femininity, and long-term versus short-term orientation are five dimensions of culture applying to education and described in the literature review. A number of research studies based on Hofstede's theory, as applied to education, were reviewed (Itaya, Chambers, & King, 2008; J. A. Martin, Reaume, Reeves, & Wright, 2012). Itaya, Chambers, and King (2008) conducted research to determine the correlation of admissions criteria and cultural norms on GPA in a dental program. Martin, Reaume, Reeves, and Wright (2012) explored the effectiveness of librarians in assisting international students' use of the library and preparing students to apply U.S. American academic standards in course writing assignments. Two studies applied Hofstede's

(2001) models to determine the validity of the grouping of Muslim-majority countries (Al Saqer, 2019; Perez-Huertas & Barquin-Rotchford, 2020).) Al Saqer (2019) grouped Arab countries in a research study and justified the grouping based on evidence of similarity using Hofstede's (2001) cultural dimensions. The Perez-Huertas and Barquin-Rotchford (2020) study determined which cultural norms were generalizable to the Islamic world.

Critical First Year: Several theoretic frameworks influenced my decision to focus on pre-college characteristics and their impact on the first and second semesters of study. First, Astin's Inputs-Environment-Outputs (I-E-O) framework (1993) informed my understanding of the power of a student's characteristics and background to influence success in college. Schlossberg's Transition Model (2011) clarified that not all students have the same degree of intensity when transitioning to college. Similarly, Paige, Fry, Stallman, Jon, and Josic (2010) discovered factors which contributed to the depth/intensity of program for study abroad students. One of the factors which contributed depth of program was being in a non-English speaking country. Prompted by the writings of these three, I reviewed research which described the importance of the first-year experience on student retention (Barefoot, 2000; Mayhew et al., 2016; Seifert, Pascarella, Goodman, Salisbury, & Blaich, 2010; Tinto, 2007). "The first year is the critical year in which decisions to stay or leave are most often made, where the foundations for effective learning are or are not established. . ." (Tinto, 2007, p. 8). Critically important for international students from differing educational settings was the acquisition of the "foundations for effective learning." Of particular importance to this study was the indication that what happens in the first six weeks of the first semester was

powerful in its influence on retention. Tinto (1988) references studies by Daubman, Williams, Johnson, and Crump (1985) and Louis and Potter (1986) in the following quote:

> . . . the forces that shape departure during the first year of college, especially during the first six weeks of the first semester, are qualitatively different from those that mold departure in the latter years of college [ref]. In their view, the first six months of college are an especially important period in student persistence and completing the first year is more than half the battle in persistence to the Bachelor of Arts degree. (p. 439)

Indeed, MSU takes pride in its student retention to second semester rates, and the strategic plan sets as a goal the improving of student retention. MSU President Waded Cruzado is quoted as saying, “We know that the experience a student has in their first year of college is crucial to their long-term success” (Becker, 2020, para. 3). Kwai (2009) found second semester GPA to be a primary factor in retention. Other studies (Woosley, 2003; Woosley & Miller, 2009) considered academic integration, social integration and institutional commitment as measured in college students’ first few weeks related to student success, including retention to second year, GPA in second and third semesters, and degree completion. Because of the high impact that the early days and weeks in academic classes have on future academic decisions and performance, it was important for me to investigate the influence of academic language and culture preparation on academic success.

Setting:

The setting for this single-institution research study was a land-grant[2], research university located in central Montana in the Rocky Mountains. Fall 2019, Montana State University (MSU) had the highest international student enrollment in the state (757) compared to University of Montana (UM) (390) (Montana State University, Office of Planning and Analysis, 2020b; University of Montana, 2020a). The high enrollment was contributable in part to the on-campus intensive English language program (IEP) which sent students out of the program and into the university. ACE/MSU experienced its highest enrollment in 2010, contributing to the later enrollment patterns in the university. In 2015, MSU recorded its highest percent of international student enrollment—5%; in 2017 the highest number of countries was represented, with students from 71countries (Montana State University, Office of Planning and Analysis, 2018a).

Unlike the international student demographics for the U.S., with the top three countries of origin being China, India, and South Korea (IIE, 2020b) , international students at MSU are largely from Saudi Arabia and Turkey, with China, India, Canada and Kuwait all vying for the third largest international student population (Montana State

[2] The Morrill Act of 1862 created land-grant colleges ". . . by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life " ("Morrill Land Grant Act of 1862: An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," 1862).

University, Office of Planning and Analysis, 2020a). Nationally, there are ten times as many students from China as from Saudi Arabia (IIE, 2020b) ; at MSU, the two countries are almost equally represented. Between 2001 and 2020, there were 248 distinct enrollments from China and 222 from Saudi Arabia (MSU, OPA, 2020a). Another contrast is the level of study. Nationally, 50% of international students were undergraduate (IIE, 2020a), but at MSU 75% were undergraduate (MSU, OPA, 2020b) . The differences between international student demographics nationally and MSU specifically confirm the importance and value of institutional research and assessment (Astin & Antonio, 2012). Like MSU, every institution must address the English language needs of its distinct student population within the local culture of the university setting.

Research Design:

The purpose of a correlational study is to identify the existence, strength, and direction of the relationship between minimally 1 predictor variable and 1 outcome variable. My quantitative correlational study used historic secondary data to determine the predictive relationship between studying at ACE/MSU and GPA in the first and second semester at MSU. The effectiveness of the on-campus English language program, ACE/MSU, in preparing international students for college success was the focus of my study. I considered the linguistic and cultural training needed for academic success and hypothesized that since those were provided by ACE/MSU, students from the program would do better or as well as direct-entry students. The study differentiated between MSU direct-entry international students and those students who entered academic studies

after attending or attending and graduating from ACE/MSU. Direct-entry international students gained full entrance after graduating from one of the other ten (10) MSU approved IEPs (see Appendix B1), or by virtue of an institutionally accepted score on one of 13 tests of English language proficiency, or by graduating from a U.S. American high school (see Appendix B2).

Research Questions:

To theory and past research, I have added my own quantitative study. The first research question I formulated considered a subsample of students. Only those students who had been enrolled in ACE/MSU were examined. Because I consider the ACE/MSU intensive English language program to be a model for future institutional academic support programs, I wanted to determine what, if any, effect participation in the program had on later academic performance. Research Question 1: What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance? Next, I wanted to consider the effect of the path international students followed to obtain enrollment at MSU. The two paths were 1) graduating from ACE/MSU or 2) providing other evidence of English language proficiency. Students who needed to provide evidence of English language proficiency were those who had never attended ACE/MSU and those who had attended but left before graduation. Research Question 2: What is the relationship between a student's path to MSU enrollment and first-year academic performance? Finally, I wanted to investigate the relationship background culture may have on academic performance. The contrast between U.S. American academic culture and an international student's background culture can lead to

challenges in achieving academic goals. Research Question 3: What is the relationship between a student's background culture and first-year academic performance? Confounding variables considered in the statistical analyses included cohort and major.

Sample Population:

The population sample consisted of first-time, degree-seeking international students who enrolled in MSU university-level courses from 2010–2016. Students were from non-English speaking countries who attended two semesters out of their first 12 months enrolled at MSU. Data was obtained from the MSU Office of Planning and Analysis (OPA), MSU OIP and INTERLINK, MSU for international students who enrolled in university studies between 2010 and 2016. The years selected for the study aligned with the years that ACE/MSU was contracted to provide English language education for international students. Of the 403 international students in my sample, 135 had attended ACE/MSU. Of those 135, 89 had graduated from the program and 46 entered MSU before graduating from ACE/MSU. About 74% (175) were male. Ages of students in the sample averaged 20 years of age. Although my student sample included 52 different majors, the majority of the students were enrolled in some field of engineering (52%) or business (20%). Most of the students had enrolled in Science, Technology, Engineering, and Math (STEM) fields. Students from Saudi Arabia (38%) and China (18%) represented the majority of the international students in the sample.

Variables:

The outcome variable was GPA in the first and second semesters. GPA was dichotomized to High GPA (GPAH1, GPAH2) and Low GPA. For Research Question 1, using a subsample, I investigated the relationship between four variables related to ACE/MSU. The focus of the dichotomous variable ACE indicated whether a student had graduated from ACE/MSU (GRAD) or attended some sessions without graduating (SOME). To this variable, I added a variable to measure student adjustment to ACE/MSU studies, ADJUST. Adjustment was operationalized by considering the number of classes a student failed (>0FAILS) or did not fail (NOFAIL). Two continuous variables reflected the level in the ACE/MSU core curriculum a student entered (FIRSTENGL) and the last level attended (LASTENGL). To the statistical analysis for this question, I considered the confounding effect of cohort (COHORT). COHORT indicated the year the student entered academic studies at MSU. I answered Research Question 2 by considering a student's path to enrollment at MSU (PATH) based on evidence of English language proficiency. To the previous variables GRAD and SOME, I added DIRECT to represent students who were direct-entry students. The confounding influence of a student's chosen field of study (MAJOR and STEM) was considered as well. MAJOR included Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Pre-Business, Non-STEM (excluding Pre-Business), and OTHER STEM (excluding four specifically named engineering majors). Additionally, I considered STEM (included all STEM majors) and Non-STEMb (included Pre-Business). After considering pre-college characteristics related to language preparation, I conducted statistical analyses to address

the influencing effect of cultural background. I examined the relationship between cultural background and GPA. I chose two separate operationalizations of the construct cultural background: country of passport (PASSPORT) and four dimensions from Hofstede's Cultural Distance Model (2001), power distance (PDI), individualism (IDV), uncertainty avoidance (UAI), and masculinity (MAS). PASSPORT included China, India, Korea, Kuwait, Nigeria, Saudi Arabia, and OTHER.

Data Analyses:

Data was cleaned, and missing values were removed. Exploratory data analysis (EDA) using RStudio was used to produce basic demographic information and create figures and plots (Leech, Barrett, & Morgan, 2015). EDA is conducted to produce "descriptive statistics (including the minimum, maximum, mean, standard deviation, and skewness)" and frequency distribution (Leech et al., 2015, p. 28). Variance inflation factor (VIF) value was used to test for collinearity. Cook's distance was used to check for the influence of outliers. Models were fitted using binary logistic regression analysis. RStudio functions were used to produce the exponentiated coefficients and exponentiated confidence intervals in each model. Nagelkerke test was run to determine Pseudo R^2, degrees of freedom, the Chi-squared value, and the p value for the models.

Assumptions, Limitations, and Delimitations:

Assumptions:

For my study, I assumed that MSU desired to support internationalization of the campus. Further, I assumed MSU believed it was its responsibility to provide suitable

support for international students recruited and accepted to the university. I assumed that the results of this study would be of interest for this reason. In addition, it was assumed that instructors, to varying degrees, were interested in how to best provide instruction for English language learners.

One of the assumptions of this study was that, despite world and global events of political and economic concern in 2016, international students would continue to come to the U.S. and to MSU. In the past, international student enrollment—after a brief downturn subsequent to the events of September 11, 2001—did continue to increase (Institute of International Education, 2004). Evidence also indicated that despite the political climate in the U.S.A., international students continued to arrive at universities in the U.S.A. (IIE, 2020b) . Covid-19 was responsible for the lower numbers in 2019 and 2020. Institutional data indicated a decrease in international students (MSU, OPA, 2020a); however, I assumed that the university would continue to recruit and receive international students. Therefore, I assumed that providing needed support for international students would continue to be an institutional concern. As noted by J. Lee (2010), how international students are supported may influence future levels of enrollment because future students often recruited family and friends currently enrolled. Therefore, supporting international students today ensures a continuing flow of international students to MSU tomorrow.

Limitations

The study was limited by available data for international students during the period under consideration. There was no consistent standardized scores for English

language proficiency at the time of matriculation, for students who did not graduate from ACE/MSU. Available data on international students did not include information about previous English language studies beyond that provided by MSU. There was no data available to determine what English-language experiences direct-entry student may have had before entering MSU. For example, the student may have attended a different intensive English program in the U.S.A. or attended high school in the U.S.A.; the possibilities of previous studies and living experiences in the U.S.A. or another English-speaking country are numerous. Thus, addressing potential confounding influence of these experiences on academic success was impossible. Another limitation of the study was that the country of passport does not guarantee that this is the country from which the student had acquired belief systems and cultural values, particularly those related to academic settings. Another limitation of the study was that almost 10% of the students in the study sample were missing country-of-passport information.

Delimitations

The study was delimited to students who attended INTERLINK, MSU because the IEP provider changed since the timeframe selected for the study. It was important to the study that the intensive English program from which participants were selected was as consistent as possible in curriculum and program type. To the extent possible, using data for students from only one English language provider would increase the consistency, considering philosophical, curricular, modular, and staffing during the period under consideration. Consistency is an important component in quantitative research. The study excluded graduate, exchange, and non-degree seeking students.

Although a significant portion of the international student population at MSU are Turks, they were not included in the study. The study only included first-year, degree-seeking students. The majority of Turks came to MSU for their second year of study; they were part of OIP partnership with two universities in Turkey (Pond, Blanchard, Heinrich, Horine, Sabry, Weikert, and Wilson, 2016). International students from English-speaking countries were not included.

Operational Definitions:

International Students:

In this study, international students were defined as students with a passport from a foreign country who had been accepted for academic study at MSU.

Conditional Acceptance

International students who met all academic requirements for admittance to the university except English language proficiency gained conditional acceptance. They may gain full admittance upon graduation from the on-campus IEP program or by re-testing and achieving an acceptable score on a standardized test of English language proficiency. The university in this study accepted international student proof of English language proficiency based on one of two criteria[3]: submission of an institutionally determined minimum or higher score on one of 13 accepted standardized tests of English, or

[3] Some exceptions are made. (Dr. Gonzalez, personal communication, fall 2019)

graduation from one of 11 IEP programs, inclusive of the institutional IEP (Montana State University, INTERLINK Language Center, 2019).

Intensive English Programs

Orlando (2016) provided a general definition. An IEP is

> . . . where international students study academic English in an intense, immersion-style environment as preparation for gaining admittance to a full-time degree program at a U. S. college or university. Most IEPs provide English language classes at various levels of difficulty to help international students meet the language requirements for admission to U.S. colleges and universities. (p. 8)

From a social justice perspective, Clark et al. (2021) provide a further definition of IEP. "The role of language proficiency programs in general serve as equalizers for students who may not have had the opportunity for language instruction in their home context" (p. 4).

ACE/MSU:

The IEP in this study was the English language provider under contract with the university, ACE/MSU. Over the years the IEP provider at MSU has changed. From 1994 to 2017, the provider was Associates in Cultural Exchange Intensive Language Program (ACE). From 2017 until the time of this study, the provider was INTERLINK International Institutes (Montana State University, INTERLINK Language Center, 2019).

Direct-Entry:

Students who enter a university without first attending the institutionally provided intensive English program were considered direct entry.

Academic Performance:

Researchers measure success in college in a variety of ways. Those include attaining personal goals, intellectual growth, and developing talent and moral development. Pascarella and Terenzini (2005) considered the effects of attending college in the U.S. was measurable by a growth in competence in verbal, quantitative, and subject matter, intellectual growth, and by psychological change and change in a person's attitudes and values. Academic achievement is also an important measure of success in college. In this study, the construct of academic performance was measured by grade point average (GPA) and was limited to first and second semesters of study.

Chapter Summary:

The first chapter of this research study provided an overall introduction to the study. I included the rationale, the problem, the purpose, and the significance of my study. International students are an important component of institutional internationalization and provide substantial income for the university. The problem was described as the need for recurring review of policy and programs related to international student recruitment, placement, and support. The goal of the study was to provide empirical evidence of the degree of benefit of the intensive English language program, ACE/MSU to concerned institutional entities. The significance of my research study to the institution, to ongoing research of the effectiveness of IEPs, and to generalizability for future research was noted. My positionality as the researcher was addressed before I briefly described the language theories (Universal Grammar Theory and Natural

Approach) and cultural theories (Cultural Distance Theory and Cultural Thought Patterns) to be discussed in the review of relevant literature. I included in this chapter a reference to several theoretic underpinnings which influenced my research design, namely Astin (1993), Schlossberg (2011) and Paige et al. (2010).

Montana State University was the setting for my study. I used secondary institutional data to conduct a quantitative correlational research study to address three research questions: 1) What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance? 2) What is the relationship between a student's path to MSU enrollment and first-year academic performance? and 3) What is the relationship between a student's background culture and first-year academic performance? My population sample consisted of international students whose initial enrollment in academic course work study occurred between 2010 and 2016. The outcome variable in my study was GPA. Predictor variables included level of participation in ACE/MSU, adjustment to studies at ACE/MSU, beginning and final program level at ACE/MSU, university cohort, selected major field of study, country of passport, and scores in four dimensions of cultural distance (PDI, IDV, UAI, MAS). I conducted the analysis of the secondary data I collected using RStudio to run binary logistic regression. Finally, in this chapter I outlined my assumptions, limitations, and delimitations. I concluded with brief definitions of key terms in the study: international students, conditional acceptance, intensive English programs, ACE/MSU, direct entry, and academic performance.

A REVIEW OF RELEVANT THEORY AND RESEARCH LITERATURE

"Given the cumulative nature of science, trustworthy accounts of past research are a necessary condition for orderly knowledge building" (Cooper (1998), as cited in Norris & Ortega, 2000, p. 422).

The purpose of this literature review was to provide a rich background in theories and research studies which formed the basis for my research design and methodology. My literature review sought to analyze and synthesize the recurring research methodologies and techniques found in relevant research and to explain why my study makes a practical and scholarly contribution to the collective understanding in the field of higher education (Boote & Beile, 2005). The literature review established my study of international student academic success in the historic context of research in the fields of linguistics and cross-cultural studies. Connections between the research studies and constructs, ideas, and theories were made. The review of relevant theories and research in this chapter were addressed in sections: 1) my own related professional experiences, 2) language-learning theories, 3) tests and measures of English language proficiency, 4) theories and research in cultural factors affecting English language learners, and 5) research studies related to intensive English language programs (IEP).

My Language Learning and Teaching Experiences[4]:

My personal experiences with language learning and teaching and intercultural encounters since 1963 were the driving force behind my research topic. Clarifying my positionality as a researcher explains my interest in the problem of practice addressed by my research topic and design. Assuring an equitable opportunity for the academic success of international students at a U.S. American university was and is vital to me personally. My own life experiences have fostered a deep empathy for international students and the struggles they experience with language and living cross-culturally in a U.S. American academic setting. International students, who are non-native speakers of English (NNES), have adjustment challenges unknown to domestic students. Because I have had similar experiences adjusting to life in foreign countries, I empathized with these NNES students. I identified with the challenges lack of language fluency can present. In addition, my own experiences have provided unique opportunities for me to gain insight into the educational experiences and settings from which some international students came.

Therefore, in order to acquaint the reader with those aspects of my experience most salient to this research study, I related, first, my own experiences as a language learner and an observer of language teaching approaches. These experiences related to theories of second language acquisition (SLA). Next, I addressed my experiences in living and teaching English cross-culturally, as well as opportunities to learn from NNES

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[4] See Appendix C for a full list of my international experiences.

English teachers literally from around the world. My cross-cultural experiences influenced my focus on the theories related to cultural differences in academic settings and how those differences affected the academic success of international students. Finally, my experiences in teaching in intensive English language programs compelled my emphasis on the effectiveness of such programs to prepare international students for university.

Learning Languages:

For several reasons, I have regularly studied the language of the countries where I was living and teaching. One reason was my enjoyment of the puzzle of learning a language. Also, knowing even a little language helped with daily life. Finally, as an English language teacher it was beneficial for me to continually put myself in the position of the language learner. I studied six foreign languages in various contexts. I chose to study French in high school and college because my mother was a native speaker of French. It is the only language I have studied without an immersion opportunity. My study of French, Lithuanian, Russian, and Arabic included formal classroom learning. Japanese, Lithuanian, Arabic, Georgian, and Russian were studied in country. Unfortunately, I am not fluent in any of these languages; however, my efforts to learn language helped me to understand learners of English and how their first language might interfere with or assist in their acquisition of English. Being a language student helped me understand how my own students felt.

Japanese: In the 1980s, I became interested in learning Japanese and convinced my principal to allow me to teach Japanese to interested students in our small, private high school in Montana. In 1993, I became a full-time, immersed language student in one of Dr. Jorden's homestay programs in Japan. I lived with a non-English speaking Japanese family for six weeks in rural Japan, Gifu Prefecture. I studied language four hours a day and explored my new world the rest of the day. I practiced my "Could I have two blue ones and one red one, please" dialogue in the local stores and learned much "kitchen" language at home. Later, I lived in Japan for three years and eventually gained what can be described as "survival level" language; I could manage brief exchanges needed for brief friendly exchanges, shopping and asking directions. My multiple opportunities and experiences in studying Japanese grounded my theory that exposure to a language did not guarantee mastery of a language even for daily living and certainly not for academic purposes.

Lithuanian: When we moved to Lithuania, in 2005, to teach at LCC International University (LCC), I signed up repeatedly each fall semester to take first-semester Lithuanian. Learning a language while living in a country can be motivating; however, I never progressed beyond beginning level though I repeated the course several times. Nonetheless, my Lithuanian did eventually reach "survival level." My training in language teaching continued also; I observed my Lithuanian teacher Rodvita's language teaching methodology. While she did not employ all the strategies, I had learned from Dr. Jordan, she was an effective teacher. In addition, by learning about the language, I also understood the English language learning difficulties my Lithuanian-speaking students

were having in my classes. Russian has some similarities to Lithuanian and, thus, I could also understand the linguistic source of mistakes made by my Russian students. While in Lithuania, I also learned bits and pieces of Russian and the Cyrillic alphabet. The ability to read Cyrillic came in handy later in both Ukraine and Kazakhstan.

Arabic: In 2016, I challenged myself to study Arabic by distance at MSU. I had worked in an Arabic-speaking country, Libya, and taught a number of Saudi international students at MSU. I was keen to learn about the language and culture. Having studied a number of languages, in a number of contexts with different methodologies, I was particularly disappointed in the non-communicative methodology used in my Arabic course. I observed firsthand the teacher-centered style of classroom with which the native Arabic teacher felt comfortable. Although he politely listened to some of my ideas on how to make class more communicative and engaging, he did not change. My experience with this instructor further supported my understanding of the weak, English-language instruction in Saudi Arabia (Pond, 2015a). Of course, I did learn about the Arabic culture and the structure of the language.

Learning a language helps the learner to understand a culture and to love a people. I hope to continue learning languages, cultures, and loving people from other countries. My language learning and training in language-teaching methodology were a key component in what shaped my graduate studies and led to my dissertation topic and research design. I was and am keenly interested in international students' language learning experiences prior to their coming to MSU and upon their arrival. I identified with international students, not only as a language learner, but also as an expatriate.

Living Cross-Culturally

As an expatriate, I experienced the agony and ecstasy of living abroad, the exhilaration and the exhaustion. In the following section, I briefly showcase my experiences with a diversity of geographies, cultures, and religions. My first experience living overseas was in a culture exotic to me as an American -- Japan. My homestay maximized my exposure to family, culture and homelife in rural Japan. My host home had sliding paper doors, monkeys that raided the garden, a rice field, and a row of green tea bushes! It was truly a cultural experience. I never realized taking a bath[5] or using the toilet could be so complicated[6]. I learned cooking and eating with the family[7], how to do laundry the Japanese way[8], and never to give hugs. A few years later, I had a contrasting experience living and working in a big city near Kobe one fall. I lived for six weeks cooking for an American church-building crew. Every day I learned more about Japanese cooking while the American builders were off working. However, I learned more than that; I learned how harmoniously four Japanese women can work in a kitchen day after

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[5] The father of the home always bathes first. He gets the cleanest, hottest water. I had no idea when I was invited to bathe first the honor I was being given my first night. Bathing is always at night – which explains why even businessmen have messy hair at work after sleeping with wet hair.

[6] Toilets are generally squatty potties. Many sitting toilets in Japan are bidets.

[7] Vegetables are always sliced a certain way. Meals contain small amounts of many foods. Slurping is acceptable.

[8] The washing machine recycles the water from the family bath. They have ingenious ways to hang a lot of clothes in a very small area.

day. I learned how to drive on the left side of the road (not the "wrong" side) in Japan[9] and how to do grocery shopping[10]. Addition, from 1993 -2001, I lived and taught with my husband and two grown children at a junior college near Tokyo in Chiba Prefecture. All of my previous experiences were helpful in being able to adapt to life with a family overseas.

Not all of my experiences have been in Japan. I have a window into the world of international students from other cultures as well. Over a period of seven years, my husband and I lived for a total of eleven semesters in Lithuania, teaching in a university and in the university's English language programs. Lithuania, in 2005, had not been independent from Russia for very long. We lived in a communist-style concrete building. We walked the streets as foreigners[11]. Our colleagues were Russians and Lithuanians who had lived through Soviet times, the Singing Revolution, steps to independence, and the agonizing years of establishing a newly independent country. I had knee surgery in a hospital[12] there. We attended concerts and cultural events, such as the Sea Festival. Another former Soviet country where I spent two separate, six-week stays was the

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[9] Roads can be extremely narrow. It is not uncommon for drivers to retract side mirrors to be able to navigate a narrow passage. Reading kanji road signs and trying to pass a driving test when instructions are given in Japanese are both quite challenging.

[10] The shopper must bag her own groceries after checkout. Little tables are provided. Enormous amount of time is needed to shop in a foreign language and market. Reading kanji for beef versus pork is essential. There are no cheese products; meat portions are miniscule.

[11] Frowns and suspicious looks were common. Americans who smile at people on the street are considered insincere, hypocrites.

[12] Mold lurked on the ceiling, nurses went home at night, and the toilet overran regularly. I was never provided ice for the swelling. They don't make ice even for drinks in most former Soviet Union countries.

Republic of Georgia. I lived with and taught high school Georgian Muslims in a rural setting. A single light bulb hung from the ceiling in the classroom, food variety was limited in the dormitory cafeteria[13], and men propositioned me on the street because I walked alone without my head covered. Another spring, I lived on the campus of a private K-12 school in Batumi and taught English teaching methodologies to the school's English teachers. The multiple cultures of rural Muslims and city Orthodox Christians enlarged my understanding of the diversity even within a country. To these longer experiences living cross-culturally, I added three-week summer language institutes in Kazakhstan, Ukraine, Russia, and Mongolia. These experiences drove my concern for MSU's international student population because I understood clearly the emotional and physical drain of learning to survive in a new culture. International students must adjust to college and a new academic culture while trying to navigate daily life in a foreign land. I had experienced navigating daily life and living cross culturally in multiple settings.

Teaching Language:

In 1993, I received a grant to participate in a pilot program for high school teachers of Japanese, “Exchange: Japan Teacher Training Institute,” at Bryn Mawr College, directed by Dr. Eleanor Jorden. I lived on campus at Bryn Mawr College in Pennsylvania for a summer. I lived in the dorm cross-culturally with 40 university students from Japan. The Japanese members in the training were learning how to teach

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[13] Macaroni salad left out on the counter all day and served again at dinner. Mostly bread and tea for many meals.

Japanese at universities across America, in exchange for tuition for their own graduate studies. Dr. Jorden provided my first training in foreign language pedagogy. She, along with Mari Noda, creators of the training program and the language curriculum (Jorden & Noda, 1987), were my instructors. Her original textbooks, *Beginning Japanese Part 1 and Part 2*, 1962, preceded this text. Dr. Jorden served as senior project consultant on *The Framework for Teaching Introductory Japanese Language* developed by the National Foreign Language Center in 1993 (Unger, Lorish, Noda, & Wada). Because her textbook (1987) reflects all that is in The Framework (1993), I considered it a reflection of her own language pedagogy. The Framework was an important work and provided a basis for standardized achievement tests in Japanese (p. v) developed by the College Board and Educational Testing Service. I am proud to say that Mari Noda and Yasuko Wada, members of the project task force, were also my teachers that summer.

Using Dr. Jorden's principles and best practices in teaching Japanese language, I taught sample lessons to local high school students during the training. As required as a program grant recipient, I also taught one semester of Japanese at my local, public high school the following fall. Currently, I am teaching my grandchildren Japanese using the training and text from Dr. Jorden’s program. This was my introduction to language teaching pedagogy; I was thoroughly convinced of the efficacy of this language teaching methodology. Her approach and strategies have been variously supported and challenged throughout my study of other languages. In 1998, when I began teaching English as a foreign language in Japan, I realized my need for further education and training in the art

of teaching English as a language. I pursued and acquired a Master of Arts degree in Linguistics (TESOL[14]) in 2003.

English language teaching around the world also varies. While working for LCC International University in Lithuania, I began traveling around Lithuania, Poland, and Ukraine with the admissions team during semester breaks. It was my task to provide sample English classes, Test of English as a Foreign Language (TOEFL) preparation classes, or professional development seminars in high schools around those countries. In addition to traveling with the admissions team several weeks a year while living in Lithuania, since returning to America in 2012, I have continued to join the admissions director each year for a few weeks. Sometimes we were in Estonia, Moldova, Georgia, Armenia, Mongolia, or Russia to speak at English teacher conferences or provide a weekend professional development seminar. The highlights of this teaching and traveling were those precious moments spent with the local English teachers over coffee in the teachers' lounges. I learned so much from them about how they had transitioned from teaching Russian one day to teaching English the next. I saw up close their classrooms, materials (or lack thereof), and educational facilities. No tourist could gain such an intimate acquaintance with education and English instruction in these countries as I gained.

Not only have I traveled and met English teachers, but English teachers have also traveled to Montana where I have met them, taught them, and learned from them. Since

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[14] Teaching English to Speakers of Other Languages

2013, I have had the distinct honor to be one of those privileged few who teach in the Teaching Excellence and Achievement Program (TEA) at Montana State University. Each fall, English teachers (TEA Fellows) from about 15 different countries attend classes which address U.S. American educational systems, leadership skills, American Indian culture, and computer technology. The purposes of my classes were to improve their own English skills and expand their English teaching strategies. However, sometimes they discovered an entirely new way of teaching which employed cooperative learning and teaching. I have continually broadened my understanding of the teachers and teaching contexts from their journals and program evaluations, as well as classroom discussions and valuable exchanges during social events. A teacher from Thailand expressed amazement that I smiled while I was teaching. The TEA Fellows almost universally commented on how friendly and warm my classroom atmosphere was. Their responses to my teaching style helped me better understand the previous classroom experiences international students at MSU may have had. Casual classroom atmosphere and group work were new to many TEA Fellows. Some of them did not feel they could incorporate such strategies into their local teaching contexts. When something I did in my TEA class amazes the Fellows, I realized once again how different classes at MSU would be for international students who come from those same countries. In 2019, one of the Fellows invited me to observe her teaching in her own classroom in the Republic of Georgia. Reconnecting with her in her own teaching setting, seeing her dedication to her young students as she successfully incorporated strategies learned at MSU was rewarding.

Providing Intensive English Language Classes:

I worked in four intensive English programs from 1998 to 2014. While in Japan, the junior college decided to adjust to the changing times by becoming a multi-level English language college. An expert was brought over from the USA to assist in setting up the Five-Level English Program, FLEP as it came to be called. Working directly with the expert, my understanding of the issues, requirements, and challenges in providing a quality intensive program was expanded. I taught in this program for a number of years. My next experience was in Montana. While working on my MA, I was hired as AmeriCorps Team Leader at the local community college. In this position, I coordinated with the local chapter of Literacy Volunteers of America to develop an intensive English language program for families. The program provided area language learners, mostly Ukrainian and Colombian, an opportunity to continue improving language skills during the summer. Family Literacy Intensive English in the Summer (FLIES) became well established. I directed this program for four years and then Literacy Volunteers were able to continue the program. The third experience I had with an intensive English program was in Lithuania at LCC International University. At the university, I began working in the evening programs for adults and high school students teaching conversational English. Eventually, the institution needed to provide a program for English language preparation for students who did not meet the minimum English language proficiency test score. Students in the LCC IEP were from 15 former Soviet Union countries. Ultimately, my travels led me back to Montana where I taught one semester in a well-established

program at MSU, the ACE/MSU intensive English language program. Saudi students were the predominate culture group in my class.

My experiences as a language learner, world traveler, language teacher, and teacher trainer abroad and at home placed me in a unique position to review and evaluate theories and research studies which address issues surrounding the academic success of international students. My experiences enhanced my position as a researcher and were an asset to this problem of research study. While my experience suggested that both language and culture can pose difficulties for international students in achieving academic success, a problem of practice study needs to be supported by well-established theories and academic research. The following section of my literature review was divided into two parts: language learning theories and measures of English language proficiency.

Language Learning Theories:

First Language Learning:

Theories and hypotheses abound about how babies acquire their native language, first language or L1. Prominent in the field of linguistics is Noam Chomsky (Fromkin et al., 2015) who developed the Universal Grammar (UG) theory. The UG theory holds that humans are born with a universal grammar or "blueprint" and acquire all the grammar, lexical features, and pronunciation of language occurring naturally around them. According to Chomsky, it is the task of linguists to discover these "laws of language" and the "innate component of language that makes language acquisition possible" (p. 300).

Stages of language learning for all languages, according to (Fromkin et al.), are similar if not universal. It takes generally three to five years for a child to go from the first words to full adult competency. Stages of L1 are babbling, first words, and then segmenting the stream of speech sounds into words. Phonologically a child moves from monosyllabic words to polysyllabic, from vowels to consonants to phonological contrasts. Words are learned at the rate of 14 per day or about 5000 per year. According to research, understanding of syntax begins in the first year. From the second year, children begin to use syntax in language production all the while developing the grammar of the language (Fromkin et al.). In a recent in-depth study, Yang, Crain, Berwick, Chomsky, and Bolhuis (2017) concluded that while research has been going on for decades, the miracle of language acquisition (L1) is not yet understood. "The full scale of linguistic complexity in a toddler's grammar still eludes linguistic scientists and engineers alike. . ." (p. 116).

Second Language Learning:

> A language is not a mere collection of words, phrases, and cultural facts of equal importance, but a complex structure of behaviors dictated by conventions, including how speech-sounds are combined to form words, words to form phrases and sentences, and sentences to form discourse that is both socially appropriate and culturally meaningful. Learning to use a language requires learning a pattern of behavior, and this in turn requires learning a skill. (Unger et al., 1993, p. 11)

An important focus of this study was the unique capability of intensive English programs (IEP) to prepare students for academic success in college. Foundational to intensive English programs' curriculum and methods are second language acquisition theories and research. Second language acquisition (SLA), a subdiscipline of applied linguistics (Ellis, 2014), refers to learning a language (referred to as L2) after attaining

“native competency in a first language” (referred to as L1) (Fromkin et al., 2015, p. 361). Fromkin et al. note that L2 or target language may be the learner’s third or fourth language. Empirical research and development of theories in SLA (second language acquisition) began in the late 1960s (Ellis, 2014). Good theories, according to McLaughlin (1987), “fit the data well, are consistent with related formulations, are clear in their predictions, and are heuristically rich” (p. 151).Fromkin et al. (2015) note that while some SLA researchers hold there is no basic difference between L1, or base language, and L2, or target language acquisition, there is a general consensus among most researchers that second languages (L2) are not learned in the same way first languages are learned (McLaughlin, 1987; Unger et al., 1993; Yang et al., 2017). This is the Fundamental Difference Hypothesis of L2 acquisition (Fromkin et al., 2015). One difference is the success rate. Children universally learn L1 successfully, but L2 learners’ success can be quite varied. L2 learners, like L1 learners, build a grammar. However, adult learners of language already have an established L1 grammar which they cannot unlearn and which causes challenges in learning a new grammar, especially if the foreign language is linguistically and culturally unrelated (Unger et al., 1993). The grammar learned in childhood (L1) has an influence on the way an L2 grammar is learned. For example, the stages a Spanish speaker goes through in learning German will be different from those of a Japanese speaker learning German. Both will be different from the stages of a child learning German as a first language. Despite these disadvantages, Unger et al. (1993) notes the advantages an adult learner has are “cognitive skills and analytical

abilities" (p. 11) needed to learn a language rapidly. Grammar learning is only part of the process of learning a language.

When learning an L2, according to Dr. Jorden (lectures, 1993) the spoken language needs to be taught first to prevent mere decoding. A child learns to read long after he or she has learned how to speak. A language learner must know a language before he or she can read a text fluently, particularly if the language being learned uses a different script. When the learner already knows how the word sounds, then, while reading, the correct pronunciation of the word will be subvocalized reinforcing the spoken language. I wish that my Arabic teacher had been trained in language teaching by Dr. Jorden and had selected a textbook which reflected her ten (10) basic assumptions about teaching a foreign language. As a language learner, it was difficult to read Arabic text without first knowing the sounds of the words. The language teaching approach applied in my Arabic class was to teach writing and reading language concurrently with speaking. As predicted by Dr. Jorden, much of the learner's time was consumed in learning a new script. A serious difficulty in learning to read Arabic was the lack of vowels in the written language. With the vowels omitted, it was impossible for me to guess what the word was or how it might be pronounced. Dr. Jorden's insistence on spoken language first would be totally appropriate for Arabic language instruction. The next section explores further the efficacy of various methods and approaches to teaching English.

SLA Research:

A pioneer and world scholar in the field of language acquisition is Stephen Krashen. He continues to contribute to the understanding of second language teaching. As recently as the spring of 2020, Krashen was providing advice on language teaching during the COVID-19 stay-at-home measures (Stephen Krashen's seven tips for teaching language during Covid-19, 2020). In the field of second language learning, Krashen continues to appear in discussions and controversies regarding his Natural Approach. Based on Chomsky's Universal Grammar Theory, Krashen and Terrell (1995) developed the Natural Approach to SLA (second language acquisition). Krashen's (2003) approach consists of five principles. The first principle is the acquisition-learning hypothesis which hypothesizes there is a difference between language acquisition and language learning. Krashen's (2003) book defends his position that L2 language acquisition, "a subconscious process; while it is happening, we are not aware that it is happening" (p. 1), occurs only "when we understand messages; that is when we obtain 'comprehensible input' (p. 4). Lessard-Clouston (2018) agrees that language acquisition is meaning focused. Krashen differentiates language acquisition from the limited effectiveness of language learning which takes place in the classroom and focuses on form and grammar. Language learning, according to Krashen, is described as a "conscious process" (p. 1) and does not result in language acquisition. However, others (Brown & Larson-Hall, 2012a; Lessard-Clouston, 2018) criticize Krashen's narrow use of traditional classroom language learning in his research. Krashen, they criticize, uses "unmotivating instruction" in grammar (Brown & Larson-Hall, 2012a, p. 45) to compare to his input-rich models and,

therefore, his conclusion that instructed language learning does not result in language acquisition is suspect (see Norris and Ortega's, 2000, meta-analysis later in this section). Unger, Lorish, Noda, Wada (1993) define language acquisition as the unconscious process whereby children learn language. They further define language learning as language that is consciously studied. However, like Krashen (2003), I believe that there are effective and ineffective ways of studying language for communicative purposes. While I believed the IEP in my study to have provided an effective language learning program, I was fully aware like Hofstede (1986) and others (Badke, 2003; Eland, Smithee, & Greenblatt, 2009; Smithee, Greenblatt, & Eland, 2004) that English language classrooms in some cultures are form-focused, grammar-based i.e. "unmotivating instruction" and do not lead to the acquisition of communicative skills. Olga Mikhailovna Kuznetsova (2021), a survivor of the siege of Leningrad and a participant in one of my workshops in St. Petersburg, confirms this. She reflects in her recent article on her English language education in Soviet Russia. "Our English textbooks were focused on reading and translation, with the focus on the study of grammar. Being able to answer questions on a test took precedence over natural, lively discussions" (p. 19). Krashen's (Krashen, 2003; Krashen & Terrell, 1995) studies illustrate such unmotivating instruction may not provide an opportunity for true language acquisition. True language acquisition, according to Krashen, results in being able to use the language effectively to communicate. My experiences and observations of English language instruction in other countries, such as Japan, Lithuania, Libya, and the Republic of Georgia also supported

the belief that the form-focused instruction in other cultures provides language learning, not language acquisition. Here is an example of what I observed to illustrate this point.

> Giorgi[15] is a highly respected English teacher in a remote area of the Republic of Georgia. He can recite for me and his students with authority and accuracy every rule of grammar even very complex ones. However, his spoken language is so full of grammatical and usage errors it is difficult for me to understand; he cannot apply to his speech the very rule he has just recited and explained. Neither does his writing reflect the grammar rules he knows. My friend Giorgi is an example of the ineffectiveness of the form-focused instruction he received and continues to use in his teaching. Giorgi was taught and continues to teach all the rules of grammar. Dr. Jorden (personal communication, 1993) would point out that he did not learn authentic spoken English. He has, as Krashen states in his acquisition-learning hypothesis (Krashen, 2003), 'learned language' without 'acquiring language.' His knowledge of grammar rules, i. e. form-focused learning does not transfer to his written English either. A text he wrote me is an example, "Happy birthday. I wish you aii [all?] the best wich [which?] are in the world" (Personal communication, September 2019). "Visit us to [in] (town) [,] and we will cook for you special Baklava" (Personal communication, January 2020).

I have not found Giorgi's language 'learning,' i. e. his knowledge of grammar and usage rules, as opposed to his language 'acquisition,' i. e. his production of accurate language, to be an exception in my travels in rural areas around the developing world. Additionally, English taught outside of its native culture often lacks authenticity and instruction has not included "language IN (acquired) culture" (Unger et al., 1993, p. 9). English taught by non-native speakers of English may not have included those features of the language which reflect the processes of socialization. (Unger et al., 1993).

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[15] Name has been changed to protect the teacher's identity.

One would not expect, based on Krashen's principles (2003), that international students who have only experienced grammar-based English language instruction, such as the teachers like Giorgi of the world provide, would have the communicative level of proficiency that students who have experienced context-rich, academic subject-matter instruction in an on-campus IEP (intensive English program) would have. Giorgi's students may be able to obtain college entrance based on a test of English grammar, but are they prepared to participate fully in university level English medium instruction? This study hypothesized that international student ability to function successfully in an academic setting was predicated on the type of English language instruction received before entering university. The hypothesis was that English language instruction overseas, particularly in some contexts, may not have adequately prepared students with sufficient communicative English language skills.

As previously noted, Brown and Larson-Hall (2012a) and Lessard-Clouston (2018) address the problems inherent in Krashen's (2003) insistence that language instruction focused on forms does not advance language acquisition. Krashen's Input Hypothesis states that people only acquire language through comprehensible input. Comprehensible input is defined as language that is at the learner's level (i) plus slightly higher (+1), thus, i+1. It is "language that can be understood by listeners even if they don't fully comprehend all of the vocabulary and grammar in use. Input is essential to acquisition, as it informs learners' subconscious understanding of a language" (Stephen Krashen's seven tips for teaching language during Covid-19, 2020, Section 1). Brown and Larson-Hall (2012a) have suggested that the vagueness of i+1 (reading or listening

that is understood) is problematic. Krashen, Mason, and Smith (2018) have recently added to the discussion a new term, Comprehension-Aiding Supplementation (CAS). CAS strives to increase student understanding of input (i+1) by increasing interest in the lesson using more details, background information, and visual support. However, grammar and form focus instruction are still viewed by Krashen and others as counterproductive in the acquisition and use of language. Krashen's (2003) theory and research strongly support that input (i+1) alone is responsible for language acquisition. "We learn language when we understand what people tell us and what we read" (Stephen Krashen's seven tips for teaching language during Covid-19, 2020, Section 1). Brown and Larson-Hall present research findings which suggest that input must be supplemented by interaction and pushed output (Swain, 1993). Language which is required in order to complete the speaking or writing task is considered pushed output. In other words, the student is forced to use the target language to complete the task. The exercise or activity forces the user to use the form or vocabulary under focus. Brown and Larson-Hall (2012b) cite research which contends that comprehensible input, incomprehensible input, practice and production of language, traditional form-focused instruction, interaction, and student-to-student interaction all contribute to language acquisition. In other words, they suggest it takes a combination of multiple types of language experiences for acquisition to occur. Students acquire language when they understand to varying degrees what they are reading or hearing, when they listen and repeat, when they practice writing or speaking that is directed (pushed output) and contextualized, when they study grammar and usage rules, and when they work in groups to accomplish tasks. All of these together,

over time, lead to acquisition. The English language proficiency level of the students influences which of these experiences is most effective at any given time in the language acquisition process.

Krashen's work clearly exposes the language myth previously mentioned in the Introduction which contends that students will automatically gain proficiency in the English language by simply attending university classes. Research conducted on the effectiveness of French immersion in Canada has shown that students' comprehension far exceeded their ability to produce language (Brown & Larson-Hall, 2012a). Students exposed to language in the classroom do not improve language use proficiency if the input is too difficult or if they are not given opportunities to interact and to produce spoken and written language (p. 52). The Brown and Larson-Hall sheds light on the situation for low-level, English language students in university classes. University lectures and discussions are conducted at an advanced, academic language level. This level is too difficult for some international students to comprehend and therefore, language learning does not occur. It can be concluded that language use proficiency does not naturally improve by attending university classes. A student's language level influences the acquisition outcome.

Krashen is not the only SLA theorist. McLaughlin (1987) provides a careful explanation, analysis, and critique of five (5) SLA theories that support the natural acquisition of a second language (L2): The Monitor Model, Interlanguage theory, Linguistic Universals, Acculturation/ Pidginization theory, and the Cognitive theory. Ellis' writing (2014) includes other theories: Long's Interaction Hypothesis, DeKeyser's

Skill-Acquisition theory, Van Patten's Processing Instruction theory, and the Theory of Instructed Language Learning. However, does the research in language instruction support the theories? It was not within the scope or purpose of this dissertation to explain and critique all theories. Instead, I relied on the findings of a meta-analysis conducted to analyze the effectiveness of the three main types of instruction. Norris and Ortega (2000) conducted an extensive and scholarly research synthesis and quantitative meta-analysis on SLA type-of-instruction research. The purpose of their analysis was to address the debate between theorists, such as Krashen, who postulate that "true linguistic competence" (Norris & Ortega, 2000, p. 502) is not affected by form-focused instruction, and those who believe, like Ellis (2014), that strong explicit teaching of language forms is effective for language learning. The meta-analysis limited the study to experimental and quasi-experimental type-of-instruction research that used one (1) of three (3) types of second-language instruction: form focus, meaning focus, or integration of form and meaning. While acknowledging the limitations of weak research designs, inconsistent definitions of proficiency levels, and lack of testing before interventions among the type-of-instruction studies, Norris and Ortega (2000) were able to conclude that explicit teaching of form in a context of meaning-filled lessons is the most effective form of language instruction.

In order to evaluate the effectiveness of the ACE/MSU language program to provide meaning-filled lessons while explicitly teaching form, I compared students from the program to students who were not in the program. In order to make this comparison, I first considered the main tool used to for direct entry into MSU — a score from a

standardized test of English language. Universities, like Montana State University (MSU), require international students, in addition to meeting the same admission's standards as domestic students, to provide evidence of English language proficiency; therefore, it is important to clearly understand what the measures used to determine English language proficiency for the students in my study. Indirectly or directly the effectiveness of a student's English as a second language studies was evaluated by the test.

Measuring English Language Proficiency:

In the context of university admission's requirements, English language proficiency indicates the degree of readiness for the academic rigor of studying in an English-speaking university. Each institution determines the level of English language proficiency that will assure student success (University of Montana, 2020b). Required levels of proficiency may vary within a university depending on how linguistically demanding the program of study is. Furthermore, an applicant's English language proficiency level may determine the type of admission offered. The offer may be for full, provisional, conditional, or a combination. Provisional and conditional are terms universities use to admit international students who have provided evidence of readiness for university with the exception of English language proficiency. Such students may gain full admittance by completing further English language preparation. For some institutions, completion of the on-campus intensive English program is sufficient. For others, the student is required to retake a standardized or institutional test of English language proficiency as well as attend the English classes. An offer of combination

admission requires that the student take English preparation courses while taking university studies. The balance of English language courses and university courses can be based on level of proficiency at the time of admittance. Obviously, a student's future is determined by his or her ability to provide proof of English language proficiency.

Evidence of Language Proficiency:

A plethora of possible ways to either provide evidence of English language proficiency or to be exempt from this requirement exist on institutional websites. Table 1 contains a list of two top-ranking institutions, seven MSU peer institutions, and one in-state institution. The websites for these institutions reveal three options for evidence of English language proficiency: test results, program completion or certificate earned, and exemption. Combined, these ten institutions accepted 16 different tests of English proficiency, 13 different English programs or certificates of study, and allow 11 different exemptions including citizenship from up to 43 countries. A complete survey of the options would be a dissertation in itself; I provide a short overview.

What scores from which tests were used to provide proof of English language proficiency? MSU international student applicants may submit a score from one of 13 different English language proficiency scores including certain SAT or ACT scores (see Appendix B2 for the list of tests and MSU's minimum score for each particular test). On average, MSU peer institutions accept scores from less than six tests[16]. The disparity

[16] Information gathered from institutional websites.

Table 1 Comparison of University Measures of English Language Proficiency

Institution	iBT	PBT	IELTS	Duo lingo[a]	SAT Evidence-Based Reading	ACT English	Other
Arizona State University* General/ Nursing/ Engineering/ Journalism	61	500	6.0	95/ 100/ 105/ 120			PTE[b]: 53; Global Launch[c]
Michigan State University* Regular / Provisional	79 / 60–78	550 / 500-549	6.5 / 6.0	105 / 95–104	510	18	MSU English Language Test 80 / 65-79; PTE: Academic 53/46
Montana State University	71	525	6.0	110	440	20+	
New Mexico State University	68	520	6.0				NCEE[d] >75%; 70% in IEP courses
North Dakota State University Full / Conditional/ IEP	71/ 50 /40	525/ 468/ 433	6.0/ 5.0/ 4.0	100/ 80/ 70	480	18	PTE: 50/ 42/ 38
Northern Arizona State	70		6.0	95	350	21	PTE: 56
University of Idaho	70	525	6.0	100	550		PTE: 48
University of North Dakota	71	525	6.0				PTE: 50
University of Wyoming Minimum/ Engineering/ Nursing/	71/ 80/ 90		6.0/ 6.5/	51/ 55	460		AP 4 or above
Utah State University	71	525	6.0		500	18	USU placement >30
University of Montana Intermediate/Advanced/Superior	70/ 80/ 90	525	6.0			18	
Average	70.3	524	6.05	93.7	470	19	

*Note.**Ranked in Top 77 research universities by Lombardi et al. (2003, as cited in Horn et al., 2007, p. 348-349); iBT is the internet-based TOEFL test; American English; PBT is the paper-based TOEFL test; American English; IELTS is the International English Language Testing Service test; British English

[a] Some universities were only temporarily accepting Duolingo English Test from students in countries where test sites for TOEFL and IELTS were closed due to COVID-19.

[b] Pearson Test of English

[c] English for Undergraduate Admission online course

[d] The China National College Entrance Examination

between the number of tests accepted suggests that MSU is eager to accept international student applicants but may or may not be as concerned about the predictive ability of the tests accepted. Table 1 compares MSU's minimum accepted scores for admittance to other universities' standards. The table includes two top-ranking research universities, as ranked by Lombardi et al, 2003 (as cited in Horn et al., 2007, p. 348-349), Montana State University (MSU), seven peer institutions (OPA, 2017) and one in-state institution. The two top-ranking institutions in the comparison are Arizona State University (Arizona State University, 2020) and Michigan State University (Michigan State University, 2020) chosen for their strong international student presence. On the table, following Montana State University (Montana State University, International Admissions, 2019) are the peer institutions: New Mexico State University (New Mexico University, 2020), North Dakota State University (North Dakota State University, 2020), Northern Arizona University (Northern Arizona University, 2020), University of Idaho (University of Idaho, 2020), University of North Dakota (University of North Dakota, 2020), University of Wyoming (University of Wyoming, 2020), and Utah State University (Utah State University, 2020). University of Montana (University of Montana, 2020b) was the other state university in Montana included in the survey.

Table 1 displays the English Placement Test (EPT) scores for the ten universities. Montana State University had cut-off scores for admission similar to the other universities. Montana State University's standards were average with two exceptions, a higher standard on the ACT English while a lower standard on the SAT Evidence-based Reading test. Montana State's standards were between that of the two top-ranking

schools Arizona State and Michigan State included in the comparison. Michigan State University had the highest standards for entrance of the universities in Table 1. Arizona State University and University of Wyoming included separate standards for engineering and nursing school applicants. An interesting contrast to MSU is the University of Montana (U of M) criterion. U of M allows a student full admission with the same scores as MSU but with the recommendation that the student enroll in 6 – 12 credits (credits toward degree) of academic support service courses the first two semesters. Unfortunately, MSU makes no such recommendation. Michigan State University and North Dakota State University included a minimum score for full acceptance and a minimum score for conditional/provisional acceptance. According to Dr. Heike Neuman (personal communication, March 23, 2020) setting a lower cut-off score has a clear benefit. Conducting research for institutional review and policy change, she reported her findings. Spending more time in the English language preparation program was a "significant negative predictor" of success in university. As a result of the findings, her institution changed its admission policy to reflect those findings. The institution set a minimum score for entrance into the English language program effectively reducing the time spent in the program. Similarly, Paul Swift, (personal communication, Fall, 2019) former director of MSU's English language program, reported the same results from research he conducted at MSU; the longer students took to complete the program (as measured by repeated courses) the more likely they were to fail to flourish.

The previous paragraphs provided an overview of measures of English language proficiency including a definition, purpose of proof, and ways and levels of providing

proof of English language proficiency. MSU admissions standards were shown to be average but lacking in considerations for engineering, for example. I next reviewed literature related to the effectiveness of the two most commonly used tests of English language proficiency in predicting academic success for international students.

English Proficiency Tests (EPT):

Providers of standardized tests of English language proficiency offer testing sites around the globe. By definition, a proficiency test is designed to measure a student's English language ability without regard to where or how the ability was gained. Unlike an achievement test, an English proficiency test usually measures the student's ability against an educated native speaker and does not rely on a specific curriculum (Unger et al., 1993). English language proficiency scores were used by international students wishing to enter English medium universities as proof of English language proficiency. As previously noted, each university in the U.S. determined the tests and the minimum test scores accepted for admission. The two most popular tests were the Test of English as a Foreign Language (TOEFL) and the International English Language Testing System (IELTS).

The TOEFL test is perhaps the most widely accepted. TOEFL test scores are accepted by more than 11,000 universities in over 150 countries, and nine out of ten universities in the US prefer this test (Educational Testing Service TOEFL, 2020a). The internet-based TOEFL (iBT) became available in 2005 and has been updated as recently as 2019 with a special edition available in May 2020 in response to conditions created by the COVID-19 virus pandemic (ETS, 2020a). One of the reasons that the TOEFL test has

found such wide acceptance is its commitment to research. Most recent revisions include tasks which require the use of two or more language skills (Educational Testing Service TOEFL, 2020b). There are four language skills tested by TOEFL, listening, reading, speaking, and writing. Grammar is an aspect of all of these skills. Tasks requiring a combination of the four skills are better measures of the ability to use language than a test that only measures each skill individually; thus, the iBT test tasks reflect an application of up to date second language acquisition research.

From the beginning, the TOEFL test has been research based; ETS has published over 300 peer-reviewed research reports and also conducted and published 20 TOEFL research projects (Educational Testing Service, 2020). ETS uses ongoing research to evaluate and improve its tests (Malone & Montee, 2014). It is important that tasks contained in a test of English language proficiency for college placement is representative of tasks that students will need to perform in university classrooms. Although TOEFL scores may be used for other purposes, they are most often used by U.S. American university admissions to determine student English language proficiency and ability to handle the linguistically challenging academic classroom. As such, “it contains a number of innovative design features, including integrated tasks that engage multiple skills to simulate language use in academic settings, and test materials that reflect the reading, listening, speaking, and writing demands of real-world academic environments” (ETS, 2020b, p. 2).

The other popular test of English language proficiency is the IELTS (International English Language Testing System). IELTS began in 1989 as a partnership between the

University of Cambridge Local Examinations Syndicate (UCLES), the British Council, and IDP Education Australia (Dooey & Oliver, 2002). The purpose of the partnership was to revise earlier tests and continuously revise in an effort to reflect research findings in language testing theory. The second goal of the partnership was to develop tests that had a high level of predictive power (Dooey & Oliver, 2002). Currently over 10,000 providers of training and education in English accept IELTS scores as evidence of English language proficiency ("IELTS ", 2020). According to the IELTS website (2020), the test provides a valid measure of the four language skills: listening, reading, writing, and speaking. Acceptable scores from the Academic version of the test suggest that students are ready to study in an English-speaking institution. In addition, the test contains “some of the features” of academic study. Unlike TOEFL, the website does not mention efforts to integrate the four skills in test tasks. While both tests are highly respected and accepted worldwide, my opinion is that the TOEFL test is a better predictor of academic performance at a U.S. American university. TOEFL is designed more specifically for use by U.S. American universities because it uses U.S. American English, grammar, slang, and uses a closer approximation to authentic academic tasks students encountered in the U.S. American classroom.

On the websites both major English language proficiency test providers claim to have addressed and are continuing to address the validity of the tests. According to Gravetter and Wallnau (2014), validity indicates that a test measures what it is intended to measure. As applied to the standardized tests under consideration, validity of the test needs to have a further caveat. Validity is when theory and evidence agree with how test

scores are interpreted and the how the scores are intended to be used (ETS, 2020b). Key to this study is understanding the ability of TOEFL and IELTS to predict student level of academic success. In the next section, I examined research studies which addressed the validity of the TOEFL and the IELTS tests in the context of English-medium university.

Predictive Validity Studies

Extensive research can be found on the validity of the predictive ability of the TOEFL test. Originally efforts were made to study the predictive validity of TOEFL on student GPA. Recently, research became more specific. Current research is being conducted to decipher which section of the test (reading, writing, listening, speaking or integrated skills) might predict the grade point average (GPA) of students in a specific field of study who are from a specific country or region or language background. In addition to seeking to understand the validity of the test's predictive ability on GPA, studies also consider the ability of the test to direct admission decisions regarding placement into programs, into a specific level of the writing courses, or English support services of various types.

Currently, some predictive validity research studies focus on the internet-based Test of English as a Foreign Language (TOEFL) or iBT. Earlier research, however, was conducted before the internet-based was created TOEFL (iBT). Two early studies were found. Light, Xu, and Mossop (1987) studied the effectiveness of the TOEFL test in predicting success at the State University of New York at Albany while Johnson (1988) conducted a similar study at the University of Wisconsin Green Bay. There were some major differences in the two studies, however. The first study (Light et al., 1987)

investigated first-semester graduate students only while the second (Johnson, 1988) examined all undergraduate, international students in a given semester. The studies examined predictors of international student success, including the paper-based TOEFL (PBT). A major outcome of the Light et al. (1987) study was that the TOEFL test alone did not predict academic success. The researchers suggested that other communicative and academic skills, such as analyzing, synthesizing, and application of information (Neumann, Padden, & McDonough, 2019), and other non-linguistic variables influence college success. In contrast, Johnson's (1988) study of the lower test scores of undergraduates found a low but significant correlation between GPA and TOEFL scores. One study rejected and the other found only low significance of the predictive ability of the TOEFL. Proof of the TOEFL score's predictive validity remained uncertain.

As international student enrollment has increased, interest in the validity of English language proficiency tests scores has also increased. The scores inform high-stakes decisions that have a tremendous influence on the future of international students as TOEFL test scores were used for admissions, advising and placement. Nevertheless, there were a number of difficulties associated with attempts to prove a direct correlation between test scores and GPA. One of the difficulties was the multifaceted nature of learning and another was multiple factors at work in grading. While language ability is essential, it is not the only factor reflected in a student's GPA. (Cho & Bridgeman, 2012).

ETS TOEFL Studies:

As noted earlier, Educational Testing Service (ETS) TOEFL has been proactive in conducting research. I found and reviewed two studies conducted for ETS TOEFL which

reflect the ongoing nature of their efforts to maintain the highest possible standard in testing. Researchers must consider carefully the results of studies which are funded by those with a vested interest in the outcomes. However, as ETS TOEFL has a rich history of conducting research and reviewing other research in efforts to maintain validity by continually responding to findings and updating and revising their tests, I believed the following two studies to be worthy of consideration. The first study was conducted by Cho and Bridgeman (2012) and the second by Bridgeman, Cho, and DiPietro (2016). Both studies investigated the use of the internet-based test (TOEFL iBT), which was created in 2005 and released worldwide in 2006. Cho and Bridgeman's (2012) study of 2,594 participants from ten institutions were grouped by academic status (1850 graduate and 744 undergraduate) and by discipline (business, humanities and arts, sciences and engineering, social sciences or unknown or other). The outcome variable academic performance was measured by GPA. The study performed correlation and hierarchical multiple regression analyses and provided expectancy tables for ease in understanding the correlations. Average required TOEFL iBT scores ranged from 96-82[17]. Results were given for the research question: What is the relationship between TOEFL iBT scores and future academic performance as measured by GPA? About 3% of the variance in GPA was explained by TOEFL iBT. The probability of being in the top 25% (3.56-3.90) of the GPA group on the expectancy graph was doubled when the TOEFL iBT scores were in the top 25% (93-106) category. High TOEFL iBT scores were found to be predictive of

[17] Note MSU admits students with a 70 iBT score.

high GPA, a positive correlation. Conversely, the study found that low TOEFL iBT scores were not predictive. Further results from Cho and Bridgeman's (2012) second research question (Does TOEFL iBT provide additional information beyond what other admissions-related tests can in predicting GPAs?) gave some indication that TOEFL iBT scores were more predictive of GPA than other admissions tests.

In contrast to Cho and Bridgeman's (2012) large-scale study, Bridgeman et al. (2016) conducted a single-institution study with only 787 undergraduate international students. All students had taken the TOEFL iBT and had completed three consecutive semesters between 2006 and 2011. The underlying purpose for the study was to discover to what extent predictive validity conclusions change when combinations of groups were varied. In discussions of the predictive validity of tests of English language proficiency, one controversial issue has been the mixed results of studies as noted in the first studies I considered (P. Johnson, 1988; Light et al., 1987). On the one hand, some studies showed a positive correlation, others a negative correlation, and still others showed no correlation between tests scores and academic performance as measured by GPA. Bridgeman et al. (2016) systematically addressed a number of explanations for the mixed results and provide data analyses to support their explanations. The authors addressed four difficulties past studies faced that have affected the results: 1) the complexity of factors that influence academic success, 2) the restriction in range in scores accepted for admissions, 3) the restricted range in grades, and 4) the diversity in grading standards. The first difficulty, which Bridgeman et al. discussed, acknowledged English language skills were not in themselves sufficient to predict academic success. I agreed that factors

such as “quantitative skills, knowledge in specific content domains, and a host of non-cognitive attributes such as motivation, and persistence, and grit” (p. 308) have influence on the early academic success of international students. In addition, the authors addressed the influence of country of origin in their research design, which is discussed later. The writers argue that with so many other factors contributing to academic performance, researchers cannot expect to find strong relationships; thus, small relationships were to be expected and valued. I applied this advice, to expect and value small relationships, to the discussion of my results.

The second and third difficulties Bridgeman et al. (2016) addressed related to the less-than-ideal dataset used in predictive validity studies. Data was not available for those students whose scores were too low for acceptance to university. Therefore, the study was limited in showing predictive ability. If the lower scores were available, the authors contended, the relationship between TOEFL iBT scores and GPA would be stronger. GPA data is similar in that the range in grades is limited. The third difficulty, also related to the dataset, was the skewedness of the data for grades. Most grades were high. High grades were the situation in my dataset as well. As suggested by Bridgeman et al.’s study I had to address this problem during my data analysis to achieve accurate measures of the relationships for GPA.

The fourth difficulty facing studies addressing predictive validity of English language proficiency tests was the variation in grading standards between universities and within university departments. Bridgeman et al. (2016) point out that, generally, STEM fields have stricter grading standards than non-STEM fields. When data from

different programs of study were combined in data analyses, finding predictive validity is complicated. They suggest two ways to address this problem: adjust grades or use separate analyses for different fields. Bridgeman et al. influenced my interpretation of my findings and, although, my study did not go so far as to analyze different fields separately, it did consider the influence of major field of study on GPA.

Furthermore, Bridgeman et al. (2016) observed several problems existed when "dissimilar groups are aggregated together into a single analysis" (p. 308). For example, an analysis, which included students from a country with strong English skills enrolled in STEM program with strict grading standards aggregated with students from a country with lower English skills enrolled in programs with easy grading standards, could give a negative correlation. Likewise, an analysis with students with similar overall TOEFL iBT scores but dissimilar skill strengths[18], who were enrolled in different programs, could provide weak evidence of correlation. Moreover, Bridgeman et al. assert predictions from correlational analyses conducted within a department or university may not be generalizable to other departments or universities because of the population or sample's particular linguistic and cultural background. I kept the considerations and problems addressed by Bridgeman et al in mind when I interpretated of the results of my own findings and when I considered the generalizability of my findings.

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[18] Reading and listening test sections measure receptive skills. Writing and speaking sections measure productive skills.

In summary, Bridgeman et al. (2016) contended that only weak correlations between TOEFL iBT and GPA can be expected in predictive validity studies which do not address the four difficulties in the analyses and the several issues related to comparing apples to oranges i.e., dissimilar groups. By contrast, they believed that predictive validity studies which do address all of these potential problems will yield stronger evidence of predictive validity. In their 2016 study, described in the following paragraphs, the researchers addressed these difficulties. Each analysis included GPA, TOEFL iBT total scores plus individual listening, reading, speaking, and writing scores. The results included unadjusted correlations and "correlations corrected for range restriction with the Thorndike Case 2 formula" (p. 311). The next step was to disaggregate the participants by the predominate majors (arts and science, business, and engineering) and nationalities (Chinese, Indian, and others) as determined.

The authors use the analogy of an onion being peeled to reveal further layers of significance. As layers are peeled away the onion becomes smaller and smaller as does the focus of the research. The outer layer considers all test takers. Information about all the students reveals certain patterns or raises questions. These patterns inform the next layer of analysis. As each layer of the onion is analyzed more patterns and questions are revealed. The researcher continues to examine one layer at a time and then to use the findings to inform the next level of analysis. Bridgeman et al. (2016) observed that when all students are combined the results reveal a small but significant relationship between TOEFL iBT and GPA in the first year. However, by looking at the patterns, such as major or country or test sections, within the initial layer of analysis, they found stronger

correlations. As a result, when their analysis considered specific groups and subgroups, their recommendations based on the findings could be more specific. The following example will help to understand the idea of peeling an onion. The first step was to move from a general analysis of all participants, to an analysis of only business majors. The best predictor of GPA was the writing section of the test. Therefore, successful business majors have higher writing skills. Another possible conclusion would be that since most of the international student business majors were Chinese, the correlation existed between Chinese students and writing skills. The next layer was to look at Chinese and non-Chinese (Level 3) business majors. Another layer removed Chinese students with extreme differences between productive and receptive skills. The final layer of this onion considered Chinese business majors with the Chinese students with extreme differences removed (Level 4). By investigating relationships one layer at a time the statistical relationships became larger. For example, the results revealed that while the adjusted *r* for total TOEFL iBT score overall when all students in all majors were considered together was .26. The adjusted *r* for only Chinese business majors was .35 an increase of .09. Of concern among the Chinese business majors were a group of outliers whose scores on the individual skill sections of the test differed more than the other students. When these outliers were removed, a more statistically significant .53 correlation was found. With this level of disaggregation, Bridgeman and colleagues were able to make highly specific recommendations regarding those Chinese students who were removed from the Level 4 analysis.

> This combination of much higher TOEFL total scores and much lower grades for the discrepant sample [Chinese students] suggests that

> admissions committees should look closely at students with large discrepancies between their productive and receptive scores. Additional evidence of the English language skills of these students might be sought, and/or arrangements made to provide special support services to these students when they arrive on campus. p. 313

Bridgeman et al. (2016) found larger predictive validity with disaggregated data. Each analysis led to a further, more disaggregated analysis. Although, the findings were specific to their institution, the process of "peeling the onion" in data analyses can be generalized to other single-institution studies. Results from the peeling onion type of institutional study is in my opinion optimal for making recommendations for institutional policy and practice change. Like Bridgeman et al. (2016), my study added to previous research by providing another example of the benefit of a study on a specific population, at a single institution to bring about institutional change.

I began this chapter with a review of my own experiences in language learning and teaching as they related to my personal view of the value of intensive English language programs in preparing students for success in an U.S. American university. To my experience, I added the theories and research that about language acquisition. To conclude this focus on language, I included a review of research substantiating the limited capacity of standardized tests in predicting academic performance. What my experiences gave me was an awareness of how differently language instruction was around the world. The influence of culture on language instruction was also evident to me. To my problem of practice study, I needed to discover what theories had been

formulated and research conducted to explain the role that culture plays in academic performance at a U.S. American university.

Cultural Factors Affecting Academic Performance:

The story goes that two younger fish meet an older fish who is swimming in the opposite direction. The older fish says to the younger fish, “How’s the water?” As the younger fish continue swimming, they look at each other in puzzlement. “What’s water?” (Orlando, 2016). The story illustrates that individuals are often not aware of their own culture that surrounds them. There are different levels of culture: learned and implicit. According to Gary Weaver’s Iceberg Model (as referenced in Hanley, 1999, pp. 3-4), the concept of beauty, notions of modesty, conversational patterns in various social contexts, and physical space were examples of the nine-tenths of the cultural iceberg which lies below the surface and unseen. Flower arranging and tea ceremony were examples of learned culture. Learned culture is the tip of the cultural iceberg. It is seen. But culture that is experienced without being noticed, implicit culture, is difficult to address (Orlando, 2016). Critical aspects of academic culture are below the surface of the cultural iceberg, the hidden curriculum. Implicit classroom culture was learned with very little if any explicit instruction. Implicit culture is so natural that each culture considers it natural “normal” behavior. Those who do not behave in the “normal” way are odd, rude, offensive, and out of place. Students, instructors, and administration in the U.S. are not likely to be aware of them. Likewise, international students may not be aware of their own academic culture. As Hofstede (1986) suggested international students who enroll at

institutions of higher learning in the U.S. will struggle if they do not understand how to function within the culture of the U.S. American academic setting.

Education Models

Badke's (2003) book, *Beyond the Answer Sheet: Academic Success for International Students*, and the NAFSA: Association of International Educators (NAFSA) booklets, *U.S. Classroom Culture*, (Eland et al., 2009; Smithee et al., 2004) provided a foundation for my inquiry. Both texts were written for the benefit of helping international students to learn about the U.S. American academic culture. Each work offered a framework for considering broad differences in approaches to education. I mention these works because their presence indicates two things: (1) there are differences between educational systems in the U.S. and those around the world and (2) international students benefit from knowing these differences. These two works presented models of education and the learner/teacher-centered classroom dichotomy which illuminated ways in which the U.S. American classroom may differ from the classroom experienced by international students in their home country. Badke (2003) opened with a discussion of the differences between the Western and discipleship models of educational philosophies (p. 13). Badke's book explained to international students how the philosophy of postmodernism led to the Western Model of education. The Western Model leads away from the development of the mind and toward enhancement of personal experience. In Table 2, the two educational models are contrasted. I found the differences in the importance of memorization and the measures of intelligence were significant because if students enter

U.S. classrooms with preconceived ideas of what they must do to succeed based on the discipleship model culturally accepted in their home country, they would fail.

Table 2 Badke's Discipleship and Western Models of Education

Discipleship Model	Western Model
Knowledge is highly valued	Knowledge is valued only if useful
Professor does the critical thinking	Professor & student do the critical thinking
Student is expected to learn, not criticize	Student is expected to analyze everything
Memorization is very important	Memorization is less important
Intelligence measured by memory ability	Intelligence measured by analytical ability
Certainty and truth are possible	All "truth" is open to challenge

Badke, 2003, p. 13

Like Badke's book (2003), the NAFSA booklet (Smithee et al., 2004) sought to help international students understand the differences between US and non-US

Table 3 Teacher-centered and Learner-Centered Approaches to Education

Aspect	Approach	
	Teacher-Centered	Learner-Centered
Preferred teaching method	Lecture	Lecture, discussion in large and small groups, application of theory
Instructor's role	Direct the learning process, be source of knowledge, clarify and interpret written texts.	Present content, facilitate dialogue, demonstrate analytical skills
Learner's Role	Listen to lectures, take notes, read assigned texts, memorize content demonstrate memorization in tests and papers.	Listen, take notes, read, think critically about content express perspectives in class, participate in dialogue, demonstrate understanding
Who directs learning process?	Instructor	Instructor and student
Learning mode	Top down, i.e., instructor imparts knowledge to students	Cooperative, participatory, interactive between instructor and learner
Evaluation methods	Written and oral exams	Written and oral exams, presentations, class participation, papers, quizzes, group projects, classmates' evaluation

(Smithee et al., 2004, pp. 11 – 12)

educational systems. The Table 3 highlights the contrast between the teacher-centered and learner-centered approaches to teaching and learning. Six aspects of the aspects of the approaches were described in the table (see also Table 6). The U.S.A. was on the learner-centered side of the contrasting approaches. While each aspect revealed differences, I was struck by the "learning mode" differences. Clearly, an international student at MSU who had known only school with a teacher-centered approach would fail to grasp the importance of actively being a part of the learning. Badke (2003) and Smithee, Greenblatt, and Eland (2004) consider awareness of the educational models and approaches as blocks to academic success. Their works helped students become aware of the hidden culture of a U.S. American academic classroom.

Students were not the only ones who needed help in understanding and adjusting to the differences between the academic culture in the U.S. and the countries from which international students come. The below the surface of the cultural iceberg was as unseen by instructors as it is by students. Shapiro, Farrelly, and Tomas (2014) wrote a practical, instructional booklet for classroom instructors, *Fostering International Student Success in Higher Education.* Their work exposed challenges in the classroom, the sources of misunderstandings, and possible solutions. Theories of second language acquisition were foundational to their teaching strategies recommended to instructors.

Kaplan's Cultural Thought Patterns:

"The teaching of reading and composition to the foreign students does differ from the teaching of reading and composition to American students, and cultural differences in the nature of rhetoric supply the key to the difference in teaching

approach" (Kaplan, 1966, p. 1). In contrast to the broad strokes painted by Badke (2003) and Smithee et al. (2004) about cultural differences, Kaplan's theory (1966) narrowed the scope to one skill — writing — while it simultaneously expanded my grasp of the complexity of the influence of culture on language. His theory and research related specifically to teaching academic reading and writing or evaluating academic readings and writings. Kaplan analyzed 600 writing samples[19] from international students. Kaplan's contrastive analysis of rhetorical patterns addressed the different thought patterns related to cultures and languages and rhetorical patterns. The Anglo-European thought pattern which came from a Platonic-Aristotelian sequence is the basis for the English language thought pattern. This pattern is basically linear beginning with a topic statement and then subdivisions supporting or developing the topic. Everything in the paragraph or essay belongs there – no rabbit trails. Kaplan points out that it is a language myth that students who can write academically in their own language will naturally write equally effectively in another language. Figure 1 demonstrates graphically the differences in paragraph and essay development according to five cultures. His rhetorical analysis illustrates that Arab students with a Semitic language, for example, would be challenged to write essays that get straight to the point which is expected by a professor in the U.S. The English rhetorical style is linear as compared to the Semitic rhetorical style.

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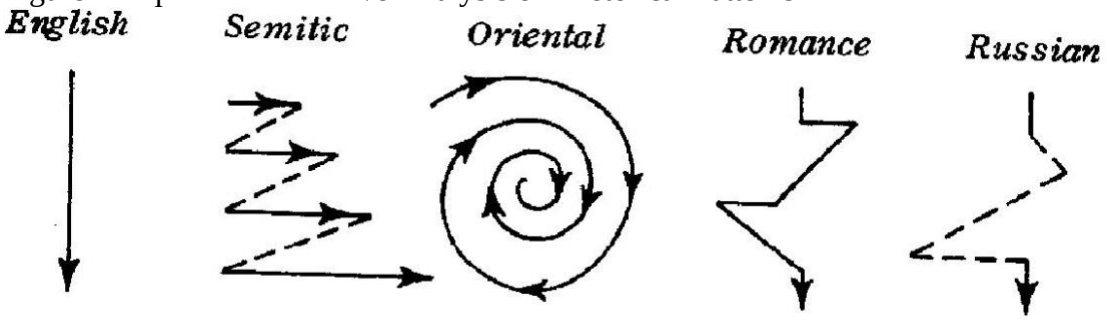
[19] Samples were placed in three linguistic groups: Group I: Arabic and Hebrew; Group II: Mandarin, Cambodian, Indochinese, Japanese, Korean, Laotian, Malasian [*sic*], Thai, Vietnamese; Group III: Brazilian, Central American, South American, Cuban, Spanish, French, African, Swiss-Italian.

Figure 1 Kaplan's Contrastive Analysis of Rhetorical Patterns



From Kaplan (1966, p. 15)

Arabic language pattern, Kaplan explains, is "based on a series of parallel constructions, both positive and negative" (p. 6). This parallelism appears in the King James Version of the Old Testament, which is translated from Hebrew, also a Semitic language. He gives the example of a student's 210-word essay which contained 13 coordinators. All ideas were linked by coordination and none by subordination.

Chinese and Japanese[20] students might, therefore, produce essays with an entirely different rhetorical pattern than the English rhetorical pattern the instructor values, expects, and grades positively. They would approach the topic indirectly and develop the topic in ever smaller circles[21]. This writing pattern is known as the eight-legged essay (Ying & Or-Kan, 2019, p. 206).

> The circles or gyres turn around the subject and show it from a variety of tangential views, but the subject is never looked at directly. Things are

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[20] Today, the offensive, imperialistic term "Oriental" is no longer used. Asian, East Asian, or specific country references such as Chinese or Japanese are more appropriate. Awareness of the offensiveness of term Oriental may not have been known to Kaplan and other writers in the 1960's.

[21] Although Kaplan himself describes the paragraph as "turning and turning in a widening gyre" (p. 10).

> developed in terms of what they are not, rather than in terms of what they are. (p. 10)

In the study by Terraschke and Wahid (2011), a Korean student noted difficulties in reading due to the unfamiliar arrangement of arguments in the materials. These researchers also found that many Chinese students acknowledged the differences in the logical organization between Chinese and English (p. 179).

The thought pattern for Romance languages presents another contrasting alternative to the English thought pattern. Speakers of Romance languages would interject various digressions and unrelated material within a paragraph or essay. Kaplan (1966) concluded by explaining the Russian pattern as containing short sentences and extremely long sentences that contain "parallel constructions and a number of subordinate structures" (p. 13) containing a significant number of extraneous ideas. In addition to affecting how students write, thought patterns also affect how students understand academic reading and academic listening such as lectures. Native English speakers are culturally attuned to the linear nature or outline of textbooks and lectures and can presumably readily access key points. Indeed, in my own experience my fellow graduate students from other cultures were always captivated by Kaplan's understanding (1966) of how difficult academic reading and writing was for them. Each one seized upon the theory of thought patterns as though someone had finally understood their struggles.

Kaplan's (1966, 1987) purpose was not to suggest that one culture or thought pattern was superior to another. Kaplan's 1966 position on cultural thought patterns' influence on writing was challenged by other linguists (Kubota & Lehner, 2004; Pennycook, 1989, 1999); however, Kaplan's (1987) response indicated that after more

than twenty years, he remained confident in the model he created. He further defended his assertion that writing was a legitimate study of linguistics pointing out implications in learning and teaching language. Students, who become consciously aware of the differences in writing styles, may be better able to adapt to English essay writing. In addition, they will be better equipped to follow the organization of academic readings and lectures. Equally important was for teachers to become more aware of these academic cultural differences. Subsequently teachers would be better prepared to understand and assist the international students in the classrooms. Learning about education models, teacher vs student-centered classrooms, and cultural thought patterns bolstered and expanded my idea of the impact of cultural background factors which present challenges in an academic setting for international students. However, it was the Five Dimensions of Cultural Distance that merged all the factors together and provided a tool for measuring quantitatively the impact of culture on academic performance.

Hofstede's Cultural Distance Model

Perhaps the most thorough and research-based discussion of the differences in academic cultures is given by Hofstede (1986), cited over 2000 times. Work-related values in fields connected to international business and globalization were the focus of Hofstede's (1983) research and models of cultural distance. Hofstede defined culture as a "collective mental programming: it is that part of our conditioning that we share with other members of our nation, region, or group but not with of members of other nations, regions, or groups" (p. 76). Before I could understand Hofstede's (1986) application of

his research to education, I needed a thorough overview of his original cultural distance model. The 4-D Model was created from an analysis of 116,000 responses from 40 countries and three regions to a 32-question questionnaire. Research based on Hofstede's model now includes 76 countries and six dimensions (Hofstede Insights, 2020). The four dimensions originally observed by Hofstede (1983) are individualism vs collectivism, power distance, uncertainty avoidance, and masculinity vs femininity. I was able to include these four dimensions in my statistical analyses. Since various studies define his dimensions differently, I quoted Hofstede's definitions to avoid any researcher bias.

> 1. *Individualism* as a characteristic of a culture opposes *Collectivism* (the word is used here in an anthropological, not a political sense). Individualist cultures assume that any person looks primarily after his/her own interest and the interest of his/her immediate family (husband, wife and children). Collectivist cultures assume that any person through birth and possible later events belongs to one or more tight "in-groups," from which he/she cannot detach him/herself. The "in-group" (whether extended family, clan, or organization) protects the interest of its members, but in turn expects their permanent loyalty. A collectivist society is tightly integrated; an individualist society is loosely integrated.
> 2. *Power Distance* as a characteristic of a culture defines the extent to which the less powerful persons in a society accept inequality in power and consider it as normal. Inequality exists within any culture, but the degree of it that is tolerated varies between one culture and another.
> 3. *Uncertainty Avoidance* as a characteristic of a culture defines the extent to which people with a culture are made nervous by situations which they perceive as unstructured, unclear, or unpredictable, situations which they therefore try to avoid by maintaining strict codes of behavior and a belief in absolute truths. Cultures with a strong uncertainty avoidance are active, aggressive, emotional, compulsive, and security-seeking, and intolerant; cultures with a weak uncertainty avoidance are contemplative, less aggressive, unemotional, relaxed, accepting personal risks, and relatively tolerant.
> 4. *Masculinity* as a characteristic of a culture opposes *Femininity.* The two differ in the social roles associated with the biological fact of the existence of two sexes, and in particular in the social roles attributed to *men.* . . . The cultures which I labelled as *masculine* strive for maximal

> distinction between what men are expected to do and what women are expected to do. They expect men to be assertive, ambitious and competitive, to strive for material success, and to respect whatever is big, strong, and fast. They expect women to serve and to care for the non-material quality of life, for children and for the weak. *Feminine* cultures, on the other hand, define relatively overlapping social roles for the sexes, in which, in particular, men need not be ambitious or competitive but may go for a different quality of life than material success; men may respect whatever is small, weak, and slow. In both masculine and feminine cultures, the dominant values within political and work organizations are those of men. (pp. 307-308)

In Hofstede's (2001a, pp. 351-373) second edition of *Culture's Consequences*, he included a fifth dimension, Long- versus Short-term Orientation (LTO). Unlike his original survey of IBM employees created from a Western cultural perspective, the LTO dimension was identified from responses to the Chinese Value Survey (The Chinese Culture Connection, 1987). This survey was created by Eastern minds, i.e., minds from a Confucian thinking and cultural background. Items in this dimension may not make sense to the Western mind. Items on the 40-question survey, aligned with all but one of the four original dimensions. Uncertainty avoidance did not align. However, the new dimension, LTO appeared. Hofstede (2001a) provided this definition:

> Long Term Orientation stands for the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift. Its opposite pole, Short Term Orientation, stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations. (p. 359)

These were Hofstede's five[22] dimensions created for understanding of and application to international business. I found it helpful to consider the implications of each dimension and to establish the relative placement of the background societies of the majority of MSU international students on each of the dimensions. According MSU data (MSU, OPA, 2020b) , the top five countries by unduplicated enrollment between 2001 and 2020 were Saudi Arabia, Turkey, China, Kuwait, and India. Using Microsoft Excel, I created radar charts that illustrated the relationships between MSU/America's and these five countries' scores on four dimensions. Figure 2 illustrated a pattern between India and China in contrast to the pattern created by the U.S.A.'s scores: PDI, IDV, UAI, and MAS. Individualism and Power Distance showed the largest disparities from the U.S.A. What became clear on the radar chart was the similarity of pattern between India and China. Hofstede would attribute that similarity, at least in part, to the Confucian teachings shared by both cultures.

There were three Muslim-majority countries included in MSU's top countries enrolled between 2001–2020 (see Table 12). Figure 3 exhibited the contrast in the patterns for the U.S.A., Saudi Arabia, Turkey, and Kuwait. The patterns of the three Muslim-majority countries were similar to each other. Clearly, the Saudi and Kuwaiti cultures had strong similarities on three of the dimensions while Turkey varied only slightly from them. The U.S.' pattern differed, particularly the scores for the Power

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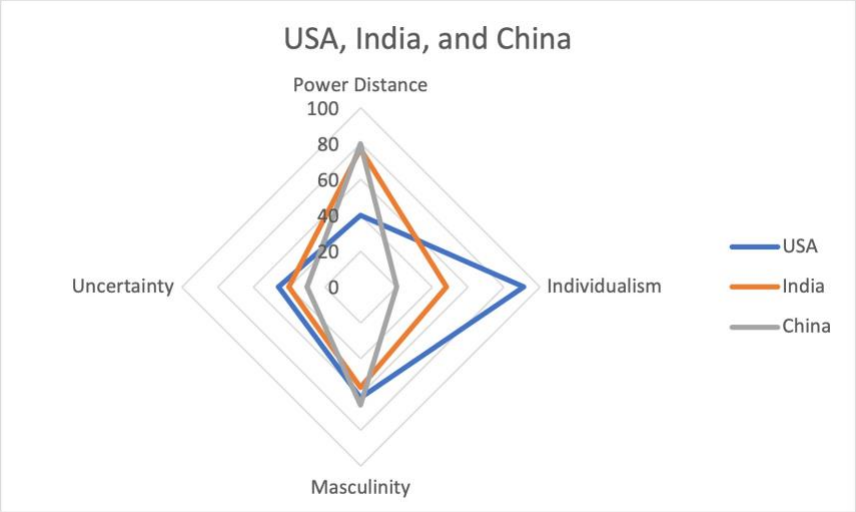
[22] The sixth dimension was not described in any text that I could find, so I did not address that dimension any further in my dissertation.

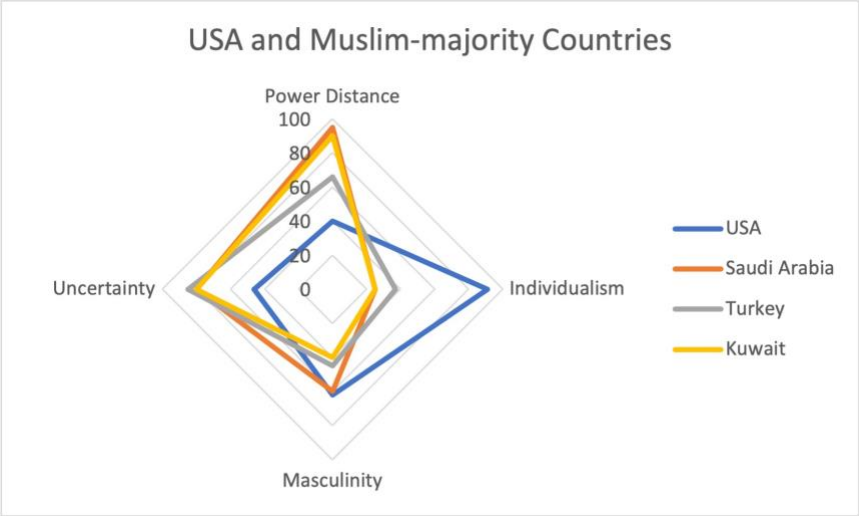
Distance and Individualism, from all three Muslim-majority countries with the exception of the Masculinity dimension.

Figure 2 Contrast between U.S.A. and Two Asian Countries on 4 Dimensions of Cultural Distance



Note. Data gathered from Hofstede (1986, 2001), Hofstede Insights (2020),

Figure 3 Contrast Between the U.S.A. and Three Muslim-majority Countries on 4 Dimensions of Cultural Distance



Note. Data gathered from Hofstede (1986, 2001) and Hofstede Insights (2020).

Numbers on each cultural dimension ranged from 1 - 100 with 50 in the middle. Scores on the individual dimensions for each country or region in Figures 2 and 3 showed how each country's culture can be viewed in relationship to other countries. While all dimensions ranged from 0 – 100, locations on the range were interpreted differently for each dimension. On the Power Distance Index (PDI), numbers over 50 indicated an increasingly large power distance. Societies with large PDI were comfortable with a large degree of inequality, i.e., individuals with little power in the society were comfortable with the inequality of power (Hofstede, 2001). Of the countries in Figure 3, Saudi Arabia had the highest level of comfort with inequality; similarly, in Figure 2 China's score of 80 reflects the Confucian principle "The stability of society is based on unequal relationships between people" (Hofstede, 2001, p. 354). On the other hand, people with little power in the U.S. had the lowest acceptance of inequality. There was a 61-point difference between the highest and lowest scores on PDI between the top five countries at MSU. Instructors with students from a wide range of societies may be challenged to understand the classroom dynamics created by the diversity of culturally driven expectations.

Another cultural dimension with a sharp contrast between the USA and other countries was the Long-Term Orientation (LTO) dimension. High scores on LTO indicate a society that values persistence and thrift, virtuous living, and ability to solve well-

defined problems. China had the highest score on LTO of countries overall[23] (Hofstede, 2001a, p. 356). Conversely, Confucian teachings would just as easily place China on the low end of LTO; Confucianism values both long-term orientation such as persistence and thrift and short-term values of persistence and respect for tradition (Hofstede, 2001, p. 351) In my opinion, if Chinese educators were to take Hofstede's inventory, the score for China might be on the short-term orientation end of the spectrum. Nonetheless, on Figure 2, China and India, have the two highest scores. As noted earlier, the data for this dimension was gathered using the Chinese Value Survey, and common sense would seem to say the survey source explains why high LTO scores reflect societies based on Confucian teachings. Hofstede pointed out that philosophy and religion were reflected in the LTO dimension (Hofstede, 2001a). Religions and belief systems like Confucianism, a set of "pragmatic rules for daily life" (Hofstede & Bond, 1988, p. 8), Hinduism, and Islam influence the economic growth of the respective countries because of the values inherent in the culture have been influenced by spiritual teachings. China's values and culture were deeply rooted in the teachings of Confucius, despite the efforts of Mao Zedong's 1966-1976 Cultural Revolution. India scored high on LTO as well. Hinduism and Confucianism have similar values with the exception that Hinduism places a greater value on ethical principles. By contrast, the low LTO scores of short-term oriented societies indicate the values of personal stability and respect for tradition. According to

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[23] Unclear to me is why Hofstede (2001) gives China the score of 118 while Hofstede Insights (2020) indicates a score of only 87.

Hofstede (2001), traditions are found in most every facet of society, such as religion, values, behavior, relationships, beliefs, politics, sports, family, commerce, and science. The U.S. has the lowest scores for LTO (Long-term Orientation). Muslim-majority countries score low on LTO as well. Pakistan has a score of zero on LTO. Countries with low scores on LTO value Truth and cultural tradition such as those found in religions like Confucianism, Christianity and Islam. Low LTO countries place higher value on the past and the present than the future.

The contrast in scores on the Uncertainty Avoidance Index (UAI) dimension further illustrates the cultural distance between the U.S. and other countries. High scores on UAI, indicate societies that are uncomfortable with an unknown future and seek to control the future by creating security via hard work, technology, science, laws, religion with absolute truth, or capitalism. High UAI societies consider what is different is dangerous. Figure 3 showed that on this index Turkey, Saudi Arabia, and Kuwait scored high while in Figure 2 China and India scored low. The U.S.A. scored slightly higher on this dimension than the Asian countries, but much lower than the Muslim-majority countries. Societies with low UAI scores had lower stress and anxiety and more tolerance for diversity, according to Hofstede (2001).

For the dimension Masculine versus Feminine (MAS), numbers over 50 indicate strong Masculinity, lower numbers strong Femininity. Countries with high MAS scores seek to have strong differences in roles for men and women and place higher value on masculine traits such as assertiveness, ambition and competitiveness (Hofstede, 1986). Men are tough; women are tender in masculine societies (Hofstede, 2001a). Most

countries in Figures 2 and 3 had relatively similar scores and were within 16 points for MAS. China, the U.S.A., and Saudi Arabia were higher while Kuwait and Turkey were lower than the other countries.

Overall, Figures 2 and 3 suggested a pattern of similarity among three countries: Saudi Arabia, Turkey, and Kuwait. They were higher on the PDI and UAI dimensions and low on IDV; Turkey, and Kuwait scored near the center on MAS; Turkey and Saudi Arabia scored just below the center on LTO. Similar patterns were found by other researchers (Al Saqer, 2019; Perez-Huertas & Barquin-Rotchford, 2020) who analyzed Arab or Muslim-majority countries in light of Hofstede's (1983, 1991, 2001) cultural distance models. These four Muslim-majority countries were at a potentially challenging cultural distance from the U.S.A. in areas of communication, expectation of classroom behaviors, and the role of student/instructor. Clearly, there were discernable areas of cultural distance between the U.S.A. and international students from Saudi Arabia, Turkey, and Kuwait particularly in the PDI and IDV.

My review of Hofstede's 4D Model of Cultural Distance plus the Long- versus Short-Term Orientation dimension briefly defined his five dimensions, presented the scores for several of the countries most represented at MSU, indicated the cultural significance of a high or low score, and included general comments on how the countries in Table 4 related on these five dimensions. Fortunately, Hofstede provided application of his cultural distance model to university classroom relationships.

Cultural Distance Model Applied to Education:

Hofstede's (1986) article about the cultural differences in academic settings was informed by his 1) research on 50 countries, 2) 4-Dimensional Model of Cultural Differences (4-D Model), and 3) personal experiences teaching and learning cross-culturally, including the International Teachers Programme (ITP) in Switzerland. According to Hofstede, because the participants in the ITP come from diverse countries, they "are a rich source of information on teachers' values and some of them have themselves taught in cross-cultural situations" (p. 306). In this article, he postulated that the teacher-student relationship was one of the "archetypal role pairs" (Hofstede, 1986, p. 301) of human society that represent "unequal but complementary basic roles" (p. 301) similar to that of boss-subordinate. Hofstede (1986) applied his busines model of cultural distance to education by looking directly at the difficulties that arise when the teacher and the student are from culturally distant countries. Hofstede acknowledges the cultural differences at work in curriculum, social position of teachers, or cognitive abilities; however, his discussion related to education focuses on the differences between "expected patterns of teacher/student and student/student interaction" (p. 303). These differences are the most significant in his opinion. Hofstede's five dimensions illuminate ways cultural distance can lead to potential misunderstandings for students and teachers in cross-cultural educational settings. To emphasize these differences and the potential for misunderstandings, Hofstede included four tables in his article. The tables present side-by-side the extreme ends of each dimension: collectivist versus individualist, small

versus large power distance, weak versus strong uncertainty avoidance, and feminine versus masculine.

Individualism Index:

Table 4 considers ways in which students from a collectivist society, e. g. Arab countries and Turkey, and teachers from an individualistic society, e. g. the United States, differ in perceptions of appropriate interactions in the classroom. For example, collectivist students are anticipating being seen as good students by never speaking up in class unless invited by the teacher. Students are the learners. Teachers are not learners. In a collectivist society, asking a clarification question may be seen as a criticism of the instructor for not making the information clear. The student might not be willing to admit he does not understand because that would embarrass the instructor. Critically related to contrasting views of academic integrity is the collectivist view that cheating and corruption to gain a diploma is more important than the learning. Another difference in perception of acceptable behavior is captured in Table 4, MSU teachers may perceive students from collectivist societies as unmotivated and lazy—always waiting for the teacher to direct them. As Americans, MSU teachers could also find it hard to understand why these same students are slow in changing behaviors. The students however have a strong alliance to tradition; change may not be seen as a good thing. The international student may interpret a domestic student's casual relationship with the instructor as the instructor's preferential treatment of that student; thus, the international student would not naturally assume that he or she is entitled to relate to the instructor in such a manner.

Table 4 IDV: Differences in Teacher/Student and Student/Student Interactions

COLLECTIVIST SOCIETIES China, Saudi Arabia, Kuwait, Malaysia*	INDIVIDUALIST SOCIETIES USA, Canada*
• positive association in society with whatever is rooted in tradition[1]	• positive association in society with whatever is "new"
• the young should learn; adults cannot accept student role[2]	• one is never too old to learn; "permanent education"
• students expect to learn how to do	• students expect to learn how to learn
• individual students will only speak up in class when called upon personally by the teacher	• individual students will speak up in class in response to a general invitation by the teacher
• individuals will only speak up in small groups[3]	• individuals will speak up in large groups
• large classes split socially into smaller, cohesive subgroups based on particularist criteria (e.g. ethnic affiliation)	• subgroupings in class vary from one situation to the next based on universalist criteria (e.g. the task "at hand")
• formal harmony in learning situations should be maintained at all times (T-groups are taboo)[4]	• confrontation in learning situations can be salutary; conflicts can be brought into the open
• education is a way of gaining prestige in one's social environment and of joining a higher status group ("a ticket to ride")	• education is a way of improving one's economic worth and self-respect based on ability and competence
• diploma certificates are important and displayed on walls	• diploma certificates have little symbolic value
• acquiring certificates are important and displayed on walls	• diploma certificates have little symbolic value
• acquiring certificates, even through illegal means (cheating, corruption) is more important than acquiring competence	• acquiring competence is more important than acquiring certificates
• teachers are expected to give preferential treatment to some students (e.g. based on ethnic affiliation or on recommendation by an influential person)	• teachers are expected to be strictly impartial

1. e.g. Trevino, 1982
2. Lieh-Mak et al., 1984
3. Redding, 1980: 211
4. 4 e.g. Cox and Cooper, 1977

* Countries inserted by researcher
(Hofstede, 1986, p. 312)

Power Distance Index:

Table 5 highlights the differences in classroom relationships between teachers and students from a small power distance society and those from large power distance

Table 5 PDI: Differences in Teacher/Student and Student/Student Interactions

SMALL POWER DISTANCE SOCIETIES USA, Canada*	LARGE POWER DISTANCE SOCIETIES Malaysia, Saudi Arabia, Kuwait*
• stress on impersonal "truth" which can in principle be obtained from any competent person	• stress on personal "wisdom" which is transferred in the relationship with a particular teacher (guru)
• a teacher should respect the independence of his/her students	• a teacher merits the respect of his/her students[1]
• student-centered education (premium on initiative)	• teacher-centered education (premium on order
• teacher expects students to initiate communication	• students expect teacher to initiate communication
• teacher expects students to find their own paths	• students expect teacher to outline paths to follow
• students may speak up spontaneously in class	• students speak up in class only when invited by the teacher
• students are allowed to contradict or criticize teacher	• teacher is never contradicted nor publicly criticized[2]
• effectiveness of learning related to amount of two-way communication in class[3]	• effectiveness of learning related to excellence of the teacher
• outside class, teachers are treated as equals	• respect for teachers is also shown outside class
• in teacher/student conflicts, parents are expected to side with the student	• in teacher/student conflicts, parents are expected to side with the teacher
• younger teachers are more liked than older teachers	• older teachers are more respected than younger teachers

1. according to Confucius, "teacher" is the most respected profession in society
2. E.g. Faucheux et al, 1982
3. Revans, 1965; Jamieson and Thomas, 1974; Stubbes and Delamont, 1976
4. * Countries inserted by researcher

(Hofstede, 1986, p. 313)

societies. As noted earlier, the United States is a small power distance society (40) while Saudi Arabia is a large power distance society (95). Factors in the classroom relationships related to PDI have a high probability of being problematic at MSU. Particularly between Americans and Arabs, Turks, Kuwaitis, and Chinese who differ in perceptions of appropriate interactions in the classroom. Less powerful people in Arab countries, for example, accept inequality in power as normal in contrast to U.S. Americans who are less accepting of inequality of power. Therefore, students from large power distance countries

are highly respectful of their teachers, particularly older ones, and would never contradict them or publicly criticize them. For these students, the teacher is the center of the classroom and is the one who is responsible to direct the learning. Domestic students will be seen by students from large power distance societies as rude, aggressive and disrespectful.

Uncertainty Avoidance Index:

Table 6 contrasts societies with weak and strong uncertainty avoidance. For this dimension the USA and Canada land somewhere in the middle between China and the Middle East. Teachers at MSU in a classroom with both Chinese and Arab students will have a particular challenge. It may be helpful to consider countries not included in Figures 2 and 3. For example, China is low on the UAI dimension; however, Japan is very high with a score of 92 and Germany's score is 65. High UAI cultures, Japan and Germany, prefer highly structured classrooms with rigid schedules, precise objectives, and one right answer. In contrast, Great Britain (35) and Denmark (23) enjoy more freedom, loosely defined objectives, and debatable answers. Hofstede's (2001a) focus for this dimension is on the teacher. Students from societies with a low tolerance for uncertainty expect teachers to provide certainty by providing clear objectives and assignments, having all the answers, using academic language, and being the expert. Students are accustomed to being rewarded for getting the answer correct. On the other hand, those students from societies who are comfortable with uncertainty expect teachers to use plain language, give vague or broad assignments, and allow students to express

Table 6 UAI: Differences in Teacher/Student and Student/Student Interactions

WEAK UNCERTAINTY AVOIDANCE SOCIETIES	STRONG UNCERTAINTY AVOIDANCE SOCIETIES
• students feel comfortable in unstructured learning situations: vague objectives, broad assignments, no timetables	• students feel comfortable in structured learning situations: precise objectives, detailed assignments, strict timetables
• teachers are allowed to say "I don't know"	• teachers are expected to have all the answers
• a good teacher uses plain language	• a good teacher uses academic language[1]
• students are rewarded for innovative approaches to problem solving	• students are rewarded for accuracy in problem solving[2]
• teachers are expected to suppress emotions (and so are students)	• teachers are allowed to behave emotionally (and so are students)
• teachers interpret intellectual disagreement as a stimulating exercise	• teachers interpret intellectual disagreement as personal disloyalty
• teachers seek parents' ideas	• teachers consider themselves experts who cannot learn anything from lay parents – and parents agree

1. Stroebe, 1976
2. Triandis, 1984
* Countries inserted by researcher
(Hofstede, 1986, p. 314)

intellectual disagreement. Students are accustomed to being rewarded for being innovative in solving problems. Instructors at MSU would probably conduct themselves and their classes somewhere in the middle of these two extremes; thus, confusion and misunderstanding between teachers and students related to the UAI dimension may be only minor.

Masculinity:

Table 7 illustrates the differences in societies whose roles for the two sexes are overlapping (feminine societies) and those with strongly differentiated roles (masculine societies). Feminine societies tend to value non-materialistic qualities. Masculine societies place higher value on competitiveness and ambition. As illustrated in Table 7, this dimension has the least variation of all five dimensions. China, U.S., Saudi Arabia,

and India score slightly above the middle on the masculine side. Malaysia scores in the middle. Turkey and Kuwait below the middle on the feminine side.

Table 7 MAS: Differences in Teacher/Student and Student/Student Interactions

FEMININE SOCIETIES	MASCULINE SOCIETIES
• teachers avoid openly praising students	• teachers openly praise good students
• praise used to encourage weak students	• praise is to reward good students
• teachers use average student as the norm	• teacher use best students as the norm
• teachers give equal attention to girls and boys	• teachers pay more attention to boys
• system rewards students' social adaptation	• system rewards students' academic performance
• a student's failure in school is a relatively minor accident	• a student's failure in school is a severe blow to his/her self-image and may in extreme cases lead to suicide
• students admire friendliness in teachers	• students admire brilliance in teachers
• students practice mutual solidarity	• students compete with each other in class
• corporal punishment severely rejected	• corporal punishment occasionally considered salutary
• students choose academic subjects in view of intrinsic interest	• students choose academic subjects in view of career opportunities
• male students may choose traditionally feminine academic subjects	• male students avoid traditionally feminine academic subjects
• Foreign students in U.S. efface national ego	• Foreign students in U.S. boost national ego

(Hofstede, 1986, p. 315; 2001a, p. 306)

Long-Term Orientation:

The article 1986 did not include the LTO dimension because it was not added as a fifth dimension until a later date. The fifth dimension of cultural distance, Long- versus Short-Term Orientation (LTO) was included in Hofstede's (2001a) second edition to *Culture's Consequences*. From Hofstede's 2001 book, I gleaned the information for Table 8 which highlights attributes of LTO societies that may affect teacher/student and student/student relationships. The future is most important in long-term societies while the past and present are of more concern in short-term societies. A person with a long-term orientation would agree with a key principle of Confucian teaching which states that

"one's tasks in life consists of trying to acquire skills and education, working hard, not spending more than necessary, being patient and persevering" (Hofstede, 2001a, p. 354).

Table 8 LTO: Differences in Teacher/Student and Student/Student Interactions

Short-Term Oriented Societies Low LTO	Long-Term Oriented Societies High LTO
• Students consider "persistent" not an important personality trait	• Students consider "persistent" an important personality trait
• Immediate gratification of needs expected	• Deferred gratification of needs accepted.
• Personal steadiness and stability	• Personal adaptability.
• Traditions are sacrosanct.	• Traditions adaptable to changed circumstances.
• Leisure time important.	• Leisure time not so important.
• Higher performance in analytic thinking	• Higher performance in basic mathematics tasks.
• Children should learn tolerance and respect for other people	• Children should learn thrift
• Seek to address inequality and injustice	• Education valued
• Disagreement affects ego	• Disagreement does not affect ego
• Analytic thinking	• Synthetic thinking
• Success comes through ability	• Success comes through effort
	• Silent in class; talk with teacher or other students after class
• Status not major issue in relationships	• Relationships ordered by status and this order observed.
• Most important events in life occurred in past or occur in present	• Most important events in life will occur in future.

Selected from Hofstede (2001a, pp. 360-368)
Pakistan is lowest, China highest on this dimension (p. 356)

Application to MSU Campus:

My awareness of the cultural differences in education was greatly enhanced by Hofstede's dimensions. It was helpful to become aware of the potential cultural distance explained by each of the five dimensions. Next, I wanted to pull all of these differences together and synthesize them. It was important to my research to build a better picture of the situation at MSU about how the dimensions connected specifically to the two main culture groups represented in my study sample, the Saudis and the Chinese. I constructed

two tables based on my understanding of Hofstede's application of his 5D Model to education. The tables summarized and highlighted a few of the differences suggested by Hofstede (1986, 2001) specific to the societies from which MSU's Muslim students (Table 9) and Chinese students (Table 10) come. These tables presented polar positions and generally the differences between an individual teacher and an individual student would be less extreme or potentially not exist at all. However, the cultural distance between MSU instructors, domestic students and international students from Muslim-majority and Asian countries may lead to numerous difficulties in the classroom. The potential for misunderstandings includes the potential for a direct impact on the academic success of international students.

Table 9 Cultural Differences: MSU and Muslim-majority Countries

MSU Teachers/Domestic Students	Students from Muslim-majority Countries
• teacher expects students to initiate communication	• students expect teacher to initiate communication
• teacher expects students to find their own paths	• students expect teacher to outline paths to follow
• students may speak up spontaneously in class	• students speak up in class only when invited by the teacher
• individual students will speak up in class in response to a general invitation by the teacher	• individual students will only speak up in class when called upon personally by the teacher
• students are allowed to contradict or criticize teacher	• teacher is never contradicted nor publicly criticized
• positive association in society with whatever is "new"	• positive association in society with whatever is rooted in tradition
• acquiring competence is more important than acquiring certificates	• acquiring certificates, even through illegal means (cheating, corruption) is more important than acquiring competence

Note. Application to MSU teachers and international students from Muslim-majority countries was inferred from Hofstede (1986, pp. 312-313); (Hofstede, 2001a).

Hofstede (1986) warned that only with full awareness of the cultural differences can potential problems be reduced. The responsibility of awareness building, I believe lies with the institution. Instructors, staff, domestic students and international students

Table 10 Cultural Differences: MSU and China

MSU Teachers/Domestic Students	Students from China
Students consider "persistent" not an important personality trait	Students consider "persistent" an important personality trait
Individuals will speak up in large groups	Individuals will only speak up in small groups
Teachers are expected to be strictly impartial	Teachers are expected to give preferential treatment to some students (based on ethnic affiliation or on recommendation by an influential person)
A teacher should respect the independence of his/her students	A teacher merits the respect of his/her students
Student-centered education (premium on initiative)	Teacher-centered education (premium on order)
Effectiveness of learning related to amount of two-way communication in class	Effectiveness of learning related to excellence of the teacher
Success comes through ability	Success comes through effort
Status not major issue in relationships	Relationships ordered by status and this order observed

*Application to MSU teachers and international students from China was inferred from Hofstede (1986, pp. 312-313); (Hofstede, 2001a).

without training and education will not automatically perceive the hidden cultures potentially in conflict. He maintained that instructors need to adapt when they are living in the culture of the students; however, it is the student who has the responsibility to adapt when the student's culture is in the minority. On one hand, I agree with Hofstede's argument. If a foreigner desires to succeed in a new country, it is his or her obligation to learn how to function effectively in the new culture. Of course, without a doubt, it falls within the purview of the teaching staff to be informed and positioned to appreciate and understand international students' classroom challenges. Equally important, I would

advocate, is the institution's responsibility to provide international students with the tools and skills they need in order to learn how to function effectively in a new culture.

Academic Culture and Muslim-majority Countries:

Equipped with cursory knowledge of the areas and relationships in the classroom which could potentially be impacted by culture, I wanted to explore research which addressed the challenges particular to Saudi students in English-medium universities. Initially, I learned about the teacher-centered culture of Saudi Arabia from Hastings' book (2015). His book provided background information about the influence of Islamic religion on teaching and learning. According to Hastings, Saudi Arabia less than 100 years ago did not require education. In 1932, The Kingdom had only 700 students in 12 public schools that offered primarily religious education. By 2009, there were 30,000 schools and nearly five million students. According to Hastings (2015), "certainty and truth" were essential components of Islam and this component has had a strong influence on learning in Saudi Arabia. In 2016/2017, almost half of the international students at MSU were from Muslim-majority countries (Pond, 2017). I needed to better understand the connection between Saudi culture and other Muslim-majority countries. Two studies used the Hofstede Cultural Distance Model (2001) to focus on Muslim-majority countries. Al Saqer's (2019) qualitative research considered the "Arab Gulf" as a cultural unit using Hofstede's 1984 model of cultural distance. The six members of the Cooperative Council of Arab Gulf States that Al Saqer (2019), a researcher from Bahrain, used in her study included United Arab Emirates, Kuwait, Bahrain, Saudi Arabia, Oman, and Qatar. These countries were similar in their discovery of oil and the rush of wealth

that followed. According to Al Saqer, wealth drew these countries out of ancient tribal cultures into the modern, global community. Indeed, not until 2019, did Saudi Arabia begin granting tourist visas to U.S. citizens. These six countries shared a past history, culture, language, and religion. The Al Saqer's purpose was to understand public relations for business purposes. From interviews, Al Saqer revised Hofstede's 1984 definition of culture, "We can define Arab culture as the collective programming of the mind which distinguishes the members of Arab region from those of other regions of the world" (p. 389). While Al Saqer's purpose did not relate to education, it did provide evidence of a potential commonality of the Arab culture. In another study, the common practice of grouping of Islamic countries as culturally the same was submitted to scrutiny by Perez-Huertas and Barquin-Rotchford (2020). They analyzed 24 of 58 Islamic countries[24] using Hofstede's 4-D Model and 19 countries using the 6-D Model[25] based on data available from Hofstede Insights (2020). The objective of the Perez-Huertas and Barquin-Rotchford (2020) analysis using the Hofstede model was to find "which cultural patterns can be systematically found in the Islamic world" (p. 5). The results of their study suggested that, in general, Islamic countries are quite diverse except on two dimensions. Islamic countries measured above 50 on the Power Distance Index indicating societies where the boss (or teacher) is obeyed without question. Conversely, the countries in the study measured below 50 on the Collectivist versus Individualist

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[24] Organization of Islamic Cooperation (Perez-Huertas & Barquin-Rotchford, 2020, p. 6)
[25] The 6th dimension is Indulgence versus Restraint and was not included in Hofstede 2001.

dimension. The common collectivist characteristic found by Perez-Huertas and Barquin-Rotchford gave support to Al Saqer's 2019 findings. Thus, these research studies were important to include in my literature review because they provided some evidence of the acceptability of considering Muslim-majority countries as a cultural unit at least in some regards.

In his Master's thesis, Duignan (2012) argued that the topic which most impacted his understanding of relationships and potential misunderstandings and difficulties between New Zealand instructors and Saudi teacher trainees was the powerful role that religion plays in Saudi education. In his paper, Duignan (2012) stated that all levels of schooling in Saudi Arabia stress Islamic religious education including the study of "Quran, Tajwid (conventions of Quranic recitation), Tafsir (Quranic Interpretation), Hadith (sayings of the Prophet), Fiqh (Islamic jurisprudence) and Tawheed (the Oneness of God)" (Jamjoom, 2010, p. 547, as cited in Duignan, 2012). According to Duignan's (2012) thesis, forty percent of the curriculum was Islamic studies and only ten to fifteen percent focused on technical subjects on the tertiary level in some technical universities. Hastings (2015) further noted that the Qur'an is memorized. It is not questioned nor discussed; therefore, all learning in the Kingdom was traditionally based on memorization. Extrapolating from Hofstede's (1986) analysis, there is potential for international students from Muslim-majority countries, such as Saudi Arabia, to fail to flourish in classrooms where the student's role is to think critically and participate in dialogues, rather than listen, take notes, and memorize (Hofstede, 1986). Another major influence on education, related to the study of religion in Saudi Arabia, is the role of the

teacher. Teaching is considered “a vocational, partly spiritual, calling” (Duignan, 2012, p. 20). The teacher expects students to behave with proper conduct in all interactions. Duignan related an incident that illustrated that students expect, as taught by their religion, that there was to be one acceptable answer and the teacher was the one who knew the answer.

I continued to find more research and information that addressed the potential challenges facing Saudi students in a U.S. American university. The differences in evaluation methods will lead to immediate difficulties if the international students believe they will be able to pass the course solely based on one or two exams. Their academic experience argues that participation in class, homework, projects, and group work are unimportant and, therefore, completely optional (Hastings, 2015). A final challenge for the Muslim student is learning how to relate to classmates. Very few educational situations in Saudi Arabia beyond kindergarten level are coed. Saudi students would probably never have experienced persons of the opposite sex in the same classroom. In fact, they often have only encountered the opposite sex in family settings. As Duignan (2012) points out, the act of shaking hands with or touching a person of the opposite sex would be considered unacceptable. He further points out that even the vigor or strength of a handshake has cultural overtones. U.S. Americans tend to value a strong, firm handshake while Saudis avoid having a strong handshake as it indicates aggression (Duignan, 2012). Thus, as with the purpose of education, the role of the teacher, and teacher-student relationship, cultural expectations regarding interactions between students

can create opportunities for misunderstanding in an MSU classroom for students from Saudi Arabia and similar cultures.

Chen and Sit (2009) conducted a study in Australia, which also considered the perspective of students from Muslim-majority countries, referred to as Middle Eastern (ME) countries in the article. The study compared the ME students from three countries with students from six South East Asian (SEA) countries. The focus in this study on these two groups lent itself well to my study since the two largest groups of students in my dataset were Saudi and Chinese. Similar to Duignan's (2012) paper, Chen and Sit (2009) sought to understand how international students perceived and responded to the seven teaching strategies of the hosting institution: direct instruction, discussion, group work, cooperative learning, problem solving, student research and performance activities. Unfortunately, the paper did not define clearly the seven teaching strategies. S. Chen and Sit (2009) interviewed 10 students from each group using semi-structured, open-ended interviews analyzed with the help of NVivo 7, a qualitative data analysis computer software program. Unlike Duignan (2012), they did not administer the interviews in the language of the participant. The S. Chen and Sit (2009) study found that both sets of students were most comfortable with the teacher-centered teaching, such as lectures, since this was a common strategy in the home countries. According to their analysis, the Middle Eastern (ME) students were more positive toward discussion than the South East Asians (SEA); however, the ME students were unfavorable toward performance activities such as role play. The researchers postulated this was because the ME students struggled with a teaching strategy that went against their previous cultural values in education.

They further suggested that students will not readily understand the value of previously unknown teaching strategies unless they receive explicit explanations regarding the purpose and value of the strategies.

Academic Culture and the Chinese:

While Duignan (2012) focused his research on Saudi teacher trainees, and Chen and Sit (2009) compared Middle Eastern students to South East Asian students, Crist and Popa (2020) conducted an exploratory study related to the information literacy skills of Chinese students in a U.S. American university. Crist and Popa's study, the two previous studies, and my own study were all conducted to alert our institutions to the potential struggles international students may experience in "navigating the information landscape within Western academia" (p. 647) due to previous educational experiences. The researchers used an interesting methodology. They used qualitative vignettes, "hypothetical situations with fictional characters to which the interviewee responds" (p.649), and interviews. The vignettes were developed with input from outside professionals and reviewed by the English language teaching faculty. The Crist and Popa literature review revealed that standards of academic literacy are "culturally situated within a specific sociopolitical context" (p. 647) which is Anglo, Western, and Christian at its core. In other words, they were saying that when instructors, such as librarians, work with international students to develop skills in summarizing, paraphrasing, and avoiding plagiarism, they need to understand that knowledge-based Western economies' definitions of academic integrity are not universal. One of the conclusions in the study suggested that although the Chinese students understood information authority, in theory,

they needed more practice with citation, summarizing, and paraphrasing. What their conclusion means in relationship to my problem of practice study was that international students need more practice with the skills that allow them to function within the academic integrity norms of a U.S. American institution of higher learning. Crist and Popa's study prompted my extended investigation into the relationship between culture, academic standards and integrity.

Academic Integrity and Culture:

In recent years, the news media has heightened concern for academic integrity issues, such as "cheating." As noted by Crist and Popa (2020), cheating is a culturally defined construct, as such, the institution's or country's definition of cheating can misrepresent the academic intentions of international students. Saul (2016, March 21) reports that a professor at Idaho State hypothesizes the problem of cheating stems from language problems, funding concerns, and program intensity. Another professor felt that the Middle Eastern students were underprepared. Other professors at the same university reported that Middle Eastern students were likely to cheat or plagiarize as evidenced by 80% - 90% of the cheating reported cases in engineering and science involved international students. Concern about the academic integrity standards of international students is fed by headlines such as "Cheating by International Students Rampant in British Universities" (O'Malley, 2016). In a research study, Fass-Holmes (2017) responded to accusations by school authorities that international student "cheating" was on the increase. He conducted a research study to determine if the increase in academic integrity violations (AIV) was due to more cheating by international students or just more

international students. Fass-Holmes describes the various theories which seek to explain AIV. He asserts that most of these theories do not apply to international students. However, he mentions cultural factors at work when an international student was issued an AIV. Fass-Holmes highlights the conflict between a collectivist culture's value of helping others and working together in relationship to the American definition of helping and working together. The study found that one-fifth of the institution's reported AIVs involved international students, however, that represented only 7.5% of the international student population. The increase in AIVs, Fass-Holmes reported, was proportionate to the increase in the number of international students. Fass-Holmes had an interesting double interpretation of the results. As an illustration, he found that male, Chinese, Economics majors were most likely to cheat. Conversely, he reported that Economics faculty and assistants were more likely to find and report cheating by male, Chinese majors than other groups; they, also, were more likely to report AIVs than faculty in other disciplines. It is similar to wondering if drivers of red sports cars are more likely to speed or patrol officers are more likely to ticket drivers of red sports cars for speeding. Similarly, in the news article referencing Idaho State University, the question could be asked, "Were more Middle Eastern students cheating or had professors become more diligent and intent upon catching them cheating?" Fass-Holmes' acknowledgement that cultural factors were at study findings supports Hofstede (1986). Fass-Holmes (2017) recommended that the university put more effort into decreasing cheating by building awareness on how not to cheat and repeating seminars on academic integrity yearly rather than increasing measures to find and punish offenders. His observations and recommendations align

clearly with those of Crist and Popa (2020). The findings of these researchers were that cheating and plagiarism were not issues of integrity. Rather they were issues steeped in cultural values and previous educational experiences. As such, the recommended solutions to the problem were effective education regarding integrity standards, repetition of those standards, combined with thorough and ongoing training and practice in quoting, summarizing, paraphrasing and citation skills.

The focus of Martin et al.'s (2012) article was the librarian's role in English language learners' success in composition courses. This viewpoint article used a casual (not causal) case study of three librarians and cited Hofstede's (1986) work to provide an underpinning for their position that librarians needed to understand the educational and cultural backgrounds of their students. Their literature review included findings that international students tend to use the library for study, computer use, and socializing rather than research. To improve international students' library research skills, they need more time and more hands-on practice than domestic students. International students' previous understanding of research may not align with U.S. American academic expectations. The authors pointed out that understanding the characteristics of international students was core to assisting them and their teachers in successfully using library reference materials. One of their case studies highlighted the difficulty in understanding plagiarism that international students encountered because their home countries did not have intellectual property laws. Student difficulties persisted despite having had a thorough training session with the librarian. Before students in this case study were able to write without plagiarism, the university composition instructor for

English language learners needed to repeatedly define plagiarism and explain how to avoid it. According to Martin et al., because the idea of "bias" was a "Western cultural assumption" (p. 362), reliability of a web site or online resource produced another set of concerns for students and teachers. Additionally, J. A. Martin et al. (2012) noted that academic integrity misunderstandings were acerbated by the extreme difficulty and tediousness international students experienced when reading academic articles due to language limitations. The conclusion of their study was that international students needed more training than other students in the use of the library and in abiding by U.S. American intellectual property laws than other students. The solution the researchers recommended was an ongoing cooperation and involvement between librarians, instructors, and English as a second language (ESL) teachers. This type of ongoing cooperation would help to reinforce course work training in library skills and the development of positive relationships between librarians and international students. What was clear to me from the studies conducted by Crist and Popa (2020), Fass-Holmes (2017), and Martin et al. (2012) was that the issue of academic integrity among international students was not a problem of international students' lack of honesty or integrity, but a problem rooted in differences in cultural values. Gaffas (2019) noted that citing sources was not a problem for the Saudi students in her study because the skill was not needed. "This is understandable because these students come from an educational background where reproducing an exact copy of previously published information without acknowledging the sources is acceptable" (p. 7). Gaffas' observation contributes to understanding why plagiarism continues to be a challenge for Saudi students in U.S.

settings and why explicit teaching of the differences in academic culture regarding this topic is essential for international students at MSU. However, as Pennycook (1999) admonishes, care must be taken to respect both academic cultures. One is neither better and right, nor the other bad and wrong. Rather than handout AIVs, international students should be given thorough and repeated experiential opportunities to learn and practice academic skills that will place them in good standing in a U.S. American university.

Section Summary:

Thus far, my review of relevant literature addressed two major theoretical backgrounds and associated research related to international student academic performance: language acquisition and cultural. Key theorists in language acquisition referenced were Noam Chomsky (Fromkin et al. 2015) and Stephen Krashen (Krashen and Terrell, 1995. Two approaches were discussed grammar-translation and communicative. I reached the conclusion that a combination of grammar and communication was perhaps the most effective in a modern setting (Norris & Ortega, 2000). I concluded that these differences in instruction could pose a problem for international students studying in the U.S. A portion of my review included a survey of 11 institutional websites to explore common measures and standards for proof of English language proficiency. I found that MSU's standards were in keeping with other universities but perhaps lacked standards for students in specific majors who might need a higher level of language proficiency to succeed. I continued my review by exploring the two main tests used at MSU, TOEFL and IELTS. I included research studies conducted

that provided evidence of predictive validity of the tests (Bridgeman et al., 2016; Cho & Bridgeman, 2012; P. Johnson, 1988; Light et al., 1987).

My two-pronged approach to understanding international student academic performance progressed next to considerations of culture. Different categorizations of cultural differences were reviewed. I considered Badke's Western and discipleship models of education (2003), Smithee et al.'s comparison of teacher-centered and learner-centered approaches to teaching and learning, Kaplan's theory of cultural thought patterns (1966), and Hofstede's cultural distance model (1986, 2001). Together these ways of grouping culture provided abundant theory and evidence to give wight to the idea of the influence of culture in an academic setting. Additionally, they constructed a clear foundation for my consideration of culture in my study. To provide an institutionally specific focus, I extended my literature review of culture to explore research linked to Muslim-majority countries (Al Saqer, 2019; Chen & Sit, 2009; Duignan, 2012; Hastings, 2015; Perez-Huertas & Barquin-Rotchford, 2020) and China (Crist & Popa, 2020). Together these studies provided evidence of scholastic challenges linked to cultural background factors. Specifically, misunderstandings and cultural values contributed to difficulties for international students in studies which addressed academic integrity (Crist & Popa, 2020; Fass-Holmes, 2017; J. A. Martin et al., 2012). What remained to be considered was the role intensive English programs (IEP) played in addressing both students' English language proficiency and background culture.

Intensive English Programs:

Various terms found in existing research were: Intensive English Programs (IEP), English for Academic Purposes (EAP), English for Specific Purposes (ESP), Pathway Programs, and English language programs. Although they differ in content and approach, to reduce confusion for the reader, I used the term Intensive English Program or IEP as a general term to refer to any one of these specialized programs.

People may assume that Intensive English Programs (IEP) were generally the same. I previously provided this definition of the purpose of these English programs.

> . . . where international students study academic English in an intense, immersion-style environment as preparation for gaining admittance to a full-time degree program at a U. S. college or university. Most IEPs provide English language classes at various levels of difficulty to help international students meet the language requirements for admission to U.S. colleges and universities. (Orlando, 2016, p. 8)

However, while the purposes were similar, other aspects of the programs were not. Each IEP was responsible to the institutions they served. A past chair of Teachers of English to Speakers of Other Languages (TESOL) characterized IEP as a “many splendored thing” (Orlando, 2016, p. xi). The Commission on English Language Program Accreditation (CEA) (2015) listed the diversity of types of organizations within the realm of IEPs: “independent, stand-alone institutions; proprietary schools; independent English language institutions under contract with colleges and universities; college- and university-based and administered programs; non-profit schools; and international schools” (p. iii). MSU contracted an independent English language institution.

The purposes of IEPs had similarities to first-year seminars. First-year seminars had as part of their objectives to assist students in academic adjustment to college and the attainment of reaching their educational goals (Mayhew et al., 2016). Mayhew, Rockenbach, Bowman, Seifert, Wolniak (2016) reported studies that found a correlation between first-year seminar attendance and persistence to a second year and retention to graduation (p. 385). The literature associated with intensive English programs reported similar findings. International students enrolled in intensive English programs develop intercultural communication skills, gain knowledge of the host community, navigate the American university campus, engage in group discussions, build relationships with instructors, and develop critical thinking skills (Andrade, 2006; Dooey, 2010; Evans & Green, 2007; Fox et al., 2014).

IEPs were characterized by their organizational structure and objectives, as well as, by the qualifications of the staff. Professional, skilled English language teachers had experience in working with diversity and the unique linguistic and cultural challenges of students from various countries. These professionals provided meaningful learning experiences and assisted in the transition to a North American academic, social, and political setting (Fox et al., 2014). An IEP program can act as a bridge from the country of origin to the new country by helping students transition from their former style of education to the American style (Kingston & Forland, 2008; Poyrazli & Grahame, 2007). Even more importantly, directors of IEP can work to advocate for international students on campus and improve awareness across the university of the role of the IEP on the campus (Orlando, 2016). IEPs had commonalities and differentiations. What remained to

be discovered was how past research studies had brought together the central themes of my study, language acquisition and proficiency, impact of culture on academic performance, and the effectiveness of IEPs in preparing international students for the rigors of academic studies in a U.S. American university. I found a diversity of research designs, methods, and variables had been considered. In order to gain a balanced perception of the impact of IEPs, it was beneficial for me to explore studies with contexts, geographical locations, and sample populations than mine.

Standardized Tests, IEP and Academic Success:

An early study (Rosberg, 1983), conducted in the state of Washington, sought to determine the effectiveness of IEP in preparing students for university study. Today, the standard way of accepting international students is to require evidence of English language proficiency; however, this practice was not in place for some of the years in the study. The largest number of students in the study were from the Middle East, as were the students in my study. Unlike the De Wolf (1988) study, Rosberg only included international students from non-English speaking countries. Like my study, Rosberg considered, among other factors, the number of ESL courses taken. He found this variable had no effect on GPA. Of course, those students with higher test scores took fewer ESL classes. Despite being in the highest test score category, students only achieved GPA of 1.76 to 2.25. The researcher acknowledged, due to limitations of the dataset, no clear results as to the effectiveness of IEP could be determined.

A dissertation conducted by Stoynoff (1990) used a mixed-method approach to discover factors that determined freshman, international student academic success. The

study sample included 57% students who were conditionally admitted with TOEFL scores between 500 and 575. Students with scores higher than 575 composed 43% of the sample. However, the data analysis did not compare the two groups. Factors considered included language proficiency (TOEFL), study strategies (Learning and Study Strategies Inventory, LASSI), and personal characteristics. The construct academic success was measured by GPA and effort. The construct of effort in turn was defined by credits earned, incompletes, withdrawals, and pass/no pass courses. Results showed TOEFL scores (minimum accepted was 500) correlated with GPA (r = .26) and earned credits (r = .23). GPA also correlated to time spent studying. Interviews were conducted with students whom the researcher ranked as either high, a GPA of 3.3 or higher, or low achievers. The interviews revealed that students, both high and low achievers, had difficulty with the linguistic aspects of course work, study skills, and time management. The researcher concluded that students, even students with acceptable TOEFL scores, would be helped by instruction in skills beyond English language skills. Stoynoff's study added to my understanding of the multiple factors which correlated to international student academic performance in university coursework.

Since Hofstede (1980) published his theory and research on the Cultural Distance Model, other researchers have used the model to understand intercultural communication in the business sector. Fortunately, some researchers have applied the cultural distance model to the educational services sector. Previously, I reviewed the work of J. A. Martin et al. (2012), Al Saqer (2019) and Perez-Huertas and Barquin-Rotchford (2020) all of whom used Hofstede's model (2001) as the theoretic underpinning for their research. As

did Crede and Borrego (2014), whom I reviewed later in this chapter. On the other hand, Itaya et al. (2008) used the scores from the five dimensions as factors in their study. Although Itaya et al.'s study included a different sample population, students in an advanced dental program, it became a model for my study on how to use the country scores for the dimension in a quantitative analysis. However, Itaya et al. (2008) acknowledge the limitation of their study because their variable "country of education" was a limitation in regard to a discussion of the influence of culture on academic performance. Country of education indicated where the applicant in their study attended dental school. This country may or may not have been the same country as the student's cultural background and system of belief. Therefore, the results of the study related to the relationship of culture to GPA may not have reflected accurately a particular student's culture. "Do admissions criteria or cultural norms correlate to the separate or combined GPAs in the 2-year dental program?" (Itaya et al., 2008, p. 322). Itaya et al. posed this research question with the purpose of informing their admission's team and, at the same time, assuring international students of a nondiscriminatory and complete application process. The study incorporated Hofstede's (Hofstede, 2001a) five cultural norms: Power Distance, Individualism, Long-term View, Masculinity, and Uncertainty Avoidance. Data for the study (Itaya et al., 2008) was secondary data for 144 students graduating between 1994-2004. The 12 independent variables in the study included TOEFL, cultural norm of Individuality (Indv), cultural norm of Distance (Dist), cultural norm of Long-Term View (Long), cultural norm of Masculinity (Masc), and cultural norm of Uncertainty Avoidance (Uncert). Bivariate analysis found Long-Term View to predict final GPA

statistically significant at the .05 level. This indicated, according to the authors, that students from cultures that value delayed gratification “do slightly better” (p. 323) in the dental program. In addition, Power Distance had a weak negative correlation to a couple of courses, which the authors suggested meant that participants from cultures with teacher-centered education do not do as well in their academic courses as those from cultures where teachers and students were considered more equal. Only one dental course showed a weak negative correlation to the cultural norm of Individualism. The Masculinity dimension did not correlate with any course. From the findings, I extrapolate that it could be beneficial to each institution and program within an institution to determine which students succeed or struggle as indicated by cultural dimensions of their societies. With institutionally based empirical findings, international recruiters could target recruitments efforts on students from societies who could potentially be successful in a particular program. An alternative solution would be for the institution to provide the academic support services for the students who were struggling. Thus, recruitment efforts could include a broader spectrum of students.

The Itaya et al. study (2009) alerted me to the potential difficulties of using secondary data. Parallel to my preliminary observations of my dataset, these researchers noted irregularities with the interpretation of TOEFL scores. Minimum TOEFL scores were not strictly adhered to in the earlier days of their institution. In fact, some students were admitted without a TOEFL score. Moreover, the minimum TOEFL score was raised during the period of years in their study. For these reasons, their findings showed higher GPAs for students who graduated most recently compared to those who graduated in

earlier years. The results of the bivariate correlation indicated the year of graduation was the strongest predictive variable. It could be concluded that having a higher minimum TOEFL score was the meaningful factor in predicting student GPA. Other results of the bivariate analysis showed TOEFL as a predictor for final GPA with a statistically significance level of .00. Ultimately, the researchers found the GPA correlated to some but not all of Hofstede's (2001) cultural factors. With relative uncertainty, they found correlations between GPA and TOEFL scores.

The Neumann, Padden, and McDonough (2019) study considered the relationship of several factors including one relevant to my research, student academic achievement. Similar to my study, the Canadian-based study by Neumann et al. explored mediating factors likely to show a relationship with international student[26] academic success. Factors considered in their study were grades in degree program courses, overall yearly GPA, and English proficiency test scores. Although the participants for this study were selected from the IEP, the researchers did not include IEP participation as a factor to be considered in international student academic performance. My study differs in that it considered the role of IEP in student academic performance. In addition to grades and test scores, students completed the 40-item, academic self-concept scale (ASCS). According to Neumann et al., the ASCS considered "peer evaluation, self-doubt of academic ability, and effort related to grades" (Reynolds (1988) as cited in Neumann et

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[26] For their study in Quebec, they defined an international student as any student who had to provide proof of language proficiency. Participants included permanent Canadian citizens, francophone or allophone students.

al., 2019, p. 329). The participants, like the participants in my study, were largely Chinese and Arab. Results of the study indicated statistically significant moderate correlations between English language proficiency test scores and GPA and ASCS scores and GPA. Together they predicted 12% of the variance in students' final GPA. A final measurement tool in the research conducted by Neumann et al. (2019) was instructor interviews. Interviews with instructors supported the importance of academic English language proficiency, particularly reading and writing skills. Faculty interviews revealed other skills as significant to student success, skills which are naturally taught in an effective English for academic purposes program (IEP). Skills mentioned by instructors were analyzing and synthesizing information, accepting corrective feedback, understanding, addressing and following instructions. One implication of the skills noted by the interviewees, but not mentioned in the article, is the cultural nature of the skills mentioned. As noted in the section on Hofstede (1986), in some academic cultures analyzing, synthesizing and asking questions to understand instructions are unnecessary skills.

A Canadian researcher, Janna Fox,[27] has been actively investigating the effectiveness of Intensive English Programs (IEP/EAP) for almost two decades. In her 2004 article, she addressed problems created by the misplacement of students into the IEP program. Placement in the program was based on the Canadian Academic English Language (CAEL) Assessment. The study found that students, identified by English

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[27] Carleton University, Ottawa

language teachers as misplaced at too high a level of English class, as determined by CAEL, were at risk of failure. Students placed too high withdrew from the program within or by the end of the first year. Compared to students with the same CAEL results and correct IEP/EAP placement, the misplaced students more often earned lower grades in IEP/EAP courses and degree courses than the latter group. Furthermore, the study found that the highest percentage of misplaced students were among Arabic and Mandarin speakers, 42% and 25% respectively; more males than females were misplaced (75:25). In other words, the researcher's findings indicated that a student's score on the language assessment test is not as important as his/her correct placement in the program. One important takeaway from the study was the importance of proper student placement by admissions. MSU's international student population is predominately Saudi and Chinese and male; thus, proper student placement by international admissions is critical. In addition, I found that the study could be interpreted to support Krashen's Comprehensible Input Theory (2003) i+1 theory of second language acquisition. The misplaced students were not exposed to sufficient comprehensible input to advance in their English proficiency. This interpretation of Fox's results (2004) that students who were in classes taught at a level too far above their English comprehension level were likely to fail, reinforces my earlier reference to the myth that international students sitting in university classes far above their level of understanding will naturally advance in their level of English proficiency.

Attitude toward further study of English was another factor which attributed to student failure according to the Fox (2004) study. The student's belief that continual

retaking of the test would ultimately be the best way to attain college admittance led to poor attendance, inadequate assignment completions, and unwillingness to learn. The interviews in a later study (Cheng & Fox. 2008) further supported the findings of Fox's 2004 study. The lower English language proficiency students tended to be more focused on passing the language proficiency test than learning English. These students did not value or see the necessity of further language study. Cheng and Fox (2008) observed that when student expectations and program expectations do not match, the student often disengaged and failed to take advantage of the learning opportunity. Their findings further reinforce the fallacy of the myth that an acceptable score on the standardized test will ensure language sufficient for the rigors of academic studies.

IEP in Developing Countries:

In an earlier section of this chapter, I explored the differences in language instruction around the world as noted from my own experience and in its relationship to second language learning and teaching theories. I investigated to find studies which were conducted in developing countries to test the theories and my experience. Mosback's (1977) article describes two studies conducted in Ethiopia at the University of Addis Ababa between 1971 and 1973. The dates are of interest because they indicate the type of English language instruction being used at the time. One study conducted at the university in Ethiopia measured language improvement against a standardized English language proficiency test (University of Michigan Test of English Language Proficiency). The second study addressed the teaching methods and situation at the university. The results did not speak well for the program, which is understandable

considering the instructor had 100 students in a class. Mosback concluded that general English courses were of little use and recommends focusing the university's resources on courses which are specific to problems in technical and professional English.

The context of a study by R. C. Johnson and Tweedie (2017) was a transnational Canadian university in Qatar. The study was published by TESOL Arabia. University of Calgary in Qatar consisted almost entirely of English language learners and those in the study were from more than nine countries, including Qatar, Iran, Pakistan, Yemen, Somalia, Jordan, Sudan, Palestine [Israel], and India. Their collaboration addressed two aspects of my research, 1) IEP predictive ability on student academic performance and 2) a focus on students from a Muslim-majority country. Thus, this study had relevance to my study since the MSU international student population is largely from Muslim-majority countries (Pond, 2017). The Johnson and Tweedie (2017) study addressed the predictive ability of two courses in the IEP program compared to the predictive ability of standardized tests for a nursing program. The IEP courses considered were profession-specific Academic Writing & Grammar and Academic Reading & Vocabulary. That is, the courses were designed to specifically address the English language and academic needs of students in the nursing program. Both courses were found to significantly predict GPA in the nursing program with greater predictability for students who had no previous experience, training, or qualifications in nursing. The vocabulary and reading course had a slightly higher predictability. In other words, students who had no background in nursing program specific vocabulary received the most benefit from this course. However, the results found that TOEFL and IELTS were better predictors of

success in the nursing program than GPA for the two IEP classes. The researchers hypothesized this unusual high level of predictability of the tests was related to the study's focus on a particular academic major. Parallel to the IEP courses, test scores for students without past experience in nursing showed greater predictability. The results from this study suggest that particular skills, such as vocabulary, taught in IEP had a greater impact on student success than other skills.

Of high interest to me was the study conducted by Gaffas (2019). Gaffas' study addresses student perception of the effectiveness of an English language preparatory program at a university in the Kingdom of Saudi Arabia. Gaffas' study was relevant because the participants were Saudis in their home country. Although, my research is a single-institution study in America, Gaffas' single-institution research study in the Kingdom of Saudi Arabia had relevance to my study. Developing country English language instruction limitations, as noted by Mosback in 1977 in Ethiopia, were evident in the context of teaching English language in KSA in the twenty-first century. The participants were undergraduate Arabs in an English language program. Gaffas' purpose was similar to mine. She sought to determine the effectiveness of the English language program to prepare students for university courses taught in English. The author noted the low English language proficiency Saudi students exhibit even after nine years of English language study before participating the university's language program. As was the case in Ethiopia (Mosback, 1977), English classes in Saudi Arabia had not adequately prepare students. Nonetheless, because of the general lack of English skill, institutions throughout Saudi Arabia that offer English as a medium of instruction (EMI), have begun to offer

English language courses to improve student success. Gaffas (2019) referenced the mismatch of teacher or program expectations and student expectations. One reason, noted by Gaffas, for the mismatch of student and teacher/program expectations was differences in understanding how language was to be taught/learned. As I have discussed throughout this literature review, international students wanted to be taught how to pass the exam, yet this was not the type of instruction that would best serve their educational needs. For example, some of my adult language students at MSU wanted me to teach them grammar because this was the type of instruction that they had always had in their home countries. What became my first obligation in these situations was to educate the learner about why I had chosen the methods and curriculum I did. In that way, I believed I was helping the learner to align his/her course expectations to those I, as a professional language instructor, had designed. As with other studies regarding the efficacy of IEP, a purpose of Gaffas' study was to improve the program of the institution while at the same time providing other institutions with possible solutions and approaches for improvement.

IEP and the Four Language Skills:

Both Mosback's (1977) and Gaffas' (2019) studies reflected the inadequacy of language instruction in some regions of the world to prepare students for the rigors of university study in an English medium context. Therefore, I was not surprised when language was listed as one of the first and most formidable barriers to adjustment to U.S. university academic life (Andrade, 2006; Cho & Bridgeman, 2012; Dooey, 2010). Others suggested a high level of English proficiency usually equaled greater success in course work as well as social adjustment (Andrade, 2006; Kaspar, 1997; Poyrazli & Grahame,

2007). Observations suggested linguistic challenges relevant to English language proficiency included adjusting to the speed of lectures (Andrade, 2006; Dooey, 2010; Terraschke & Wahid, 2011), dealing with difficult textbook vocabulary (Andrade, 2006; Evans & Green, 2007; Terraschke & Wahid, 2011), learning essay writing (Andrade, 2006; Kaplan, 1966; Storch & Tapper, 2009; Terraschke & Wahid, 2011), taking notes, speed writing for exams (Terraschke & Wahid, 2011), understanding information literacy (Crist & Popa, 2020), adapting to peer evaluation (Duignan, 2012, p. 74) and participating in class or group discussions (Dooey, 2010; Evans & Green, 2007). Class participation was curtailed by many international students' lack of confidence in speaking English (Andrade, 2006; Terraschke & Wahid, 2011). It was interesting to note that some research findings indicate that learning styles can be associated with culture (Loh & Teo, 2017; Tripp, 2017). My next step was to consider studies which addressed specific language skills in the context of IEP.

IEPs contributed to the development of specific academic skills for international students. One unpublished study investigated the specific effect of the IEP writing program on writing skills (Ulrich, 2013b). The director of ACE/MSU made a small investigation to determine the effectiveness of the ACE/MSU academic writing program. Results from the study found that 89% of the students who had completed Level 6 (the highest level offered) in the language program received grades of A or B in Writing 101. What was astonishing about Ulrich's research was that this was a higher rate of success than non-international students experienced in Writing 101 at MSU (Ulrich, 2013b).

These results suggested that ACE/MSU's academic writing curriculum more than adequately prepared students for college writing.

I found another study which addressed the effectiveness of an IEP in preparing students in academic writing. Storch and Tapper (2009), IEP staff, conducted a research study at an Australian university on the effectiveness of an IEP course designed specifically for graduate students, Presenting Academic Discourse (PAD). PAD was taken concurrently with graduate studies. Two tracks were offered. One was a general track and the other specific to engineering. The track specific to engineering students was in contrast to the general track and to the programs studied by Cheng and Fox (2008). The authors noted the engineering track had the largest enrollment and credited this to the engineering department policy to allow students into their program with a lower than institutionally required IELTS score if students successfully completed this IEP course. It was important to note the stipulation of acceptance was completion of the IEP course. Students often believe retaking a standardized test to be the better route to admission. The 69 participants in the Storch and Tapper (2009) study were divided into two cohorts according to IELTS score. Data analysis measured three areas of language use, writing fluency, accuracy, and academic vocabulary. A comparison was made of the two cohorts on these and other evidence of academic writing style. The Academic Word List (AWL) developed by Coxhead (2000) (as referenced in Storch & Tapper, 2009, p. 212) was used to measure the use of academic vocabulary. Academic vocabulary was considered general and not program specific, that is it did not include technical terms specific to a given discipline. I reviewed the textbook/workbook by Thurstun and Candlin (1997) for

examples of general academic vocabulary. The text used one academic words per chapter: “evidence,” “research,” “factor,” “issue,” “analysis,” “concept,” “according to,” “source,” “claim,” “suggest,” “identification,” “criteria,” “summarizing” [*sic*], and “thus.” Results of the statistical analysis showed little difference in length of essay (writing fluency) between cohorts between the beginning of the course and the end of the course. However, results indicated a general improvement for all students in grammar and an increase in the use of academic words.

The relevance of this study was it demonstrated how specific studies have been regarding the effectiveness of IEP. Review of this study also provided further insight into specific types of courses that were being offered by IEP programs. Specifically, the studies focus on the AWL suggests the importance for instructors to understand the types of academic words (the general words) which may cause difficulties for international students when reading and writing at university level, such as those found in the textbook I reviewed (Thurstun & Candlin, 1997). In addition, if admission policy makers understood the potential value of IEP-type courses, they would be more likely to develop policies which place students in such courses. Likewise, faculty in fields of study with large numbers of international students would benefit from understanding the value a program-specific instruction in English language, for example English for Engineering Purposes. However, some studies indicated a general course in academic writing/vocabulary is preferable to a program specific course.

The results from Gaffas’ (2019) study reported on specific language skills as well. Her questionnaire revealed that reading was the language skill most problematic for the

students due to limited vocabulary, yet it was not the technical vocabulary at the center of the reading problem. Perhaps, as in Neumann et al.'s study (2019), general academic vocabulary was the source of difficulty. Gaffas (2019) continued to list other reading difficulties, finding the main idea, understanding implied meanings, and following the structure of the text (see the section on Kaplan's Cultural Thought Patterns in this paper). Limited vocabulary was also found to be the key difficulty in listening. Weak vocabulary was also found to be instrumental in writing difficulties along with grammar challenges. The studies in this section sought to understand specific language problems international students were having in order to build better programs. I pondered whether or not students were aware of the value of the IEP programs they attended.

Student Self-reported Benefits of Intensive English Programs:

Cheng and Fox (2008) suggested that studies of the effectiveness of IEP were prompted by allegations that IEP has "limited or no value to students" (p. 312). Another challenge came from those like Pennycook (1989) who asserted that such programs had failed to adequately address the potential political and economic agendas at work. Finally, Cheng and Fox noted the struggle to determine best practices in IEP. Likewise, Storch and Tapper (2009) noted that IEP programs were under pressure to provide accountability to funding sources for program effectiveness. Ongoing research was needed, therefore, to continue to understand and clarify which program practices contributed to academic success. The following studies sought to measure or assess the learner's perception of the effects of studying in an English for academic purposes program, i.e., EAP or IEP. Various research designs were used, grounded theory,

qualitative with interviews, focus groups, questionnaires, surveys, and quantitative approach using secondary data. Misplaced students, academic self-concept, mismatched expectations, and writing skills were some areas of concern addressed in these studies.

Fox's (2004) single-institution study referenced the need for further research concerning academic acculturation.[28] Cheng and Fox (2008) subsequently conducted a grounded theory study using semi-structured interviews across three universities. The study sought to further the understanding of how students perceived the benefits of studying English for academic purposes in helping them to function in the academic world of university in North America. In addition, it connected the methods and subject of academic culture addressed in IEP to academic success. The participants were both international and immigrant students, full-time university or full-time IEP or students attending a combination of university and IEP courses. The 25 interview questions considered "academic acculturation such as the role of language (L1 or L2[29]), social connections, study strategies, and EAP [English for Academic Purposes] and academic support" (p. 313) and revealed three themes with categories: socio-cognitive approaches to learning (learning strategies, accessing resources, adaptation to fields of study), student academic characteristics (motivation, language and academic background, emotional

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[28] Cheng & Fox (2008) define academic acculturation as "the dynamic adaptation processes of linguistically and culturally diverse students engaging with the academic study cultures of Canadian English-medium universities" (p. 309). While there are reasons to question the use of the term 'acculturation' or assimilation as descriptive of the end product or goal of study in America, I will merely acknowledge but not enter into that discussion.

[29] L1 indicates first language. L2 indicates language being studied.

state), and EAP characteristics (the program and program support). The authors reported several key findings. International students expressed extreme pressure to succeed. Learning and coping strategies were developed for academic and social reasons. Like Gaffas (2019) study, the Cheng and Fox (2008) study found the negative response on student attitude resulting from the mismatch of expectations. Students felt needs were not being met by the instructors or curriculum.

The authors express their observation that "academic acculturation" was complex and included both social and academic factors. The study noted factors assisting in academic adjustment. The study of academic vocabulary was one factor. Cheng and Fox (2008) entered into the debate of general versus specific academic vocabulary. Rather than preparing students for discipline-specific academic vocabulary and culture, they contended that IEP prepares students for the vocabulary and academic culture which were common to all or most disciplines. Another factor which assisted in academic adjustment was including learning skills in the curriculum. They found that students, who reported success academically, had applied strategic learning skills provided by the IEP. Sometimes the awareness of the benefit came much later to students. The testimony of an engineering students is reported.

> I was really angry, angry and disappointed, you know, when I came to this university. I wanted to study engineering, and then I had to take an English course. I didn't think I needed any more English. . . . In the end. . . I've gone much faster and done better than my friends [who were not required to take EAP]. (p. 326)

This student's observation encapsulated the motivation of my research study. IEP may give international students an advantage because it provides an opportunity to experience

and understand the North American academic culture along with learning academic English and academic skills. My study explored the effectiveness of ACE/MSU in providing such an advantage.

Further evidence of the value and effectiveness of IEP were found in two other studies which investigated the transfer of learning and study skills that international students experienced when moving from intensive English programs to academic studies. James' (2006) extensive, longitudinal qualitative research used interviews, journals, observations, course work, and instructional materials to determine how much learning transfer occurred from a theme-based, content-based English for academic purpose (EAP/IEP) course. Like Fox (2004) and Cheng and Fox (2008), James (2006) found that academic language skills, study skills, and social skills showed positive learning transfer to university courses. Likewise, Dooey's (2010) qualitative study looked at students' perceptions of the impact of the IEP course on further studies. He found that students reported a number of benefits such as study skills and homework strategies for successful outcomes. Neither of these studies focused exclusively on the traditional four English language skills: reading, writing, speaking and listening. Findings from these studies supported the premise that IEPs contributed to international student success not only by teaching English language skills but also by focusing on study skills and developing social skills to interact successfully in the dominant culture.

A large, more recent study conducted by Fox, Cheng, and Zumbo (2014) provided similar evidence of the value of IEP for international students. Their study analyzed 641 survey responses from students in 36 English language programs in 26 Canadian

universities and found that academic engagement for students with Intensive English Program (IEP/English for Academic Purposes--EAP) support were significantly, strongly and positively affected by English language programs. As in the studies previously discussed, the researchers reported that the students gained significant skills and abilities beyond English language skills. The survey indicated that academic engagement was a result of the influence of the orientation to a new academic culture that was provided by teachers and curriculum in the intensive language programs. The researchers contended that academic engagement, along with social engagement, influenced retention, academic success, and program completion. To summarize, these studies found studying in an IEP prior to entering university was an effective preparation.

Conversely, Gaffas' (2019) study conducted in Saudi Arabia added to the literature by exploring Saudi students' perception of the language program effectiveness in preparing them for English as a medium of instruction (EMI) in their major courses. A benefit of Gaffas' study was that the researcher conducted interviews and discussion groups in Arabic[30]. Results from the interviews indicated that students felt that the ELP (English language preparatory) did not sufficiently help them with reading on the university level, vocabulary, speaking, or writing; however, the program did prepare them for listening to lectures. Students complained about the continual focus on grammar

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[30] An interesting cultural note. Due to Saudi strict culture, **she** [emphasis mine] was not able to interview or conduct discussions with male students. Her husband assisted her, although, in the end, she was able to meet with the male students in her home.

rules. They were disappointed that they were not given instruction in how to use the library. Gaffas' (2019) study highlighted the differences between IEP programs conducted using the American approach with less focus on grammar and those in Saudi Arabia. Fortunately, if this study were read and recommendations employed, then the English language program in Saudi Arabia could be elevated from the relatively ineffective focus on grammar to a focus on applying contemporary theories regarding second language teaching and learning (see my discussion on second language acquisition in the literature review.) The results from the 20 participants in the focus group discussions indicated student dissatisfaction with the course. Specific areas in order of degree of dissatisfaction were too long, too much work while taking university courses, too teacher-centered, too grammar-centered, instructor's lack of knowledge of the medical field, and no instruction in writing or speaking. In Chapter 3, I provided a thorough description of the certified, English language program, ACE/MSU. Instructors at the English Language Center at UQU could learn much from the curriculum and teaching methodologies that guide the program provided by MSU.

I concluded my review of research studies aimed at determining student perception of the effectiveness of IEP programs. The studies were conducted in Canada, Australia, the United States, and the Kingdom of Saudi Arabia. Most of the studies were single-institution studies with a focus on a particular major field of study, e.g., medicine, engineering, or a particular skill such as writing. The results, methods, and factors considered in these studies helped to inform my methods and selection of factors to include in my study.

Persistence and Retention Studies:

Another way to determine the ability of international students to navigate the U.S. American university academic challenges was to conduct research regarding retention or persistence. A review of five studies relevant to my research that addressed these retention or persistence for international students follows. However, before considering retention studies, it was important to note that persistence issues for international students may differ significantly from domestic student persistence factors. Mamiseishvili (2012) noted that student persistence declined with increased social integration and suggested that international students were distracted from studies by social activities. Studying in a foreign language placed higher demands on students. Crede and Borrego's study (2014) also found that there was not a single program factor which appealed to and motivated persistence in international students. What motivates an American student may be quite different from what motivates a student from a culturally distant region of the world. If there was one recurring theme among the researchers is that "One size does not fit all."

Information about students from the Kingdom of Saudi Arabia provided another example of a motivation for persistence not generally found in U.S. American domestic students. The influx of Saudi students throughout the United States was a direct result of the King Abdullah Scholarship Program. One benefit of the scholarship, sought by President George W. Bush, HRH Prince Turki Al-Faisal, and King Abdullah, was to improve relations between the United States and the Kingdom of Saudi Arabia after 9/11 (Ministry of Higher Education Kingdom of Saudi Arabia, 2015; Saudi Arabian Cultural Mission to the U.S., 2006, February). The King Abdulla Scholarship provided free

university in over 23 countries and included transportation and a living stipend (Saudi Arabian Cultural Mission to the U.S., 2006, February). Another purpose of sending over 150,000 Saudi students abroad since 2005 (Ottaway, 2012, p. 1) was to create a "source of support for Saudi universities as well as the public and private sectors in the Kingdom by supplying them with highly qualified Saudi citizens" (Ministry of Higher Education Kingdom of Saudi Arabia, 2015, p. Introduction); over half of these scholarship students went to the U.S. (Ottaway, 2012). Saudi Arabia's Ministry of Education's purpose, mission, and vision became for the Saudi student a type of social and cultural capital. Renn and Reason's (2013, p. 32) definition of predisposition to continue to college did not include the influence of a national spirit because U.S. students did consider national pride when making decisions about college. Applying for and earning a degree in the U.S. for a Saudi student was helping his or her country to attain its desire to become a "knowledge-based economy" (Ministry of Education, 2015, Vision).

The second largest group of international students at MSU in my study sample were Chinese, 16%. A study was made to determine the differences between Asian and non-Asian students. The study provided some support to my hypothesis that cultural background influenced academic performance of international students. Kommers and Pham (2016) examined the differences between Asian, 44% of her sample, and non-Asian students in persistence to graduation. Her study sought to further Mamiseishili's findings (2012) on her application of retention to all international students by creating subsamples within the international student population. Mamiseishili and Kommers and Pham (2016) sought to determine how Tinto's Theory of Student Departure (1988)

applied to international students. Kommers and Pham (2016) used data from the Beginning Postsecondary Students Longitudinal Study (BPS: 04/09), as did Mamiseishili (2012), to determine the strength of relationship between social (SI) and academic integration (AI) of Asian and non-Asian students on persistence. Three logistic regression models in the study compared level of SI and AI in the first year to persistence to year three and six and found Asian students with a high SI in the first year were less likely to persist to a third year, $p < .05$; however, they were more likely to persist to year six. A fourth logistic regression model considered the influence of students' SI and AI in the third year when persistence was measure at the third year. It was at this point, the study found another difference between Asian and non-Asian students. AI for non-Asian students was more strongly related to persistence to the third year than for Asian international students. Although the difference in what motivated persistence in cultural groups within international students may seem trivial to those not cognizant of the influences of culture, it was in fact crucial in terms of understanding factors related to persistence and assisting students to persist to graduation.

In this section on persistence and retention, I continued by reviewing five more studies. The first three, Andrade (2008), Kwai (2009), and Mamiseishvili (2012) are highly connected and build on the research of the previous study and provide a diversity of contexts. Andrade (2008) conducted a qualitative study with a small group of students in a single institution. Kwai (2009) expanded on her study using five four-year institutions across two university systems. Mamiseishvili (2012) drew on these two studies and furthered the understanding of persistence using data from a national survey.

The final two studies in this section were conducted a few years after Mamiseishvili's study. Fass-Holmes (2014) and Crede and Borrego (2014) addressed persistence from unique reference points. Fass-Holmes with Vaughn (2014, 2015) and Fass-Holmes (2016, 2017) conducted a series of single-institution studies to better understand international students' academic struggles and retention. Andrade's research (2008) provided a starting point.

A highly-published and often-cited researcher in the field of international students is Maureen Snow Andrade. Andrade (2008) conducted a qualitative, single-institution persistence study of international students in their senior year at a small, private university in Hawaii. Andrade challenged the relevance of factors previously found to influence persistence such as those suggested by Tinto (1988), who linked departure with failure to achieve social and academic integration, and Astin (1999), who also found student involvement to be linked to persistence. As noted before this section, factors that influenced a diverse international student population may not be the same as those which motivated the American college student. The purpose of conducting research with seniors, students who had persisted at the university, was to discover what factors had contributed to their persistence. The study considered students' pre-entry characteristics, such as home and educational backgrounds, experiences in university, personal characteristics, and religious factors of 17 final-year students. The primary factors in persistence were found to be the future value of an education, overcoming a low socioeconomic status, serving on a two-year mission for the church, and the encouragement and support of others. The seniors in her study had persisted in their

studies because they had been significantly influenced by these factors.

In his doctoral dissertation, Kwai (2009) extended aspects of Andrade's (2008) study. He sought to develop a retention model for undergraduates seeking degrees. Retention was defined as students who entered a second year of study at the same university. Kwai considered a number of factors in his analysis. However, neither TOEFL score, financial backing, gender, fall semester GPA, on-campus housing, on-campus employment, nor appointments with the International Student Office were found to be statistically significant predictors of persistence to second year. Countries of citizenship, grouped geographically, e.g., Africa, Asia, Middle East, Europe, North America, etc., were not statistically significant predictors of retention. Would the results have been different if Kwai had used Hofstede's (2001) 5D Model for grouping students rather than geographic location? Geographic locations were not culturally determined and, therefore, were a weak measure of the influence a country of origin might have on persistence. Neither did Kwai find a correlation between first semester GPA and continuation to the second year. The only predictors of retention to second year found by Kwai were second semester GPA, first and second semesters combined GPA, and cumulative credits attempted. Kwai noted that the first semester may have failed to predict retention to second year because "students may not have acquired the skills in meeting an institution's values and objectives" (p. 159). After reading Kwai's suggestion that international students were not ready for university studies during the first semester, I became curious to learn why they were not ready and what measures were likely to provide the readiness they lacked.

Like Andrade (2008) and Kwai (2009), Mamiseishvili (2012) conducted research to determine the factors which influenced student persistence. She analyzed the Beginning Postsecondary Students Longitudinal Study (BPS:04/06). Mamiseishvili (2012) found positive relationships with GPA, degree plans, and academic integration but a negative relationship with remedial English courses and social integration. The study measured academic integration by interactions with other students and faculty, unlike my focus on the classroom culture characteristics and teacher/student and student/student interactions as influenced by culture. Equally interesting was her finding that students who needed help with English skills did not persist. While she suggested that students who had the requisite English language proficiency needed to attack the academic rigors of studying in a foreign language before applying to university, I would contend that they needed a longer orientation to the U.S. American academic culture while building stronger English language proficiency.

In response to administrative concerns about university international student retention rates, Fass-Holmes and Vaughn (2014, 2015) and Fass-Holmes (2016, 2017) conducted a series of related studies at a single institution. These studies differed from the Mamiseishvili (2012) study. Her study used a national set of secondary data to better understand what was needed to assist students in persisting to graduation; whereas the concern of the administration studies by Fass-Holmes and Vaughn (2014, 2015) and Fass-Holmes' (2016, 2017) was that more students at the institution might be affecting the institution's reputation for retention. The administration noted that international students were struggling academically as evidenced by GPA average below 2.0, possibly

due to the drastic increase[31] in student enrollment (Fass-Holmes & Vaughn, 2014). This 2014 study considered whether or not increasing numbers of undergraduate international students were struggling academically. The study concluded that international students were not struggling at a greater rate, but there were simply more international students. Not yet having found a solution to administrative concerns about retention, their next study (Fass-Holmes & Vaughn, 2015) looked at the predictive ability of the TOEFL test on academic success. Possibly the TOEFL admission's standard needed to be addressed. The study reported that only high TOEFL scores were found to be predictive while low and middle scores had no association with future GPA. This study did not satisfactorily provide an answer to the potential retention problem at the university. To further the institutional understanding of the international students' struggles and protentional for lower retention rates, Fass-Holmes (2016) investigated the retention, graduation rate and time to degree of international students. The article reported that international students earned higher GPAs, retained to the second year (84%), graduated, and completed their studies in six years (83%) at higher rates than would be predicted based on the intense challenges international students encounter (Andrade, 2006; Hechanova-Alampay, Beehr, Christiansen, & Van Horn, 2002; Poyrazli & Grahame, 2007; Terrazas-Carrillo, Hong, & Pace, 2014). The answer to the reports of international student struggles addressed issues of academic integrity violations (AIV). Issues of surrounding AIVs were discussed in

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[31] The timing of this increase coincides with the increase in Saudi students at MSU and is likely due to an increase in the same population at the university in the Fass-Holmes and Vaughn studies.

detail earlier in this literature review. From the initial study (Fass-Holmes & Vaughn, 2014), to the final study (Fass-Holmes, 2017) a number of potential factors in student low grades and leaving school were considered. Regarding retention, the 2017 study found that suspensions and expulsion from AIVs were factors negatively related to retention.

A study, which sought to understand retention by measuring student intentions to persist, was conducted by Crede and Borrego (2014). Crede and Borrego's online survey was developed to measure the influence of international diversity regarding attitudes about retention.[32] The survey was informed by theoretic frameworks including Hofstede's (2001). The six constructs used to measure intent to complete a degree program were expectations, individual preferences, perception of value, project ownership, and climate (Crede & Borrego, 2014). Participants in the survey were PhD students in engineering from four universities, who were grouped by country of origin, and included the USA, 50% of sample. The region with the largest percentage of students in the study were from the Middle East. Consistent with the Cultural Distance Model (Hofstede, 2001), responses to the six constructs varied by region as demonstrated by a table with results from univariate ANOVA analysis. However, the table did not indicate direction nor strength of relationship; it only included $p < .00$. Thus, Crede and Borrego's (2014) study not only furthered the understanding of potential motivational factors in student's persistence but, also, confirmed that motivational factors were linked to a student's cultural background. The study concluded that university programs need to

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[32] See Crede and Borrego (2013) for details about the development of the survey.

address retention efforts from a variety of perspectives related to a student's cultural background. Since my study compared students with at least some study time in ACE/MSU to direct-entry students, I expanded my review of past research to include studies that included a similar comparison.

Studies Comparing IEP with Direct-Entry Students:

A few studies were identified that compared academic performance between students who were direct entries to university with students who had entered after study in an English language program (IEP). Three studies, which I previously reviewed, clustered between 1977 and 1983 (De Wolf, 1980; Mosback, 1977; Rosberg, 1983), a 1992 dissertation (South, 1992), and three more studies since 2011 (Faulkner, Ryan, Hurley, & Wang, 2017; R. C. Johnson & Tweedie, 2017; Terraschke & Wahid, 2011) were found. Most recently an institutional study comparing IEP with direct-entry students (Clark et al., 2021).

The three studies conducted between 1977 to 1983 did not find IEPs effective in improving the academic performance (GPA) of the students. I might conjecture that these early findings, i.e., IEPs were not effective, influenced the research design of future studies. Future researchers chose to determine the effectiveness of IEPs by considering student perception of the benefits and other measures which did not compare IEP students to direct entry students. Since those earlier studies, IEPs, informed by second language acquisition (SLA) research, brain research, and an abundance of approaches, methods, and techniques to consider, have become more effective. Therefore, researchers could again consider the comparison between those students who have completed IEPs

with those who had not. South (1992) considered multiple factors when comparing the IEP GPA to academic GPA. Terraschke and Wahid (2011) compared the self-reported academic performance of IEP students with non-IEP students in an accounting program. R. C. Johnson and Tweedie (2017) compared the predictive validity of two standardized tests (IELTS and TOEFL) with grades in two high-level courses in an institutional IEP[33] on final overall GPA in a nursing program. The third study by Faulkner, Ryan, and Wang (2017) compared IEP students with non-IEP students on average performance in four college programs. Similarly, Clark et al. (2021) compared IEP and non-IEP on academic achievement. Only two of the four studies was conducted at an institution of higher education in the U.S. Four studies considered undergraduate students, the other post-graduate students. Most participants were from either Muslim-majority countries, Asian countries, or unspecified countries, respectively. Because all five studies sought to determine the effectiveness of an institutionally based IEP, they were relevant to my research. The diversity of the contexts contributes to the underlying assumption that the needs of international students were not generic. One size did not fit all.

A study at Portland State University for a Masters thesis submitted by South (1992) compared the GPA earned in IEP to academic GPA earned in university to determine the reliability of success in IEP courses used as a predictor of academic performance in university. What stood out to me about this study were the multiple subgroups examined, the types of statistical tests used, and the similarity of the sample –

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[33] R. C. Johnson and Tweedie (2017) used the term English for Academic Purposes.

Middle Eastern and Asian – to mine. Additionally, interesting to me was that the GPAs were evenly distributed. The multiple correlations were suggestive of the research conducted by Bridgeman et al. (2016), however, without the preliminary aggregated statistical analyses. The study correlated academic GPA with overall ESL GPA and four ESL course specific GPAs, grammar, reading, writing, speaking/listening. Sample size was 169. South used Pearson Correlation Coefficients (Pearson *r*) to determine the relationship between IEP GPAs on academic GPA for 11 ESL subgroups: all ESL, male, female, less-verbal major, more-verbal major, 24 and older, 23 and younger, Middle Eastern, Asian, fewer than 12 ESL classes, more than 12 ESL classes, no previous English medium college experience, and some previous English medium college experience. For all ESL students, only the writing course showed a statistically significant correlation for both year one and two with academic GPA. Females, more-verbal major, under 24 years of age, Asian, 12 of more ESL classes, and previous English-speaking college experience subgroups indicated moderate to strong statistically significant correlations with academic GPA. Next, the independent *t* -tests were used for between group tests. These tests were first between ESL subgroups, much like my study, and then between ESL and non-ESL students, again like my study. South's findings were mixed. What South found consistently across groups was that the number of classes, 12, taken in IEP was strongly correlated to consistency of academic GPA over semesters. Recall that Rosberg (1983) found no correlation to academic GAP. IEP students who took fewer classes than 12 and non-IEP students had higher initial academic GPAs; however, the GPAs declined over a two-year time. South further correlated TOEFL

scores to both IEP and academic GPA and found that IEP GPA had a statistically significant positive relationship to TOEFL scores but only a very low correlation to academic GPA. However, it was of particular interest to note that for non-IEP students, South found no correlation between TOEFL and academic GPA.

Terraschke and Wahid (2011) conducted an institutional, comparative study between postgraduate students preparing for the CPA (Certified Public Accountancy) exam at a large university in Australia. Similar to my study, the purpose of the study was to provide a framework for the ongoing development of a support system peculiar to the needs of the institution's international students. Their exploratory study was designed to compare the effect of the IEP course of study on academic performance in the accounting program with direct-entry students, i.e., students who did not experience the IEP. Students were place in the IEP based on scores from the International English Language Test System (IELTS). Their longitudinal qualitative study analyzed two semi-structured interviews per quarter over six months for the non-English for Academic Purposes accounting group and over 12 months for the English for Academic Purposes for accounting (an intensive English program for a specific purpose) group. There was a total of 64 hour-long interviews. There were seven participants in the IEP group: five from China, one each from Korea and Iran. The 11 participants in the non-IEP group were from China, except for one student from Indonesia. The interviews focused on student self-reporting of language use and how they perceived problems they had in English, both in class and out of class. Responses to the interviews were grouped by listening, speaking, reading, writing, and course assessment completion. Results revealed that

preparation in study skills for test preparation, reading and writing were higher in the IEP group; the IEP participants had a better understanding of how to improve their writing and better reading speed than their non-IEP counterparts. An observation relevant to my study was made. IEP students used study strategies learned in IEP to help with reading difficulties in university studies. In fact, Terraschke and Wahid recognized that the IEP had given the students the meta-language necessary to convey this transfer of learning to the interviewers (p 179). Further evidence of the efficacy of the IEP course was provided by how the two groups discussed writing considerations. Some of the IEP students, but none of the non-IEP students, used terms such as summary writing, report writing, transitions, or tracking unfamiliar vocabulary during the interviews. In contrast, several non-IEP students, but no IEP students, claimed they did not know how to improve their writing! A final anecdote the researchers provided was an indirect reference to the impact of IEP course participation. At the university in the study, all international students are provided writing workshops during the university program. Non-IEP students appreciated the help the workshop provided them. That suggested to me that the IEP students were less likely to need the writing workshops. Like the students in the Ulrich (2013b) study, they were well prepared in IEP for academic writing.

However, the two groups in the Terraschke and Wahid (2011) study, IEP and non-IEP were similar in listening and speaking in class. According to the researchers, similar listening skills would be expected since both groups had similar scores on the listening portion of the IELTS. On the other hand, they noted that the IEP group IELTS' speaking scores were lower than the non-IEP group initially, thus indicating that IEP

gave the students the ability to function equally with those who had higher initial scores. Another reason why the two groups were similar in their response to questions about speaking and listening was that the university courses were mostly lecture, so the skills learned in IEP were not of much value in university classes. Despite this fact, the researchers (Terraschke & Wahid, 2011) suggested that the IEP students could be better prepared for cooperative learning, such as discussions and group work to improve confidence in their speaking and listening skills.

In general, the Terraschke and Wahid (2011) noted that IEP participants at the end of the accounting program were “slightly more content” (p. 181) than non-IEP students about university in general. They speculated that the during the course of studying in the intensive English language program students had already adjusted their expectations and were more realistic about their ability to meet the requirements and standards in the university. I found that to be an interesting observation as it spoke directly to one of the less measurable benefits of studying in IEP, the benefit of adjusted expectations.

The Terraschke and Wahid (2011) study’s sample were students from an accounting program. Students in a technology program were the subjects of the next study. The desire to evaluate the effectiveness of institutional IEPs comes from a variety of stimulus. In this case, DIT needed to increase international student enrollment from 10% to 20% to meet a requirement to move from institute to university status. Proof of an effective program for international students would be important to the recruitment efforts. In order to measure the effectiveness of an IEP to prepare international students for study at an institution of higher education, Faulkner et al. (2017) conducted a research study in

Ireland using a quantitative approach to measure first year, undergraduate student rate of progress in the Dublin Institute of Technology (DIT). The study compared international students who gained entry to DIT by completing a one-year IEP course, International Foundation Programme (IFP)[34], with students who gained direct entry to DIT. The IEP/IFP aimed to prepare students linguistically and academically for DIT. Direct-entry students had higher IELTS (International English Language Testing Service) scores than the IEP students, 6. 0 compared to 5.0. For the two years[35] considered in the study, there were more IEP students than direct-entry students. The outcome measures were overall GPA for first year and persistence to second year. Only programs of study that enrolled students from both IEP and direct entry were considered in the study. College of Engineering & Built Environment (CE&BE) had the largest percentage of both types of students.

The Faulkner et al. (2017) reported progression to second year for only two cohorts because the IEP program was new. The first year, the IEP students had a slightly higher progression rate; the second year the direct-entry students had a slightly higher progression rate to second year. Like Bridgeman et al. (2016), Faulkner et al (2017) peeled back layers of inquiry to discover different relationships as analysis became more and more specific. Analyses considered student average performance[36] across and within

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[34] DIT offers five different IEPs. This study only considers one of those programs.
[35] The International Foundation Programme was in its third year at the time of the study.
[36] Average performance was reported in %. The study was conducted in Ireland. I could not figure out the meaning of the %.

disciplines. The results indicated, across all disciplines, direct-entry students were only slightly better on average performance overall. Between colleges, the direct-entry students were only slightly higher than IEP. The researchers acknowledged that results for the colleges with only a few international students was not generalizable. However, in the college with more than eight students, the differences in average performance within the college were three percentage points. Most of the engineering students were in a Level 8 course. In that course, once again, there was only a 3% difference in course average performance. The researchers concluded that the IEP/IFP effectively brought students up to the language and academic readiness for study of the direct-entry students. Thus, students with IELTS scores of 5.0 could be recruited with confidence; with a year of preparation in the IEP/IFP, they would progress at a similar rate to direct entry students with an IELTS of 6.0 or higher. The recommendation made to recruitment based on the small 3% benefit of a 1.0 higher score on the IELTS, was a strong indication to me that my findings did not need to reveal big differences in order to be used in recommendations to MSU recruitment and admissions.

Clark et al. (2021) added to the discussion by comparing a subsample (N = 900 out of 4,888) of international students from the two pathways to enrollment who entered with similar language proficiency level. Demographically the subsample was mostly from Asia and the Middle East. The researchers used geographic regions rather than country in the study. Asian students represented almost 80% of the direct-entry students. The Middle Eastern students represented 61% of the IEP students. The largest proportion of direct-entry students enrolled as business majors. Conversely, the largest group of IEP

students enrolled in engineering. The authors did not indicate a correlation between geographic region and major. The outcome variables were measures of academic performance: first-year GPA, credits earned, and academic standing after the first semester. Results from the study did not find any statistically significant difference between IEP and direct-entry students. However, the IEP students had slightly better outcomes (though not statistically significantly higher) than non-IEP students on all three measures of academic achievement. The researchers concluded as have others that the non-statistically significant findings were important. IEP students do well when compared to direct-entry students.

Chapter Summary

My research study addressed a problem of practice at Montana State University (MSU). MSU had not, to date, conducted institutional research regarding the effectiveness of the pre-admittance language program ACE/MSU in preparing international students for university studies. Because solutions to problems of practice need to be based on previous research and theoretic frameworks, I prepared a rather extensive review of theories and research. My wide-ranging experiences related to international students studying in a U.S. American university and educational background in linguistics were instrumental in my selection of my dissertation topic, focus, and research design.

The initial section was devoted to acknowledging my long-term association with learning language, knowing English language learners (ELL), teaching ELLs, and

training international English language teachers. To my experience, I added research and theories linked to academic performance from two separate perspectives, English language proficiency and background culture and how these two were brought together in intensive English language programs. I first reviewed literature and theories of language learning with a focus on second language acquisition (SLA). I gave a thorough review of two major tests of English language proficiency the TOEFL and IELTS. I included research studies conducted to determine the predictive validity of these tests. Studies related to the effectiveness of IEPs were discussed by study focus: self-reported benefits, retention, impact on GPA, and comparison of IEP student academic performance with that of direct entry students. Throughout the review, I have given special notice to applications to Saudi, Chinese, and engineering students because these characteristics are the most evident in the international student population at MSU. As my literature review revealed, English language skills alone were not sufficient to explain academic performance in a U.S. American institution of higher education.

The second field linked to academic performance, culture, was then reviewed. I discussed models of education (Badke, 2003) and teacher and student-centered approaches (Smithee et al., 2004) to learning and teaching. The models and approaches opened the conversation about very real differences between the U.S. and other countries' academic cultures. To further elucidate the differences, I described the theory and research surrounding Cultural Thought Patterns (Kaplan, 1966). A model of culture, which informed and strongly influenced my research methods and statistical analyses, was the Cultural Distance Model (Hofstede, 1986, 2001). There were other equally

compelling theories that could have been included, for example Trompenaars' Dimensions of Culture (Hampden-Turner & Trompenaars, 1997; Sattorovich, 2020; Smith, Dugan, & Trompenaars, 1996; Trompenaars & Woolliams, 2004) or the Paige et al. (2010) study of the aspects of study abroad which increase the depth of program experiences relating to the challenges of language.

To the review of theories of the relationship between culture and education, I added a number of related research studies. In particular, as the majority of the students in my study sample were Saudi, I reviewed reports and studies which included Saudi Arabia or Muslim-majority countries (Al Saqer, 2019; Chen & Sit, 2009; Duignan, 2012; Hastings, 2015; Perez-Huertas & Barquin-Rotchford, 2020). Those studies offered evidence of the special challenges teaching students from these countries as well as the challenges to learning for students from these cultures. There was one study found with Chinese students as the sample group (Crist & Popa, 2020). A concerning issue surrounding international students both in general and at MSU was the issue of academic integrity. To address this issue, I presented a number of studies which provided a cross-cultural perspective (Crist & Popa, 2020; Fass-Holmes, 2017; Gaffas, 2019; J. A. Martin et al., 2012). It was evident from these studies that integrity and honesty were not the central concern but rather background cultural differences in perception and training regarding the use of intellectual property.

Intensive English programs (IEP) provide the time and space to address both the language proficiency and cultural issues experienced by international students. The final segment of my literature review presented a number of research studies conducted to

address all elements of theory together — language learning, language testing, IEP, and academic performance. My first series of studies focused on standardized tests and IEP (Fox, 2004; Itaya et al., 2008; Neumann et al., 2019; Rosberg, 1983; Stoynoff, 1990). The studies presented inconsistent findings. Rosberg (1983) reported inconclusive results as to the effectiveness of IEP. Stoynoff's study (1990) did not include IEP but found that TOEFL scores and number of credits related positively to GPA. Itaya et al. (2008) considered culture using Hofstede's cultural dimension model (2001) but did not find a correlation between GPA and cultural dimensions. Neumann et al. (2019) conducted the study to discover factors related to international students' success. The study did not include IEP as a factor; however, the students in the sample were IEP students. Fox (2004) study found that students struggled who were misplaced into IEP classes taught at a language too high. Her conclusion supported the Krashen and Terrell (1995) theory of comprehensible input. It also gave further evidence to the research by Ransom et al. (2005) which gave evidence that attending university classes in English did not improve the English proficiency of students who were insufficiently prepared. In addition, the Fox (2004) reinforced the value of IEP in preparing students over simply achieving the test score needed for admittance.

Several interesting studies were conducted in countries like Ethiopia, Qatar, and the Kingdom of Saudi Arabia. Mosback's study (1977) did not find much effectiveness in studying general English in the IEP. The recommendation was to offer English courses specific the field of study. Forty years later, Johnson and Tweedie (2017) found that courses designed specifically for a nursing program were predictive of academic success.

Perhaps one of the most interesting studies I reviewed was Gaffas' (2019). Her study was rich with information about the setting of her study in Saudi Arabia, including the ineffective English language preparation the students had received prior to entering the IEP. Quite possibly, this was the reason such a large proportion of students from Saudi Arabia required an IEP before entering university (Institute of International Education, 2015). Her study (Gaffas, 2019) further illuminated the English language methodology still in practice in Saudi Arabia in 2019. Such practices do not prepare students for the U.S. academic culture. Several studies were reviewed that focused on a specific language skill or skills. Ulrich (2013b) researched the effective of the ACE/MSU writing program and found it more than adequately prepared students for first-year writing class. Storch and Tapper (2009) focused on writing and vocabulary. Gaffas (2019) reported the challenges students had with reading and vocabulary.

I noted in my review the various impetuses for conducting research into the effectiveness of IEPs. Often the precipitating factors were challenges from within the researcher's institution to justify the existence of the program as in the case with Storch and Tapper (2009). I reported on several who measured the effectiveness of the IEP program by determining how effective students from the IEP felt the program had been in preparing them for academic studies. Cheng and Fox (2008), James (2006), Dooey (2010), and Fox et al. (2014) described a number of areas of instruction from which the students felt they benefited: general academic vocabulary, study skills, homework and study strategies, social skills, awareness of a new academic culture, and social skills outside the classroom which helped them function in their new culture.

Andrade (2008), Kwai's (2009), Mamiseishvili (2012), Fass-Homes and Vaughn (2014, 2015), Fass-Holmes (2016,2017), and Crede and Borrego (2014) all conducted research about factors which led to retention/persistence. Factors they considered were pre-entry characteristics (home and educational background), religion, TOEFL score, financial backing, gender, fall semester GPA, on-campus housing, on-campus employment, appointments with the campus international office, country, degree plans, academic integration, graduation rate, time to degree, and intent to complete a degree. Some of the studies were quantitative and other qualitative. Equally diverse were the studies which I selected to review because they compared academic performance of IEP and non-IEP students. Other studies which have compared IEP students to non-IEP students were reviewed in the next section. South (1992) found the most statistically significant factor was the number of classes taken in IEP. Fewer classes gave an initial advantage but over time more IEP classes proved beneficial. In the Terraschke and Wahid (2011) study, IEP students were found better prepared for academic challenges and adapted more quickly to university than the direct-entry students. Faulkner et al. (2017) found that direct-entry students did only slightly better than IEP students. Their findings confirmed the effectiveness of the IEP in raising students with a IETLS score of 5 to the same level as students with a score of 6. Clare, Lippincott, and Kim (2021) found IEP students did slightly but not statistically significantly better than their non-IEP counterparts.

In my opinion, the theories and research suggest that determining international student success at MSU was best addressed by considering the quantitative impact of the

academic English preparation offered by ACE/MSU on GPA. Academic English programs such as ACE/MSU best address both the cultural aspects of U.S. American education and the academic language needed for success in a U.S. American university setting. It would be helpful for future planning, programs, and particularly international admissions to have research-based information regarding the effectiveness of the language program offered by MSU. Therefore, in the next section I explain the methodology and research design I of my dissertation study.

METHODOLOGY

Thus far, I provided an overview of my dissertation in the first chapter and a review of relevant theories and research on the topic of international student academic success in the second chapter. Grade point average (GPA) has been used as a measure of academic success in previous studies. English language proficiency and academic English language preparation have been shown to have influence on academic success. In this chapter, I showed how my experience, plus theory and research, guided the methods I employed in conducting a quantitative research study. This chapter illustrated that my research design and data analyses have been chosen to align with best practices and statistical approaches used in previous studies with similar research agendas. The chapter included a discussion of my research design, the context, the population, the research questions, the variables, the data collection process, and a description of the planned data analyses for each research question.

Research Design and Rationale:

Research design included the approach chosen to address the research problem and meet the purposes of the study. Foundational to my decision to select a quantitative research design using secondary data was my research-based skepticism regarding the possibility of precise communication between a researcher and non-native speakers of English. The trustworthiness of any design which relies upon assumptions regarding the accuracy of communication between the measurement instrument, surveys, questionnaires, or interviews, and international students has been questioned in the

literature. Language itself can be the source of inaccurate communication. Cultural differences can be even more problematic and difficult to accommodate when designing and validating research surveys or questionnaires. To illustrate my point, if a student, from an academic culture which perceives the instructor as infallible and the source of all knowledge (Hofstede, 1986), were to be asked to evaluate an instructor or the quality of instruction, the student's response would be ripe for misinterpretation for cultural reasons alone. Arnold and Versluis (2019) conducted a study using Hofstede's 1980 cultural values to determine the effect of nationality and culture on student responses to the student evaluation of teaching (SET) questionnaire. Their study found that power distance (PDI) and individualism versus collectivism (IND)[37] did have a significant effect on SET scores while nationality did not. My concern for meanings getting lost in translation is heightened by my research focus on lower-level English language proficiency students. Therefore, I chose a quantitative research design which relied on less subjective data, i.e., data that cannot get lost in translation, such as test scores, grade point averages, and time in program, to name a few.

As discussed in the previous chapter, this study addressed a problem of practice. A problem of practice identifies a gap between an institutional-stated goal and the current situation for a particular population. One goal of problem of practice research is to make a "significant difference for an educational community. . . generally. . . to increase student achievement" (University of Western Ontario Graduate Education, 2016,

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[37] See Chapter 2 Hofstede section to review the definitions of PDI and IND.

February, p. 1). I chose to conduct a correlational predictive research study because of its potential to provide evidence for future decisions and policy. Correlational predictive studies use quantitative data to determine the presence and strength of a relationship between variables and use the relationship to predict scores or guide decisions regarding students or selection of students (Gay, Mills, & Airasian, 2012). A stated value at MSU is the pursuit of excellence (Montana State University, 2020). A problem of practice addressed in this study was the disproportionate lack of excellence for some international students. A previous study (Pond, 2015b) found that Saudi students had lower GPAs in the first semester (2.74) than other international students. Average low GPA for this student population was inconsistent with their academic potential because they qualified in their home country for a competitive scholarship. Most of MSU Saudi students were recipients of scholarships through the King Abdullah Scholarship Program (Ulrich, 2013a). The scholarship program only selects students with high GPAs for inclusion in the program with the goal of preparing future leaders for the Kingdom of Saudi Arabia (Taylor & Albasri, 2014). Therefore, the question remains, are Saudi students reaching their academic potential at MSU? Why or why not? What can be done to further support this student population? Are there similar patterns for other groups of international students?

In addition, the research design of this study supported efforts to maintain and increase institutional excellence. Institutional excellence relies, in part, on the ongoing assessment of the quality and effectiveness of its programs and policies. Admission and placement policies need to be aligned with student success in mind. In recent decades,

MSU has not conducted an assessment of the effectiveness of its admissions and placement policies for international students. Research and logic confirm the influence a strong, positive beginning had on retention and future academic success. The first year (Kwai, 2009), the first six weeks and first semester in particular (Barefoot, 2000; N. K. Schlossberg, 1981; Tinto, 1988) are critical. Therefore, the value of a positive and successful beginning to university coursework was reflected in the design of this study. The study focused on pre-entrance factors which have influence on student performance in the early weeks of the first semester. In particular, the study addressed international student English language preparation as provided by MSU's intensive English program. This study sought to assess the quality and effectiveness of MSU's previous intensive English language program for several reasons. First, MSU has not conducted such institutional research. Secondly, at the time I began my research, the current program INTERLINK, MSU was new. Thus, I chose to assess a period of time for analysis when the intensive English program was relatively stable. The curriculum, teachers, staff, and director were consistent. In addition, the student enrollment was at its highest. All of these conditions provided a solid basis for a data analysis that spans a number of years.

Study Context:

Montana State University, Bozeman (MSU) was the site for this institutional research study. This section included the institutional history associated with international students, MSU international programs, and the English language program, ACE/MSU, contracted by the university. Future researchers may wish to apply the

approach and research design of the study to a similar institutional setting or generalize the study results to a similar setting.

Institutional History:

MSU had a long-standing history of interest and contributions to the internationalization of higher education. In the 1960s, the NAFSA monthly newsletter was published at Montana Hall, Montana State College, Bozeman. Workshops offered by NAFSA, from 1962-1963, addressed problems related to international student admissions, recommendations for improved procedures, and transfer of skills and information from the experienced admissions officers to the less experienced. MSU had a long history of concern for and interest in cultivating an up-to-date international admissions team.

Since the 1980s, MSU sought to develop international programs on campus (Rydell & Cruzado, 2018). According to Rydell, professor of history and institutional historian at MSU, by the early 1980s over 300 international students had enrolled in MSU. During this time MSU began an exchange program with Kumamoto National University of Japan and soon after developed relationships with China, Australia, Scotland, and the Netherlands. In 1992, then MSU President Mike Malone desired to take MSU to the next level of international student enrollment by deliberately developing plans to increase MSU's international student recruitment, to increase MSU's sister universities, and to increase consideration for a program for English language learners (Rydell & Cruzado, 2018, p. 172). Therefore, President Malone created an Office of International Education (LeCain, personal communication, June 15, 2020) later known as

the Office of International Programs (OIP). In 1994, the university hired Norman Peterson as the senior international officer. He served in that capacity under several different titles until 2014 (Rydell & Cruzado, 2018).

Under Peterson's leadership, according to Rydell, OIP began a Dual Degree Program with Istanbul Technical University (2004) and the Middle Eastern Partnership Initiative (MEPI, 2005); both partnerships have continued to the time of this writing. In creating partnerships, OIP oversees international recruitment and admissions (Montana State University, Office of International Programs, 2020b). MSU's OIP provided for international student needs on numerous levels before, during, and after their arrival on campus. International students accepted to MSU were assisted with immigration issues, academic advising and registration, visa application, housing and meal plans, health care and insurance (MSU, OIP, 2020a). OIP provided a free airport pickup upon arrival, required campus orientation for all first-time students, and an MSU welcome guide. OIP provided ongoing advising and assistance to enrolled international students with F-1 and J-1 visas, employment options, tuition payments, banking, health care, insurance, driver's license, emergency, and funding for events (Montana State University, Office of International Programs, 2020a).

Evidence of the effectiveness of OIP's recruiting efforts was found in the growth of international students attending MSU (MSU, OPA, 2020a). Table 11 MSU Top Non-English-Speaking Countries: 2001–2020 provided an overview of the non-English-speaking countries represented in the total undergraduate, international student population of MSU from 2010 to 2020. The table sorted countries from highest to lowest

by in the column "Unduplicated Enrollment from 2001 to 2020." The table included the English proficiency rank of each country, an indicator of those countries included in the top ten countries enrolled in intensive English programs (IEP) across the U.S.A., and the percent of the MSU student population that was international for each year 2010–2016. Enrollment figures on Table 11 indicated a steady increase in enrollment for three countries: Saudi Arabia, Kuwait, and Nigeria. Saudi Arabia's enrollment increased from 17 to 130. The unduplicated enrollment figures show that from 2001 to 2020 the top five countries were Saudi Arabia, Turkey, China, Kuwait, and India. Three of those countries

Table 11 MSU Top Non-English-speaking Countries by Enrollment: 2001–2020

	Enrollment by Country								
Country of Passport	2010	2011	2012	2013	2014	2015	2016	Unduplicated Enrollment 2001-2020	English Proficiency Rank* 1-100
Saudi Arabia**	17	27	38	62	74	116	130	213	98
Turkey **	77	70	81	71	79	74	82	181	79
China**	63	66	70	73	86	78	66	147	40
Kuwait**	8	8	10	17	20	29	36	83	84
India	39	34	34	32	24	29	35	81	34
Japan**	15	15	14	10	13	12	10	63	53
South Korea**	8	15	20	12	20	13	8	26	37
Norway	7	8	11	4	9	12	12	16	3
Nigeria	3	4	6	5	6	10	12	15	29
Germany	13	17	5	8	11	10	15	14	10
MSU, % International	3	4	4	4	4	5	4		

Notes. Taken from "Foreign students by country of origin" (MSU, OPA, 2020a) and "International Enrollment: 2001-2020" (MSU, OPA, 2020b).
*Ranking of 100 countries by English Proficiency Index. Higher scores indicated lower English proficiency (Education First, 2019).
**Ranked in the top ten countries enrolled in IEP in U.S. 2015, 2016 (Institute of International Education, 2018).

were Muslim majority countries. Scores on the English Proficiency Index column were obtained from 2.3 million test takers and scores averaged for each country. The website placed scores in five categories on a scale of 1 to 100: 1–14 Very High Proficiency; 15–29 High Proficiency; 30–46 Moderate Proficiency; 47–69 Low Proficiency; and 70–100 Very Low Proficiency (Education First, 2019). Of the top ten countries at MSU, Norway, Germany, and Nigeria ranked Very High or High Proficiency; India, South Korea, and China ranked Moderate Proficiency; Japan ranked Low Proficiency, while Turkey, Kuwait, and Saudi Arabia ranked Very Low Proficiency. When the English Proficiency Index information was correlated to MSU's unduplicated enrollment, the results indicated that over 50% of undergraduate international students were from countries that scored in the lowest category on the English Proficiency Index. Proponents of internationalization (Altbach & Knight, 2007) maintain that an institution that chooses to admit students who may have the academic capacity to succeed, but not the language proficiency to succeed had an imperative to develop programs and ongoing support for those students.

The third element of President Malone's 1992 plan was the need to consider providing an English language program. His interest showed his awareness that recruiting students from non-English-speaking countries carried with it the responsibility to provide support for the development of their English language proficiency on the campus. An on-campus English language program would allow the university to accept more students, including those with weaker skills in speaking, listening, reading and writing English. As envisioned by MSU President Malone, in 1994, OIP contracted Associates in Cultural Exchange Intensive Language Program (ACE) to provide intensive English language

instruction for international students whose English language skills were insufficient to predict success at MSU (Rydell & Cruzado, 2018).

ACE/MSU History:

The program was first called the Intensive English Language Institute (IEP Institute) (LeCain, personal communication, June 15, 2020). OIP admissions policy required international students to provide proof of English proficiency[38]. Those international students who were not able to provide such proof but were otherwise qualified academically were given "admission with conditions" (MSU, OIP, 2020b). Those conditionally admitted students enrolled in what came to be known as ACE Language Institute at Montana State University (ACE/MSU) and were given an English proficiency test. The test provided one of three results: immediate full admission to MSU, part-time ACE/MSU, or full-time ACE/MSU. Upon graduation from the ACE/MSU, MSU deemed the student's English skills sufficient for success in university without further testing. ACE/MSU provided service to MSU from 1994 until it merged with INTERLINK International Institutes (INTERLINK) in 2017. Recruitment was the responsibility of both the OIP and of the parent organization ACE (Ulrich, 2013a). ACE/MSU admitted students independent of an interest in or connection to MSU, as well as MSU conditionally admitted students. Unfortunately, according to Ulrich, the parent

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[38] Exemptions: International Baccalaureate (IB) diploma; or C or above on the International General Certificate of Secondary Education (IGCSE) O-Level English Exam; or passport from one of 28 English-speaking countries (Montana State University Office of International Programs, 2020b).

organization, ACE, recruitment efforts provided less than a quarter of the students. Thus, ACE/MSU enrollment was more or less reliant upon the recruitment efforts of MSU and recommendations from students.

In 1994, ACE/MSU began with four employees. Isabel Childs served as director from 1994 – 2001. There have been nine directors from 2001 – 2020. While directors have come and gone, instructors have provided continuity of program. For example, Cheri Ladd LeCain was one of the first teachers employed in 1994 and continued to serve until 2020 at INTERLINK, MSU (LeCain, personal communication, March 2020). Ana Valdivia has been part of the administrative staff for 20 years. While Table 11 MSU Top Non-English-speaking Countries 2001–2020 provided a snapshot of international students enrolled at MSU, Table 12 provided a snapshot of students enrolled at ACE/MSU. There were 11 students when ACE/MSU began (LeCain, 2015). Enrollment grew from 11 in 1994 to 94 in 2009. Enrollment fluctuated between 2009 and 2016 and ranged from 76 to a high of 156 and back down to a low of 23. ACE/MSU experienced its highest enrollments between 2010 and 2015.

Table 12 ACE/MSU Enrollment by Session: 2009–2016 illustrated the number of students enrolled by sessions and the number of sessions per semester. From 2010, ACE/MSU changed from three five-week sessions to two seven-and-a-half-week sessions per MSU semester. Each session provided all classes needed to complete one English level in the program. The program had six levels in the core curriculum plus a pre-core.

Table 12 ACE/MSU Enrollment by Session: 2009–2016

Session	2009	2010	2011	2012	2013	2014	2015	2016
Spring 1	76	82	140	74	77	88	126	83
Spring 2	86	94	139	82	82	108	121	63
Spring 3	94							
Summer 1	62	100	109	66	68	86	75	23
Summer 2	55	121	90	57	76	95	98	37
Summer 3	64							
Fall 1	78	150	109	86	110	107	81	28
Fall 2	73	156	90	89	119	122	82	28
Fall 3	71							
Average	73	117	113	76	89	101	88	44

Note. Information provided by Ana Valdivia (personal communication, March 9, 2020). Valdivia served 20 years on the ACE/MSU administrative staff and continues to serve in that capacity. The lowest and the highest sessions are noted in red.

level and a post-core level for graduate students.

The nationality of students enrolled at ACE/MSU was partly influenced by partnerships and recruitment. For example, from 1994–2005, Japanese student enrollment in ACE/MSU was the highest, which was a reflection of OIP's efforts to establish and maintain a sister university relationship with Kumamoto, Japan through the Study Abroad Foundation (SAF) (LeCain, personal communication, June 10, 2020). Enrollment reached its peak in the fall of 2010 with 156 students. Of concern to Director Ulrich, at the time of high enrollment, was the heavy dependence of the program on enrollment of students supported by the Saudi Arabian Cultural Mission (SACM). In her report, Ulrich (2013a) noted that 42% of the total student population at ACE/MSU was supported by SACM. Scholarships included tuition, medical coverage, airfare, and a monthly stipend (Walcutt, 2016, September 28). In the fall of 2014, King Abdullah died, and in the following years the size and number of the scholarships available to Saudi students gradually decreased.

In 2016, according to Walcutt (2016), the scholarship money available for Saudi students decreased by 12%, and greater restrictions were placed on applicants. The decrease in scholarships for Saudi students was clearly visible in the decrease in enrollment down from a high in 2010 of 156 to a low of 23 in summer of 2016 (see Table 12 ACE/MSU Enrollment by Session: 2009–2016).

Program Curriculum:

The following section reviewed the ACE/MSU academic program during the time period of this study. The review gave evidence of the quality of the ACE/MSU program during these years. In 2014, ACE/MSU became accredited. In response to the 2010 U.S. Congressional law requiring all providers of English language training to be accredited by an agency recognized by the Secretary of Education (*Accreditation of English language training programs, Public Law No. 111-306 Stat. 3280*, 2010), ACE/MSU applied for accreditation. The Commission on English Language Program Accreditation (CEA) was the agency that awarded ACE/MSU accreditation in 2014. The CEA Site Review Team included in their report (2013) a number of aspects which verified that academic English and U.S. American academic culture were central to the program provided by ACE/MSU. According to their report, the program created a path for an international student's academic success at MSU by providing a college preparatory curriculum in an atmosphere of high academic and ethical standards.

> A. C. E./MSU focuses on academic preparation for students to successfully transition into a university setting. Therefore, throughout all levels, students are exposed to various projects, tasks and assignments that reflect both strategies for functioning successfully in a college environment and mirror what would be expected in a college course. (p. 8)

Overall, the program was commended for following the principles of second language acquisition and a research-based philosophy of teaching methodology. The program did not rely on any one specific English language teaching approach, theory or methodology but, rather, used a learner-centered pedagogy and brain-based learning concepts in selection of the most effective activities, techniques, and curriculum to promote active learning and learner independence (p. 24). In particular, the program used the Cognitive Academic Language Learning Approach (CALLA) that sought to create a learning environment supportive of "emotional stability, trust and respect, positive physical conditions, active processing scaffolding, as well as provision for various learning styles" (p. 24). The ACE/MSU program's classrooms encouraged mutual respect between students and teachers and between students and students. The program had a "strong, intentional emphasis on both cross-cultural understanding and academic skills" (LeCain, personal communication, June 15, 2020). The report further noted that some students who entered the program did so without study skills and strategies. Significantly, CALLA provided opportunities for teachers to integrate learning strategies in lessons ". . . without which many students would not be able to succeed in their U.S. university careers" (p. 26). Teachers in the program were found to be "knowledgeable about second language acquisition, methods, theories, and teaching practices" (p. 28).

The program consisted of two sessions per semester. The core curriculum consisted of six levels of instruction. To the core curriculum, the local staff at ACE/MSU added more levels: Beginning Foundations (BF) on the lower end of English language proficiency and English for Graduate Studies (EGS) on the upper end. In 2014, in

response to a growing awareness of student weakness in vocabulary, a vocabulary course was begun, as well as an infusion of increased attention to vocabulary in the core curriculum (LeCain, personal communication, June 15, 2020). In addition, other elective courses were made available to students. Classes in academic reading, listening, speaking, grammar and writing began at Level 4. Level 6 provided the University Practicum Course (UPC). In 2014, I taught this course for ACE/MSU. This semester-long course allowed students to attend lectures and take tests in a regular university course while also receiving 6 hours per week of directed study. The directed study included strategies for reading the textbook, notetaking during the lecture, giving class presentations on topics from the textbook, and preparing for the course examination. The course did not carry MSU credits, nor did students receive a grade at MSU.

Table 13 ACE/MSU Core Curriculum: 2011 illustrated the progression from basic English skills in Level 1 to academic preparation in Levels 4 - 6. Completion of Level 6 was required for full admission to university studies. In addition to teaching the four language skills—listening, speaking, reading, and writing—plus grammar, the ACE/MSU courses provided an introduction to the academic style of a U.S. American university, classroom expectations and academic culture. Students were trained in such standard U.S. American classroom behaviors as “punctuality, accountability for work missed during an absence, turning in assignments that are typed and organized, following directions, and meeting deadlines” (Commission on English Language Program Accreditation: Site Review Team, 2013, p. 8). At all levels of the core curriculum,

Table 13 ACE/MSU Core Curriculum: 2011

Level	Course Name	Content/ Student will . . .
1: High-Beginning	Reading Foundations	. . . read interesting texts that are limited to several paragraphs. There is a heavy emphasis on vocabulary development.
	Writing & Grammar Foundations	. . . write solid simple and compound sentences as well as a basic paragraph. Grammar will focus on simple past tense, future tense, and a review of the basic parts of speech.
	L & S Foundations	. . . focus on listening and speaking strategies for conversation
2: Low Intermediate	Reading Foundations	. . . read high-interest tests that are 1-2 pages. There is a heavy emphasis on vocabulary development
	Writing & Grammar Foundations	. . . write longer paragraphs with simple, compound, and complex sentences using a variety of organizational styles (rhetorical patterns). Grammar includes the present perfect tense, comparatives and superlatives, and modals.
	L & S Foundations	. . . focus on listening and speaking strategies for conversation as well as taking notes on simplified lectures.
3: Intermediate	Reading Foundations	. . . read high-interest texts that are written or adapted from authentic sources. There is a heavy emphasis on vocabulary development.
	Writing & Grammar Foundations	. . . build upon their paragraph-writing skills to write a basic essay. Grammar includes the adjective and noun clauses, passive voice, gerunds and infinitives, and a review of tenses.
	L & S Foundations	. . . focus on listening and speaking strategies for conversation as well as taking notes on basic academic lectures.
4: High-Intermediate	Academic Reading	. . . read academic materials and develop study and note-taking skills. There is a heavy emphasis on vocabulary development.
	Academic Writing	. . . write longer and more sophisticated essays and will begin paraphrasing and summarizing.
	Academic Grammar	. . . focus on adverb clauses, conditionals, reported speech and verb tense reviews.
	Academic Listening/Speaking	. . . focus on listening to academic lectures and developing speaking strategies for academic discussion.
5: Advanced	Academic Reading	. . . read academic texts and continue to build study and note-taking skills in preparation for university study. There is a heavy emphasis on vocabulary development. Students will begin library research.
	Academic Writing	. . . write longer and more sophisticated essays using different rhetorical patterns and will learn citation and documentation. Paraphrasing and summarizing practice will continue.
	Academic Grammar	. . . focus on cause/effect grammatical structures, more complex adjective clauses, past tense modals, and more.
	Academic Listening/Speaking	. . . focus on listening to challenging academic lectures and developing speaking strategies for academic discussion.

Table 13 Continued

Level	Course Name	Content/ Student will . . .
6: Academic Bridge[a]	University Practicum Course (UPC)	. . . participate in a university class with guidance from an ESL instructor. The class works together to review notes, complete assigned readings, and learn the steps to completing academic assignments in the course. Mastery of the listening and speaking skills necessary to take notes on the lecture and to take part in academic discussions and group projects within the course is also an important element of this course.
	Academic Writing and Research Skills	. . . practice writing a more sophisticated argumentative essay, and work through the steps to create a formal academic research paper. Citation, appropriate documentation, and library research are emphasized.
	Adv. Academic Speaking & Linguistic Accuracy	. . . focus on refining pronunciation, making academic presentations, and participating in academic discussions.

Source: A.C.E. Language Institute at Montana State University (2011, pp. 92-94)
Note.
[a]This level requires two sessions (one full semester) due to the nature of the UPC course. For students planning to pursue a bachelor's degree, Level 6 is the final level of the English program

standards of academic integrity were taught (A.C.E. Language Institute at Montana State University, 2011, p. 110). As noted in Hofstede's (1986) 5D Model of Cultural Distance, these U.S. American classroom behavioral norms may not have been norms for international students before arriving in U.S. Thus, these soft skills were of critical importance in preparing international students for the academic culture at the university, particularly students from societies culturally distant from MSU. The mission statement of ACE/MSU included preparing students culturally for their educational pursuits (A.C.E. Language Institute at Montana State University, 2011).

The CEA report further noted that writing courses on all levels provided international students an introduction to the variety of writing styles used in university studies. My experience in English programs around the world suggested that of the four language skills, the teaching of writing was the most neglected. Therefore, the study of writing was a key benefit to students at the ACE/MSU. The preparation in academic

writing provided by the program had the potential to help students surmount the possible difficulties presented by their differing cultural thought patterns observed by Kaplan (1966). According to a report on research conducted by Mary Ulrich, ACE/MSU Director, former A. C. E. students did remarkably well in Writing 101 (Ulrich, 2013b).

> With 74.67% of former ACE students receiving grades of either A or B in Writing 101, and 93.33% with a C grade or better, it is apparent that ACE students going into MSU are adequately prepared for the introductory writing course given there. (p. 1)

Speaking classes went beyond listen and repeat drills or the rote memorization of dialogues that I had often observed overseas. The curriculum in speaking provided training in small group participation, presenting, and leading a discussion (CEA: Site Review Team, 2013) . This training in classroom, academic speaking activities was invaluable for students who came from teacher-centered academic cultures. In addition, for students from Saudi Arabia and Kuwait where instruction from K-12 was not coed, the opportunity to gain confidence in communicating with persons of the opposite sex was invaluable.

Furthermore, ACE/MSU provided preparation for life in the community and on the campus. Initially the program provided a two-day orientation to ACE/MSU, the community and the MSU campus. They received their student ID cards and had a tour of the campus. Each first-time student attended a seven-and-a-half-week orientation class, Everyday English (CEA: Site Review Team, 2013, p. 97) . The orientation class provided materials to introduce students to the local area, the campus, and the culture. The main textbook was the *A. C. E. at MSU Student Handbook*, and it was studied thoroughly during the session-long course. Students who had the opportunity to study the handbook

thoroughly at ACE/MSU may have had an advantage during the first week and first semester of university studies. ACE/MSU provided international students a university preparation program of study consistent with those theories and research of second language teaching and academic cultural issues discussed in Chapter Two. Conversely, international students who entered the university directly, i. e. their English proficiency test score allowed them full admission to MSU without further English preparation, received orientation through the Office of International Programs (OIP). I observed the new international student orientation provided by OIP Fall 2017. It was a one-hour long lecture during the general OIP orientation for all new students. The lecturer spoke English at native speed, did not use a microphone, and provided minimal visual aid. To summarize, the ACE/MSU students received a seven-and-a-half-week orientation plus a minimum of a semester in a U.S. American academic setting as compared to a potentially, incomprehensible and overwhelming one-hour lecture received by direct-entry students.

Sample Population:

The sample for this study was international students who enrolled in Montana State University (MSU) between 2010 and 2016. The study included all students from non-English-speaking countries[39], undergraduate, degree-seeking, first-time freshman international students. Because this study sought to determine the value of the linguistic

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[39] Countries MSU requires evidence of English proficiency (MSU, OIP, 2020b).

and cultural intervention provided by MSU's intensive English language program, students from English-speaking countries such as Canada, Australia, and the United Kingdom, or from any country for which MSU did not require proof of English language proficiency, were excluded. From the summer of 2010 to the fall of 2016, MSU admitted 403 international students. The majority of these students (67%) were never enrolled in ACE/MSU prior to entering MSU, 11% were enrolled but did not graduate from ACE, and 22% graduated from ACE. Males represented 74% of the students. Age ranged from 16-32 and averaged 20 years old. The majority of the students enrolled in some field of engineering (50%) or business (21%).

Variables and Constructs:

Table 14 included the variable type, the variable and its label, options or levels, and level of measurement for each. A variable is a type of information about each participant in the study. Variables, used in data analyses, are considered to be influenced by the other variables (outcome variables) or to influence other variable (predictor variables). Statistical programs cannot work with words, so all categorical variables, such as gender, major or country of passport, were changed to factor variables using R. Variable labels reduced the name of the variable for use in analytic software. Dummy variables were created for categorical variables automatically by R. In each case, I selected the reference group. Dichotomous variables were used, for example, to indicate yes or no, male or female. Variables have a level of measurement based on the response

options (Gay, Mills, & Airasian, 2009). Level of measurement decided what specific types of statistical analysis could be used to for a given variable.

The study used the construct "first-year academic performance." Another construct could have been "academic success." However, academic success was less easily defined. The definition of academic success varied by the individual goals and expectations of each international student. What was success for one may not be for another. In the case of international students, it would have been particularly difficult to set a standard score that indicated academic success; studying in a foreign language and culture was likely to yield a lower GPA than the student could have achieved if studying in their own native language and culture. It was important when considering academic success to remember that international students may have been recipients of grants or scholarships from the home country. Receiving a grant or scholarship indicates that the student probably had strong academic abilities. Therefore, academic performance for this study was operationalized by grade point average (GPA). The outcome variables for the study reflected the study's purpose to explore potential early influences on academic performance. GPA was dichotomized, High and Low, and given labels GPAH1 (first-semester GPA) and GPAH2 (second-semester GPA).

Table 14 Variables and Constructs

Variable Type	Variable	Label	Options	Level of Measurement
Outcome Variables	High GPA 1st semester	GPAH1	High 3.0 and above Low < 3.0	Dichotomous
	High GPA 2nd semester	GPAH2	High 3.0 and above Low < 3.0	Dichotomous
Predictor Variables:	Intensive English Program,	ACE	0 SOME 1 GRAD	Dummy Variable
		PATH	0 DIRECT 1 GRAD 2 SOME	Dummy Variables
ACE/MSU	First English Level	FIRSTENGL	0 Literacy 1 High Beginner	Continuous
	Last English Level	LASTENGL	2 Low Intermediate 3 Intermediate 4 High Intermediate 5 Advanced 6 Proficient	Continuous
	Classes repeated at ACE/MSU	ADJUST	0 >0FAILS 1 NOFAIL	Dummy Variable
Cultural Background Variables	Power Distance Individualism Masculine Uncertainty	PDI IDV MAS UAI	0-100	Continuous Continuous Continuous Continuous
	Country	PASSPORT	0 Saudi Arabia 1 China 2 Kuwait 3 India 4 Korea 5 Nigeria 6 OTHER (Reference)	Dummy Variables
Demographic Variables	Gender as indicated on application	SEX	0 Female 1 Male	Dummy Variable
		AGE	17–35	Continuous
Confounding Variables	Selected Major at time of enrollment	MAJOR	0 Pre-Business 1 Electrical Engineering 2 Mechanical Engineering 3 Chemical Engineering 4 Civil Engineering 5 OTHER STEM (Reference) 6 Non-STEM	Dummy Variables
	Year entered MSU	COHORT	2010–2011 2011–2012 2012–2013	Dummy Variables

	2013–2014 2014–2015 2015–2016 2016 Summer & Fall

Variables Measuring ACE/MSU Experiences:

Of the total students in the subsample enrolled at MSU from 2010–2016, in the first semester N = 135, there were 46 students who had some participation (SOME) and 89 who graduated (GRAD) from ACE/MSU. In the second semester N = 124, there were 40 SOME and 84 GRAD. The SOME students from ACE/MSU persisted at a rate of 87%, and GRADs persisted at a rate of more than 94% from first semester to second semester. Overall, students who had been in ACE/MSU persisted to second semester at an average rate of 92%. Table 15 ACE/MSU Student Enrollment: First and Second Semester provided an overview of the

Table 15 ACE/MSU Student Enrollment: First and Second Semester

	First Semester	Second Semester	Difference	% of Decrease[a]
Full Sample	403	374	-29	7
ACE	135	124	-11	8
GRAD	89	84	-5	6
SOME	46	40	-6	13
>0 FAILS	47	43	-4	9
NOFAIL	88	81	-7	8

Note. GRAD = graduated from ACE/MSU; SOME = did not graduate from ACE/MSU; >0 FAILS = failed one or more classes; NOFAIL = did not fail any classes at ACE/MSU
[a]Percent of decrease represented an average percentage of decrease from semester 1 to 2 across all years of the study. It was calculated by dividing the value in difference by the value in first semester.

dichotomous variables and included first and second semester counts, change in enrollment, and percent of change for all ACE/MSU students (ACE—the subsample). The separate models for the two semesters in the first year at MSU allowed me to observe the change in GPA related to the predictor variable ACE, other measures of ACE experiences (ADJUST, FIRSTENGL, LASTENGL), and to control for the confounding influence of COHORT. ACE/MSU participants repeated 0-11 failed classes[40] with a mean of 1.5 repeated/failed classes indicating the data lacked variance. Therefore, I dichotomized this variable to NOFAIL and >0FAILS. MSU international students entered the ACE/MSU program between levels 0 and 6.1. Zero was the pre-core level of English proficiency and 6.1 was the first half of the highest level (Level 6) needed for graduation. About 7% of the students entered at level 6.1, but the average student entered at level 2. Students left ACE/MSU between level 4 and 6.2. Level 4 was the first level of the study of academic English. About 76% of the students left at 6.2. Of the ACE/MSU students who later entered MSU, the results show that 89 of the 135, or almost 70% of the students, had graduated from ACE/MSU. As seen in Table 16, students entered the English language program at Level 3, attended 6 sessions, failed less than two classes, and was enrolled in the highest English language program level. However, the LASTENGL of a student indicates they enrolled in that level. However, the student may

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[40] When a student failed one of the classes in a level at ACE/MSU, the student was required to repeat all classes in the level. The purpose of measuring a student's repeated classes was to provide a measure of the student's challenges. Therefore, only those classes that were actually failed were included in ADJUST.

or may not have passed that LASTENGL level into which they enrolled. This would be particularly true for those whose LASTENGL was the highest level.

Table 16 Research Question 1: Measures of Central Tendency

	Semester 1				Semester 2			
ACE/MSU	Range	Mean	Median	SD	Range	Mean	Median	SD
ADJUST	0–11	1.5	0.0	2.49	0–11	1.5	0.0	2.51
FIRSTENGL	0–7	2.9	3.0	1.84	0–7	3.0	3.0	1.87
LASTENGL*	4–7	6.7	7.0	0.82	4–7	6.6	7.0	0.84

Note. ADJUST = number of classes failed at ACE/MSU; FIRSTENGL = first ACE/MSU program level; LASTENGL = last ACE/MSU program level.
*Does not indicate whether the student passed or failed their last level.

Table 17 provided a summary of the statistics for each category of the variable PATH—DIRECT, GRAD, and SOME. The table contained the difference in enrollment between the first and second semester with the percent of persistence[41].

Table 17 Number of Students by PATH: First and Second Semesters

	First Semester	Second Semester	Difference	Persistence %
Full Sample	403	374	-29	93
DIRECT	268	250	-18	93
GRAD	89	84	-5	94
SOME	46	40	-6	87

Note. DIRECT = entered MSU with ACE/MSU; GRAD = graduated from ACE/MSU; SOME = did not graduate from ACE/MSU.

[41] Some student's date of admission to MSU was one semester, the first GPA was in the following semester, and the third semester may have not had a GPA. However, the student may have taken a semester off and continued the following semester. Actual persistence percentages may have been higher if the data collected had extended to a fourth semester. This was a limitation of the data I was able to collect.

Variable Measuring Cohort:

Data were collected for students from a six-year time span; therefore, I included cohort (COHORT) to control for any confounding influence of the time of leaving ACE/MSU or of cohort entering MSU courses may have had on GPA. There were six full-year cohorts (2010–2011, 2011–2012, 2012–2013, 2013–2014, 2014–2015, and 2015–2016) and one partial year cohort (2016 summer and fall). Because international students who participated or graduated from ACE/MSU in a spring semester might begin the school year in the summer, I grouped cohort by summer, fall, spring. Table 18 included the percent and number of students in each cohort for the first two semesters of undergraduate studies. Except for 2015–2016, the seven cohorts remained relatively stable between the two semesters of attendance.

Table 18 Research Question 1: COHORT First and Second Semesters

	First Semester		Second Semester	
COHORT	Percent	Count	Percent	Count
2010–2011	13.33	18	12.90	16
2011–2012	20.00	27	20.16	25
2012–2013	12.59	17	12.90	16
2013–2014	18.52	25	19.35	24
2014–2015	14.81	20	16.13	20
2015–2016	17.18	24	15.32	19
2016 Summer & Fall	2.96	NA	3.23	NA

Note. The counts for 2016 Summer and Fall were small. To preserve anonymity, the number was withheld. All students in this cohort persisted to the second semester.

The first set of predictor variables provided information about a student's experiences in the intensive English program at MSU, ACE/MSU. The variable ACE referred to levels of participation in ACE/MSU and had two options: 0 some participation

without graduation, SOME (reference group) and 1 graduated from ACE/MSU (GRAD). The reference group (0) included only students who were in the program but did not graduate. These students were enrolled in MSU by providing a score from a standardized test of English, such as TOEFL. The two continuous variables that operationalized English language proficiency were the English language level of the student's initial class (FIRSTENGL) and the level of the final class (LASTENGL). The variables FIRSTENGL and LASTENGL had seven possible responses which correlated to the ACE/MSU program levels offered during the years considered in this study. The core program had six levels 1–6 with an additional level for lower beginners (see Table 13 ACE/MSU Core Curriculum: 2011). Level titles indicated English language proficiency when level was successfully completed. Levels in the ACE/MSU program, like years of education, were considered a continuous/interval level of measurement. The levels represented equal increments in the degree of difficulty in the program. The dummy variable, ADJUST, operationalized adjustment to U.S. American academic setting as reflected in the number of failed classes that were repeated[42]. Another measure of student experience considered was the amount of time the student was on campus and exposed to the U.S. American academic culture in the ACE/MSU program (ACEWEEKS); however, this variable was found to reflect the same information as FIRSTENGL because the lower the level the

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[42] When a student failed one of the classes in a level at ACE/MSU, the student was required to repeat all classes in the level. The purpose of measuring a student's repeated classes was to provide a measure of the student's challenges. Therefore, only those classes that were actually failed were included in ADJUST.

student began in ACE/MSU, the longer they were in the program. Therefore, this variable was not considered in the analyses (see Table 14 Variables and Constructs for a listing of all variables).

Variable Measuring Major:

For the categorical variable, MAJOR, first, I created a table in RStudio of all major fields of study represented in my sample. There were 54 majors total in the first semester. In order to increase the statistical power of the study by avoiding a Type II error, I needed to decrease the number of majors. I determined the five majors with 25 or more students enrolled. Next, I recoded the variable major to reflect seven groups, the five majors and the remaining 49 majors into two groups, OTHER STEM and non-STEM.

Table 19 displays the names of majors included in each group. When I ran the statistical analysis using MAJOR, RStudio created a set of dummy variables for MAJOR which included Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Pre-Business, Non-STEM, and OTHER STEM. I set OTHER STEM, the largest group, as the reference group. As indicated in Table 20, Pre-Business was chosen by more international students in the study than any other single major. Civil Engineering was the smallest group.

Table 19 List of OTHER STEM and Non-STEM Majors

Combined Majors: OTHER STEM	Combined Majors: Non-STEM
Agricultural Business	Associate of Arts
Animal Science	Bookkeeping
Associate of Science	Business Management Professional
Bioengineering	Economics
Biological Sciences	English
Biotechnology	Film Foundations
Cell Biology and Neuroscience	
Chemistry	Food and Nutrition
Computer Engineering	Health Enhancement K-12
Computer Science	Interior Design
Design Drafting Technology	Liberal Studies
Earth Science	Music Technology
Environmental Design Foundations	Political Science
Environmental Horticulture	Pre-Film
Environmental Sciences	Pre-Photography
General Engineering	Pre-Graphic Design
Health and Human Performance	Pre-University Studies
Industrial Engineering	Psychology
Industrial/Management Systems Engineering	Secondary Education
Mathematics	Sociology
Mechanical Engineering Technology	University Studies
Microbiology	
Physics	
Pre-Environmental Design	
Pre-Medicine	
Pre-Nursing	
Pre-Veterinary Medicine	
Technology Education	
Financial Engineering	

Note. The determination of STEM or non-STEM was made by the researcher.

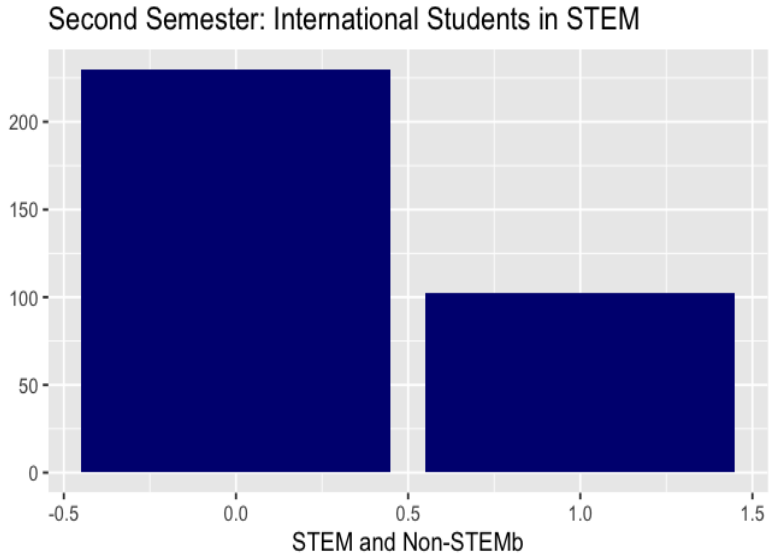
Table 20 Count of Top Majors: First and Second Semesters

	Semester 1		Semester 2	
Major	Count	Percent	Count	Percent
Chemical	39	10	37	10
Civil	27	7	25	7
Electrical	45	11	43	11
Mechanical	46	11	41	11
Non-STEM	43	11	40	11
OTHER STEM	123	31	112	30
Pre-Business	80	20	76	20
Total	403	101	374	101

Note. Percentage numbers were rounded, which explains the more than 100 totals.

In order to further investigate the relationships between GPAH2 and major field of study, I created a dichotomous variable MAJORb with all STEM majors (STEM) and all non-STEM majors (Non-STEMb). Figure 4 Number of All STEM and Non-STEM

Figure 4 Number of All STEM and Non-STEM Majors: Second Semester



Majors: Second Semester provided a snapshot of the distribution of STEM (230) to Non-STEM (102) international students in my sample for second semester.

Variables Measuring Culture:

A main focus of my study was to consider the effect cultural background factors may have had on academic performance. Cultural background was considered from two perspectives: country of passport (PASSPORT) and the four dimensions of cultural distance (PDI, IDV, UAI, MAS). For the categorical variable PASSPORT, I created a table in RStudio of all countries represented in my sample. Forty-one students (12%) were missing values for country of passport and were removed from the analyses for Research Question 3. The international students who enrolled at MSU between the years 2010 and 2016 were from 52 different countries in the first semester and 50 in the second semester. In order to increase the statistical power of the study by avoiding a Type II error, I needed to decrease the number of countries included in the statistical analyses; therefore, I chose to name only countries with nine or more students represented in the sample of 362 (N = 406 – 41) and place the countries with less than nine students into one group, OTHER. Of the 52 countries, only six had nine or more students in the data frame. In RStudio, I recoded the countries into seven groups, including the group

Table 21 Count of Top Countries: First and Second Semesters

	Semester 1 N = 362		Semester 2 N = 335	
Country of Passport	Count	Percent	Count	Percent
Saudi Arabia	138	38	128	38
China	63	17	59	18
Korea	NA	—	NA	—
Kuwait	21	6	20	6
India	18	5	13	4
Nigeria	NA	—	NA	—
OTHER	102	28	96	29

Note. Due to low sample size, some numbers were not included in Table 21 to ensure student anonymity.

OTHER. Table 21 displayed the count and percentage for the six countries and OTHER. When I ran the statistical analyses using PASSPORT, RStudio created dummy variables with OTHER as the reference group. The group OTHER represented 28% to 29% of the total number of students in the sample. Many countries had only one or two students in the sample.

The other way I wished to measure background culture was by using the Five Dimensions of Cultural Distance (5D): Power Distance Index (PDI), Individualism versus Collectivism (IDV), Masculine versus Feminine (MAS), Uncertainty Avoidance Index UAI, and Long-term Orientation (LTO). I was not convinced which measure, PASSPORT or the five measures of cultural distance, would produce the most interpretable results. The four measures of cultural distance were continuous predictor variables. These country scores were applied to individual students; however, individuals within a country or society may vary widely from the society norm. Additionally, students with a given passport may not have been raised in the culture related to the passport. Nonetheless, country scores applied to students was the best option when using secondary data. I used the Hofstede Insights (2020) interactive website to obtain the five scores for each country in the sample. However, 41 students (12%) were missing values for country of passport, so I could not enter scores for them. They were removed from the analyses for Research Question 3. In addition, three countries (Cameroon, Cambodia, and Mongolia), representing four observations, did not have any scores for the five measures of cultural distance; they were removed from the analyses of cultural distance dimensions

and GPA. Table 22 summarizes the statistics for PDI, IDV, UAI, MAS and LTO. Using RStudio, I calculated the distribution statistics for each dimension. The PDI, IDV, UAI, MAS data for first semester represented 358 students (N = 403 – 45) and LTO data represented 326 students. In the second semester, there remained 332 international students who had scores for PDI, IDV, UAI, MAS, and there remained 302 students who had a score for LTO. The LTO dimension was added later to Hofstede's research (2001); as a result, not all countries had scores on the Hofstede Insights (2020)

Table 22 Research Question 2: Measures of Central Tendency of Scores on Hofstede's Five Dimensions

	Dimension	N	Range	Mean	SD	USA	Median
1st Semester	PDI	358	11–100	82	16.5	40	81
	IDV	358	6–80	28	13.0	91	25
	MAS	358	5–95	55	14.5	62	60
	UAI	358	13–98	64	21.6	46	80
	LTO	326	4–100	56	14.5	26	60
2nd Semester	PDI	332	11–100	82	16.8	40	81
	IDV	332	6–80	28	12.9	91	25
	MAS	332	5–95	55	14.9	62	60
	UAI	332	13–98	64	21.6	46	80
	LTO	302	5–95	56	15.0	26	60

Note. Power Distance Index, Individualism versus Collectivism, Masculine versus Feminine, Uncertainty Avoidance Index, and Long-term Orientation.

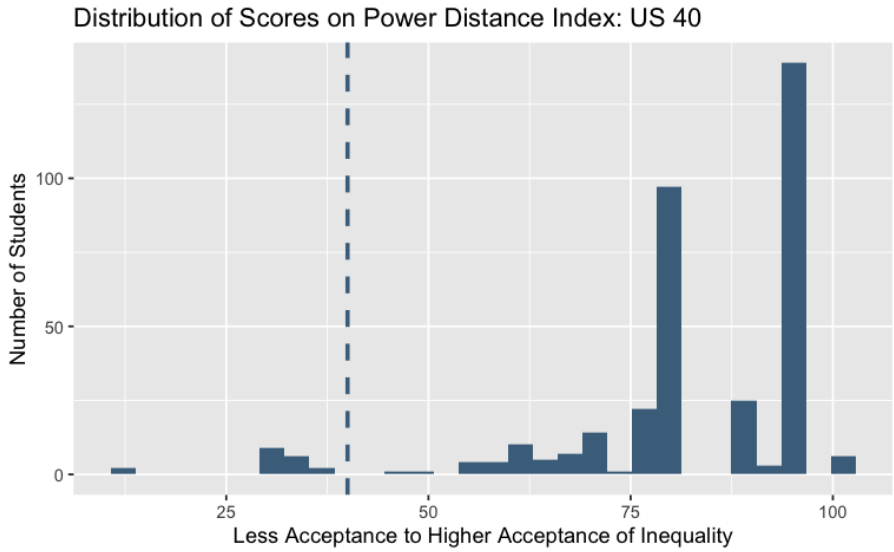
website. Because 32 countries, including Kuwait (6% of the sample), were missing the LTO score, I decided to drop LTO from further analysis rather than drop the 32 countries.

Comparison with USA on Five Dimensions:

I created a histogram with country scores for each student in relationship to each of the dimensions. Each histogram included a line for the U.S.A. country score for

comparison. The USA score on Power Distance Index (PDI) was 40, indicating that the Americans who have less power are less comfortable with the inequality of power than people in societies with higher scores on PDI. Conversely, people with less power in countries scoring higher on this dimension than the USA tend to be more comfortable with inequality. Figure 5 displayed the scores for PDI that represented the sample in my study. Over 94% of the MSU international

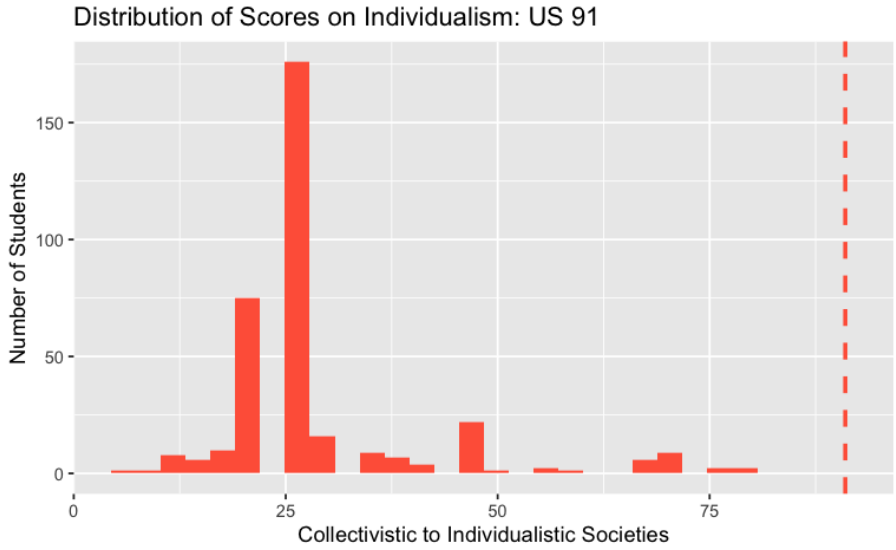
Figure 5 Power Distance Index Scores by Country



students in this study were from societies that scored higher on PDI than the USA. The range of scores on PDI was 11–100; the mean score was 82. Six countries had scores 50 or more points higher than the USA: Saudi Arabia, Kuwait, United Arab Emirates, Qatar, and Malaysia (Muslim-majority countries). Students from these six countries had a strong potential for differences in perceptions of comfort with inequality in the classroom as it might impact teacher/student and student/student relationships.

The USA score on Individualism (IDV) was high at 91, indicating an individualistic society which placed a higher value on the individual than the group; low scores indicated collectivistic societies. Collectivistic societies valued the group's interests above individual interests. Figure 6 displayed the distribution of IDV scores for students in my study. One hundred percent of MSU international students in the study

Figure 6 Individualism Index

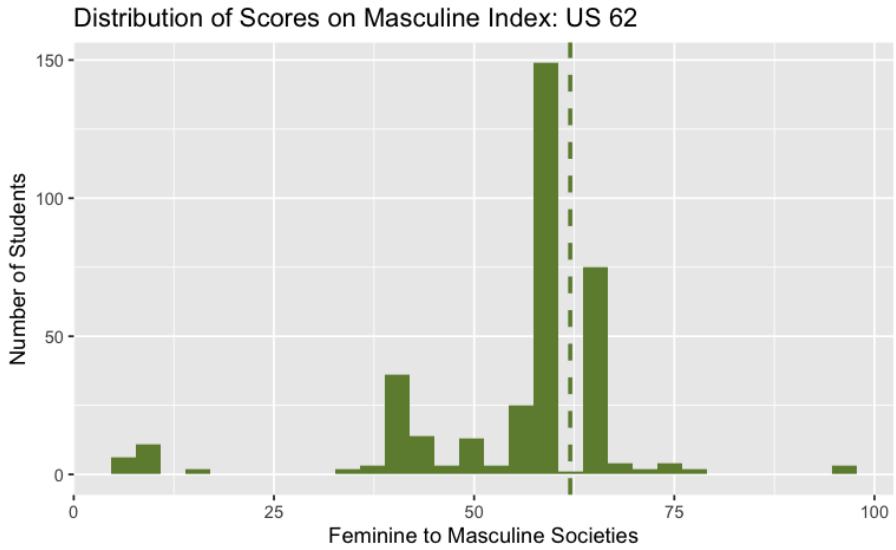


sample were from countries with scores on this dimension lower than the USA. The range of scores was from 6–80; the mean score was 28. Eighteen countries, representing 88% MSU international students, were collectivistic, with scores 50 points or more lower on IDV than USA. Students from these 18 countries had a strong potential for differences in perception of the importance of the group over the individual.

The U.S.A. score on the scale of Masculinity vs Femininity (MAS) was 62, which placed it near the middle of the scale and between the scores for Saudi Arabia and China.

As Figure 7 demonstrates, the U.S.A. score on this dimension was near those of the majority of the international students in the study sample. The more masculine the

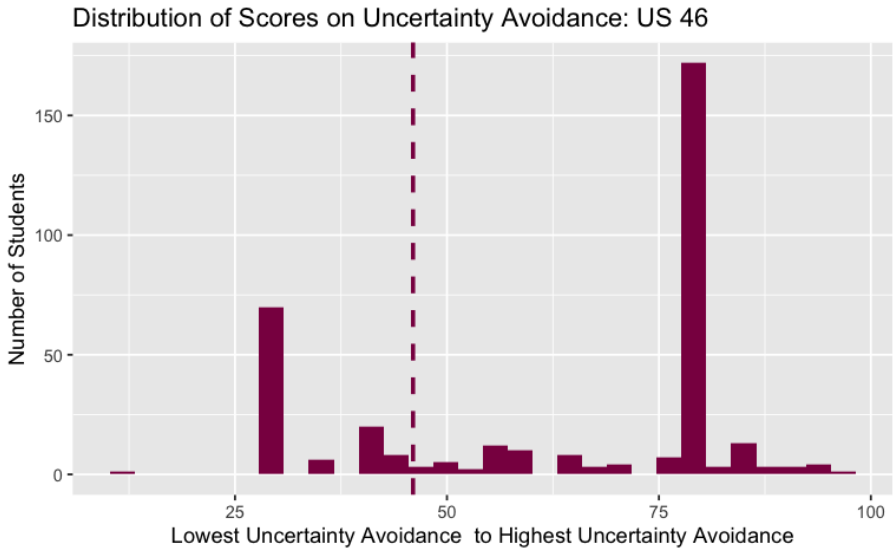
Figure 7 Masculinity Index Scores by Country



society, the more the society valued assertiveness, ambition and competitiveness. On the other hand, feminine societies placed more value on caring for the weak, relationships, and quality of life.

The U.S. score for Uncertainty Avoidance Index (UAI) was 46 (see Figure 8). This dimension had a bimodal distribution. The opposite ends of the dimension associated strongly with the Saudi, on the high end, and Chinese, on the low end. Students from societies with high scores on UAI would seek to avoid uncertainty and would tend to be more nervous when assignments and classroom activities were not structured, or when directions were vague.

Figure 8 Uncertainty Avoidance Index Scores by Country



In summary, on average, most international students who entered MSU during the years of this study were from societies which tended to have a higher acceptance of inequality, were more collectivistic, and were only slightly more masculine than feminine. Students' societies seemed to have been divided between the need to avoid or not avoid uncertainty.

Data Collection and Cleaning:

This study used secondary data for international students at Montana State University. Approval to use international student data for research was obtained from MSU Institutional Review Board (IRB). The data for this quantitative study was collected from two main sources: INTERLINK, MSU and the Office of Planning and Analysis (OPA). The first two research questions could only be addressed using data available from INTERLINK, MSU. INTERLINK, MSU was the entity currently contracted by

MSU to provide an intensive English program (IEP). Since the university contracted an outside entity to provide intensive English language instruction, information about students in the ACE/MSU program was not available on the university database. Current administrative employees at INTERLINK, MSU had access to information about student participation during the years provided by the previous contracted entity ACE/MSU. Permission to use the data in my research was granted by Valley Peters, Institute Director of INTERLINK, MSU, and Ahad Shahbaz, President and CEO of INTERLINK International Institutes. IRB approval to access student information directly from INTERLINK, MSU was granted. The ACE/MSU longtime office manager provided me with training in and access to the computer where the database "Access" was housed. The database went back only as far as fall 2008. Because students who entered MSU in 2010 may have studied for several years at ACE/MSU before beginning coursework at MSU, ACE/MSU data for the time period fall 2008 to summer of 2016 were collected. From the ACE/MSU student database, I gathered the following data for each student: date of beginning and ending semester of study, number of sessions attended, number of classes repeated, beginning and ending program level, and date of graduation. ACE/MSU did not use grades for courses. All courses were pass/fail/repeat; therefore, ACE/MSU program GPA information does not exist.

OPA provided data from MSU Banner, the institutional system for interdepartmental access to student data. From OPA, I received a Microsoft Excel sheet containing data for degree-seeking international students who were enrolled in classes at MSU as first-time, full- or part-time undergraduate students between 2010 and 2016. For

each student admitted during this period, I requested and received the age, sex, country of passport, level of English proficiency score when available, major field of study, and GPA for three semesters following entrance. Unfortunately, English proficiency scores had not been entered, or the coding of entries could not be deciphered; therefore, it could not be used for research analysis.

The final stage was to manually merge information from the two sets of data: OPA data and ACE/MSU data. A copy of the original data was created before any changes were made. Because ACE/MSU data could not be searched by an MSU student identification number (SID), names of all students in ACE/MSU during the years under study were obtained. Student names were then cross-checked with names on the Excel sheet from OPA. A difficulty encountered was the inconsistency in the spelling of foreign names. Therefore, student names found in both datasets were then searched one-by-one on the ACE/MSU computer to compare the SID. Student information from ACE/MSU for those student names which were a match to student names from OPA was then entered into the Microsoft Excel Sheet.

Data Cleaning:

Once data were collected from INTERLINK, MSU and combined with data collected from Banner, the data was cleaned. Using Excel, the first step was to clean the data by checking for missing data, coding errors, anomalies, outliers, and errors in data entry and by converting variable types as needed, removing non-numeric values, and converting text to numbers (Fogarty, 2019). Cleaning included finding the problem and fixing the problem by replacing, modifying or deleting the data (Mountain & Macfarlan,

2014). I confirmed that the dataset displayed each participant on one row and each variable on one column. All variables were mutually exclusive. I applied rules consistently and identified the level of measurement for each variable (Leech et al., 2015, pp. 26-27).

Missing Data:

In my dataset, there were a number of missing values. During the data cleaning process, I discovered that seven students did not have any data under GPA. Those students were deleted from the study; apparently, they had never attended classes after enrolling or had postponed attendance past the three semesters of data I collected for my research. There were 41 students with no recorded country of passport. RStudio ignored the missing values for variables during analysis by using pairwise deletion (Fogarty, 2019). Another way I dealt with missing values was to recode the observation. For example, because I wished to include all participants in certain analyses, I recoded observations with missing country of passport or major field of study as "Unknown."

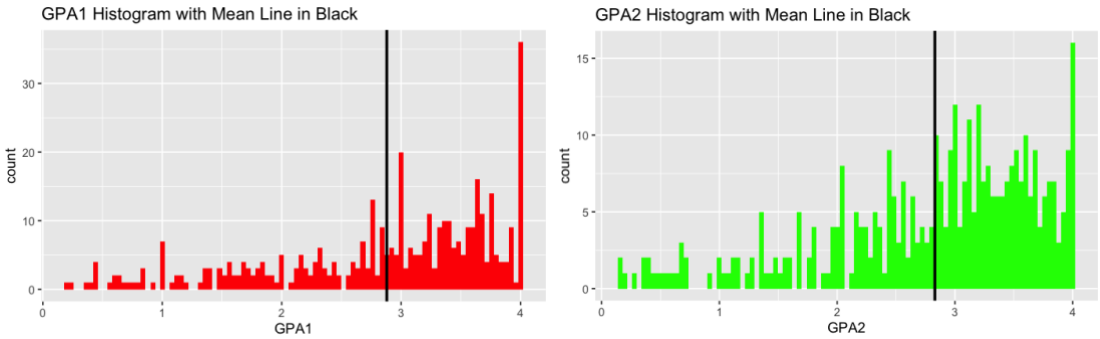
Exploratory Data Analysis:

In an effort to better understand the data collected regarding international students at MSU, I completed an Exploratory Data Analysis (EDA) to test check for data entry errors, "outliers, nonnormal distributions, problems with coding, missing values" and other assumptions, such as homogeneity of variances and linearity. Looking at the data in this way allowed me to notice any potential problems with the data or a variable. The univariate statistics allowed me to consider one variable at a time and learn the attributes

of that variable. Patterns were revealed by running univariate statistical analysis (Behrens, 1997). Descriptive statistics provided information, such as frequency and measures of central tendency: mean, median, and mode. Frequency helped to expose any errors in my data entry or out of range responses and whether any recoding that might be necessary. Histograms from the frequency analysis provided visuals of the results (Behrens, 1997). Descriptive statistics also provided measures of dispersion: the minimum/maximum (range), variance, and standard deviation (Fogarty, 2019).

The outcome for the research was a measurement of academic performance, GPA in the first and second semesters. Normality assumption for the outcome variables, GPA1 and GPA2 were not met. The data was left-skewed (see Figure 9). I had to divide GPA into create two categories, “Low” and “High.” I reviewed the data and found that

Figure 9 Mean GPA for First and Second Semesters



the median GPA was close to 3.0 and the mean slightly below 3.0 for both semesters. Therefore, I dichotomized the variable GPA. GPA was “High” if it was 3.0 or higher, or “Low,” if below 3.0. I renamed the dichotomous variables to GPAH1 and GPAH2. Some information and nuances were lost when GPA was dichotomized. Linear regression does

not analyze a dichotomous outcome variable. Therefore, my analysis option was binary logistic regression, which is used for a dichotomous outcome variable.

Assumptions for Binary Logistic Regression:

Three assumptions needed to be met for binary logistic regression: multicollinearity, linearity of the logit, and independence of errors (Field et al., 2012). Multicollinearity has the biasing effect of collinearity. After each logistic regression, I tested for collinearity using the variance inflation factor value. To remove collinearity, the variable for the number of weeks attended was removed, and the variable ADJUST representing the number of failed classes was dichotomized. One or more fails were coded 0 (>0FAILS) for the variable ADJUST. ADJUST values of less than 1 were named NOFAIL and coded as 1. There were no remaining indications of collinearity in the predictor variables found. No evidence of multicollinearity was found in the models; VIF were below 10. All GVIF were also less than 26%.

The second assumption of logistic regression was the assumption of linearity. In logistic regression the outcome variable was categorical, so I used the logit of the data to test the assumption that a linear relationship existed between all continuous predictor variables and the logit of the outcome variable (Field et al., 2012). To do this, I first created a new variable which was the log of the variable. The next step was to create a model to predict GPA from the variables and the log of the variables. RStudio produced Pr(>|z|) for the interactions between the output variable and the predictor variables and the logs of the predictor variables. According to Field et al. (2012), if the interactions have significance values of Pr(>|z|) greater than .05, the assumption of linearity of the

logit has been met. Variables in the study met the assumption of linearity. The third assumption of logistic regression is independence of errors. No cases of the data were related; the same students were not measured at different points in time; therefore, the assumption of independence of errors was met.

In addition, I used Cook's distance to measure the overall influence of a particular case or outlier on each model. No indication of problems with outliers were found.

Data Analysis:

For analyzing the data, I used RStudio as my statistical software. I chose RStudio because it was free and could do most types of statistical analysis (Fogarty, 2019). In addition, abundant assistance for the program was readily available on the internet. Another advantage to RStudio was the ease with which visualization of data could be accomplished. One of the goals of this research was to build institutional awareness of international student academic performance and factors which had influence on success or failure. I hoped to share my results with the intensive English program staff, the OIP staff, and Departments of Education, Engineering, and Business. Therefore, being able to present data in a user-friendly format or visualization was essential (Astin & Antonio, 2012).

Analyses of Research Questions:

This research study sought to discover the effectiveness of ACE/MSU in preparing international students for university study. ACE/MSU program's aim was to

prepare students for the rigors of university studies in a foreign language. The literature review offered evidence of the benefits of study in an intensive English language program. The ACE/MSU program was described in the context section of this chapter as a program which met U.S.A. government standards for accreditation. The literature review also indicated that cultural background plays a role in an international student's ability to perform at their highest potential. ACE/MSU, in addition to teaching English language skills, also provided the opportunity for students to experience and learn about the culture of the U.S. American classroom, the U.S. American teaching philosophy, grading methods, and attendance policies. In addition, ACE/MSU helped students acclimate to the community and the campus. The analyses were conducted to answer the research questions. The research questions were: Research Question 1: What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance? Research Question 2: What is the relationship between a student's path to MSU enrollment and first-year academic performance? Research Question 3: What is the relationship between a student's background culture and first-year academic performance?

Presentation of the Results:

The results of my binary logistic regression analyses were presented in tables. These tables contained the results for the logistic regression (glm())[43], the Nagelkerke's

[43] Indicate the RStudio functions() used.

test (nagelkerke()), the exponentiated coefficients (exp()), and the exponentiated confidence intervals (exp(confint)) for my regression models. The logistic regression statistical analysis provided the standard error (SE), the alpha level, the Akaike information criterion (AIC[44]), and residual deviance number. According to Field, Miles, and Field (2012) and Leech, Barrett, Morgan (2015), these statistical terms, as defined hereafter, were applicable to my study. Standard error (SE) of the sample means indicates the closeness of the individual mean to the population mean. In logistic regression, the standard error is the distance that the data points fall from the regression line. A small SE indicated that most of the means for the variable were near the population mean; 0 means the sample was perfectly reliable. The AIC was used to compare models. The lower (or lowest) AIC value indicated the better (or best) model fit. The calculated probability (*p*) from a two-tailed test of probability column on the tables contributed to the understanding of the model by indicating the statistical significance of the variation in the outcome variable explained by each category of the predictor variable while holding all others constant. The smaller the alpha level the greater the probability that the results were not due to chance. For my study, because theory and research suggest student success is a complicated nexus, the small sample size of my study, and the complexity of factors[45] related to the imbalances present in my sample, I chose an alpha level of < .10 as the confidence level of statistical significance for my study.

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[44] AIC is used to compare different models to decide which model is the best fit for the data.
[45] Bridgeman et al. (2015, 308) They point out the confounding influence of variation in grading standards across programs are compounded by general trends by country in a field having either

The Nagelkerke statistic, Pseudo R^2 provided the percent of variance explained by the model. Pseudo R^2 is used in logistic regression as a version of the coefficient of determination (R^2) (Field et al., 2012). The Nagelkerke's test also specified degrees of freedom, Chi-squared statistic and p value for the model. When the p value is statistically significant, the larger the Chi-squared number the better the model fit; the model showed some evidence of improvement in explaining the relationship between the predictors and outcome variable over chance. Including the predictor variable(s) in the model produced a significant improvement in the fit of the model. I used the Chi-squared equation which included the degrees of freedom, the chi-squared value, and the p value, for example $\chi^2(1,\ N = 135) = 3.20, p = 0.073$ to determine whether or not to reject the null hypothesis. Thus, when the Chi-squared statistic yielded a p value that was less than .10, I rejected the null hypothesis. Running the exponentiated coefficient analysis produced the Odds Ratio (OR) or coefficient which indicated the strength of the relationship. If the OR was different from 1 and statistically significant at a $p < .10$, then I interpreted that the predictor was making a statically significant contribution to the prediction of the outcome, holding all other predictors constant. The Odds Ratio was interpreted as the change in the odds of the outcome being achieved with every one-unit increase in the predictor variable. Thus, a one-unit increase with a continuous variable, as indicated by the OR, compares the odds of having an increase in the outcome variable for the

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strong or weak language proficiency. "Grading standards are typically stricter in science and technology fields than in humanities. . ."

reference group (0) to the other group (1), holding all else constant (T. Seifert, personal communication, March 9, 2021). When I used a dummy variable as the predictor in the regression, I explained that the odds of a higher outcome variable were higher or lower in comparison the reference group of the predictor variable. According to Field et al. (2012), "if the value is greater than 1 then it indicates that as the predictor increases, the odds of the outcome occurring increase" (p. 320). On the other hand, if the odds ratio was less than 1, then the odds of the outcome occurring decreased, or I could say there was conceptually a negative relationship between the predictor and outcome variables. The exponentiated confidence interval analysis produced the confidence intervals listed on the tables. The 95% confidence interval (CI) specifies that if one were to conduct the analysis from multiple samples with the same population the population's OR would lie between the range of values presented 95 out of 100 times and, thus, the confidence interval serves as an assessment of the accuracy of the OR for the sample. A 95% confidence interval is associated with an alpha level of .05 and, thus, is a more conservative and precise estimate than the alpha level .10 set for my study. A small range indicated that the sample odds ratio was very close to the odds ratio of the sampling distribution and was, therefore, representative of the population. If the CI included 1, then the OR was not a reliable indicator of correlation. In other words, the predictor variable did not affect the odds of the outcome.

Analyses for Research Question 1:

Research Question 1 addressed the relationship between a student's experiences within the ACE/MSU program and their first-year academic performance. A subsample,

only students who were enrolled in ACE/MSU, was included in the analyses for this question. Two dichotomous outcome variables were first-year academic performance, GPAH1 and GPAH2. A model was fitted to determine the relationship between ACE and GPAH in the first semester using binary logistic regression analysis, $\log(p/1\text{-}p) = b_0 + b_1{*}ACE$. Three other measures of participation in ACE/MSU were added and then fitted to the next model: FIRSTENGL, LASTENGL, ADJUST, and ACE,

$$\log(p/1\text{-}p) = b_0 + b_1{*}GRAD + b_2{*}FIRSTENGL + b_3{*}LASTENGL + b_4{*}NOFAIL.$$

The construct COHORT operationalized as a series of dummy variables with COHORT10 as the reference group was added to fit a third model to consider confounding influence,

$$\log(p/1\text{-}p) = b_0 + b_1{*}GRAD + b_2{*}FIRSTENGL + b_3{*}LASTENGL + b_4{*}NOFAIL + b_5{*}COHORT11 + b_6{*}COHORT12 + b_7{*}COHORT13 + b_8{*}COHORT14 + b_9{*}COHORT15 + b_{10}{*}COHORT16.$$

All models were repeated with second semester GPAH2.

Analysis for Research Question 2:

To further understand the relationship of ACE/MSU and first-year academic performance, I conducted statistical analyses using the full study sample of international students. To answer Research Question 2, I first fitted a binary logistic regression model with the construct PATH operationalized with two dummy variables GRAD, and SOME compared to the reference group DIRECT and outcome variable GPAH1 for first semester,

$$\log(p/1\text{-}p) = b_0 + b_1{*}GRAD + b_2{*}SOME.$$

In the second model, I added the construct of MAJOR operationalized as a series of dummy variables with OTHER STEM as the reference group,

$$\log(p/1\text{-}p) = b_0 + b_1{*}\text{GRAD} + b_2{*}\text{SOME} + b_3{*}\text{ChemEngr} + b_4{*}\text{CivilEngr} + b_5{*}\text{ElecEngr} + b_6{*}\text{MechEngr} + b_7{*}\text{Non-STEM} + b_8{*}\text{Pre-Business}.$$

I repeated both these models with second semester GPAH2.

Analyses for Research Question 3:

To answer this research question, I fitted a model with the data using binary logistic regression to determine the relationship between background culture and academic performance. Because I was not sure which would produce statistically significant relationships, I wanted to use two different ways to operationalize the construct of cultural background, one country, and two scores from a survey of cultural values. I used the construct PASSPORT operationalized by a series of dummy variables with OTHER as the reference group as evidence of background culture. I used the cultural distance model's (Hofstede, 2001) four continuous variables PDI, IDV, UAI, and MAS. First, I fitted a binary logistic regression model with the dummy variables for the construct PASSPORT with OTHER as the reference and outcome variable GPAH1 for first semester,

$$\log(p/1\text{-}p) = b_0 + b_1{*}\text{China} + b_2{*}\text{India} + b_3{*}\text{Korea} + b_4{*}\text{Kuwait} + b_5{*}\text{Nigeria} + b_6{*}\text{Arabia}.$$

In model two, I added the dummy variables for the constructs MAJOR and PATH to see if the addition of these factors improved the model,

$$\log(p/1\text{-}p) = b_0 + b_1{*}\text{China} + b_2{*}\text{India} + b_3{*}\text{Korea} + b_4{*}\text{Kuwait} + b_5{*}\text{Nigeria} + b_6{*}\text{Arabia} + b_7{*}\text{ChemEngr} + b_8{*}\text{CivilEngr} + b_9{*}\text{ElecEngr} +$$

b_{10}*MechEngr + b_{11}*Non-STEM + b_{12}*Pre-Business + b_{13}*GRAD + b_{14}*SOME.

I repeated these two models for second semester. I also fitted a model with MAJORb (STEM and Non-STEMb), in only the second semester,

log(p/1-p) = b_0 + b_1*China + b_2*India + b_3*Korea + b_4*Kuwait + b_5*Nigeria + b_6*Arabia + b_7*GRAD + b_8*SOME + b_9*ChemEngr + b_{10}*CivilEngr + b_{11}*ElecEngr + b_{12}*MechEngr + b_{13}*Non-STEM + b_{14}*Pre-Business.

Next, I fitted a new model using the variables PDI, IDV, UAI, and MAS with the outcome variable GPAH,

log(p/1-p) = b_0 + b_1*PDI + b_2*IDV + b_3*UAI + b_4*MAS.

I repeated this model for second semester. I did not introduce the predictor constructs MAJOR or PATH because including them in the models with PASSPORT had not improved the models.

Chapter Summary:

The purpose of the chapter on methodology was to provide a clear picture of the institutional research conducted. In addition to the literature review, this chapter helped form the basis for the study. The clear picture allowed other researchers to determine if the results or the means used to get the results could be applied to their own institution or other institutions. Included in this chapter were the following sections: research design and rationale, study context, population, the research questions, data collection and cleaning, data analyses, and the analyses of the research questions. The following paragraphs summarize each of those sections.

The research design was a quantitative comparison study using secondary data. The design was chosen to eliminate any problems that might stem from language difficulties inherent in a qualitative design. The institutional research and context for the study was Montana State University in Bozeman, Montana (MSU). The history of international students at MSU showed the university to have a long-standing interest in international students, beginning in the 1960s and continuing to the present day. It was a university that as early as the 1980s was establishing sister universities around the world. An office devoted to the continuance and support of international students, Office of International Programs, was created in 1992, and the first leader of the program began in 1994. In Table 21 Count of Top Countries: First and Second Semesters, I presented the sending countries from 2010 to 2016 included in my study. Key information contained in this table was that MSU has consistently served students from countries where the English language instruction was weak. Countries, whose students consistently required the services of intensive English language programs, were indicated by statistics from the Institute of International Education (2015). Saudi Arabia, China, and Kuwait were among the top ten at MSU. Saudi Arabia and Kuwait also ranked among the lowest scoring countries on English Proficiency Index (Education First, 2019). An important segment of the international student population at MSU could be considered to have low English language proficiency based on these statistics. However, institutional research was needed to verify if these trends held true at MSU.

In 1994, MSU began offering the option of an intensive English language program for international students who could not provide evidence of a level of English

language proficiency required by the university. Various people have led the program, and a few teachers and staff have been with the program almost from the beginning. The program enrollment pattern indicated a humble beginning, a zenith in 2015 and a return to a humble level by 2018. The zenith was in large part a reflection of the enrollment of Saudi students, and the decline in enrollment reflected the end of support from the government in Saudi Arabia for intensive English language instruction in the U.S.A.. Reviewing the curriculum and outside evaluations of ACE/MSU provided a picture of a strong and effective program based on sound pedagogical principles. The program included six levels in its core curriculum that progressed seamlessly from beginning to proficient levels.

The population included in the study were undergraduate international students enrolled at MSU between 2010 and 2016. These students were degree-seeking, first-time freshman. The study contained 403 students most of whom were never in the ACE/MSU program (268). The students were 74% male with the average age of 20 overall. Over half of the students were enrolled in some field of engineering. About 34% of the students came from Saudi Arabia and 16% from China. The background culture of the students in my study, as described in Hofstede's (2001) cultural distance model, tended to be similar to the U.S.A. on the Masculine dimension but were extremely culturally distant from the U.S.A. on the Power Distance and Individualism vs Collectivism dimensions.

Students in the study, who enrolled at ACE/MSU, attended, on average, about 11 weeks or almost six sessions, with 76% of the students graduating and going on to attend

MSU. The data indicated that, on average, students began at Level 2 in the program and completed their studies at Level 6. Most students repeated less than 2 classes.

My research design and methods were guided by one overarching question: What factors contributed to the study's sample of international students' academic performance in the first two semesters of academic coursework at MSU? I developed three research questions to address that question. Research Question 1: What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance? Research Question 2: What is the relationship between a student's path to MSU enrollment and first-year academic performance? Research Question 3: What is the relationship between a student's background culture and first-year academic performance?

Data to answer these research questions were gathered from the Office of Planning and Analysis and INTERLINK, MSU. Difficulties were encountered in obtaining complete information on student countries, level of English at time of enrollment at MSU, and connecting student information from MSU with information from INTERLINK, MSU. I cleaned the data based on discrepancies, missing data, and repeated data, and data entry errors during the univariate and bivariate examination of the variables. A table and narrative outlined the variables used in the data analyses conducted to answer the research questions. The outcome variables were a measure of first-year academic performance, GPA1 and GPA2. The predictor variables included measures of student experiences in the ACE/MSU program, ACE, FIRSTENGL, LASTENGL, and ADJUST. Control variables included measures of cultural background, PDI, IDV, MAS,

UAI, and PASSPORT. A student's selected major, MAJOR and university enrollment cohort were also included in the analyses.

Chapter 3 provided an account of the methodology I used in my study. In the following chapter, I provided the results of the statistical analyses conducted.

RESULTS

Research Question 1: What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance?

Research Question 1 Rationale:

The primary goal of this research study was to determine the effectiveness of the ACE/MSU program in preparing international students for study at MSU. The first research question used a subset of the study sample to examine ACE/MSU students alone, that is, the full sample of all international students in the study was limited to only those students who had attended one or more sessions in the intensive English language program, ACE/MSU. In addition, I examined three other factors which theory and my personal experience suggested had influence on later academic performance, the initial level of English language proficiency and the final level of language proficiency. Another factor, the student's possible difficulties in handling the academic rigors of the ACE/MSU program due to failure to adjust, I examined by calculating the number of classes a student failed in the program. A final factor introduced into the statistical analyses was cohort. Using cohort allowed me to also determine if its influence on international students' academic performance confounded the relationship between the ACE/MSU program and GPA. The next section provided the details of the variables.

Research Question 1 Variables:

Research Question 1 examined students who attended ACE/MSU to estimate the relationships between their experiences in ACE/MSU on the likelihood of earning a high

GPA at MSU in the first two semesters. The variable ACE, a subsample of the full study sample, was dichotomized into students who had attended "SOME" sessions at ACE/MSU but had not graduated and students who had graduated from the program, "GRAD." The question investigated the similarities and differences between students who attended ACE/MSU for at least one session[46] and students who graduated from ACE/MSU by completing Level 6 in the program with respect to their GPA in semesters one (GPAH1) and two (GPAH2) of the first year of undergraduate studies. The dichotomous outcome variables GPAH1 and GPAH2 were labeled "Low," less than 3.0 or "High" 3.0 and above. Independent predictor variable in Research Question 1 was level of participation – ACE (i.e., "SOME" participation in ACE/MSU/ or ACE/MSU graduate "GRAD"). ACE/MSU participation was further measured by student experiences while enrolled in ACE/MSU. How well did the student adjust to classes in ACE/MSU? I operationalized adjustment by counting the classes, if any, the student had failed (ADJUST)? I created a binary variable indicating whether or not a student failed classes [47]. Students who failed one or more classes were defined as ">0 FAILs" (coded 0), and students who did not fail any classes were defined as "NOFAIL" (coded as 1). The final two measures of student participation in ACE/MSU were the program level of English language class into which the student was first placed (FIRSTENGL) and the last

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[46] A session was usually 7.5 weeks long, with two per semester. See Chapter 3 for complete details regarding sessions.
[47] Students took 4–6 classes for each level of study. If they failed one or more classes, they repeated a level. I counted the failed classes, rather than the levels repeated.

program level attended (LASTENGL). ACE/MSU program levels were similar to, but not equal to, other well-known English language levels, such as the Cambridge English Scale used by IELTS (Cambridge English: Language Assessment, 2015).

Research Question 1 investigated the influence of four factors related to ACE/MSU experiences on the likelihood of earning a “High” GPA. First and second semesters in the first year at MSU were considered separately in order to discover any long-term influence of the four ACE/MSU factors on GPA. The first factor I explored was the level of ACE participation (SOME vs GRAD).Next, I added three other measures of ACE/MSU experience to the model, ADJUST, FIRSTENGL, and LASTENGL. Finally, I added COHORT to the model to consider any confounding influence the year of entrance to MSU might have had. Model A explored the first semester using the three models. Model B repeated the three models for second semester. I selected the alpha level < .10 as the significance level for my outcomes given the small sample size and the exploratory nature of this problem of practice dissertation.

The bar plot in Figure 10 visualized the bivariate relationship between these two variables. Students who graduated (GRAD) from ACE/MSU had a higher percentage (60%) of High GPAs in the first semester than ACE/MSU students who did not graduate, SOME (46%). The difference increased in the second semester GRAD = 63%, SOME = 35% (see Figure 11).

Figure 10 Relationship Between GPA and ACE/MSU: First Semester

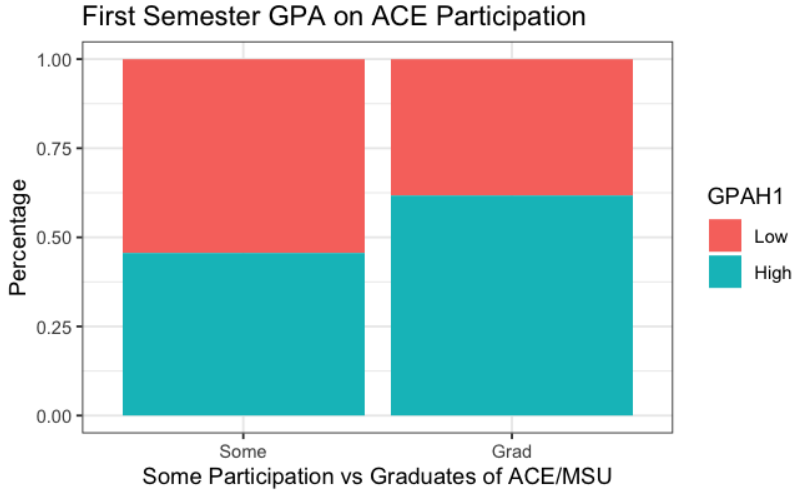
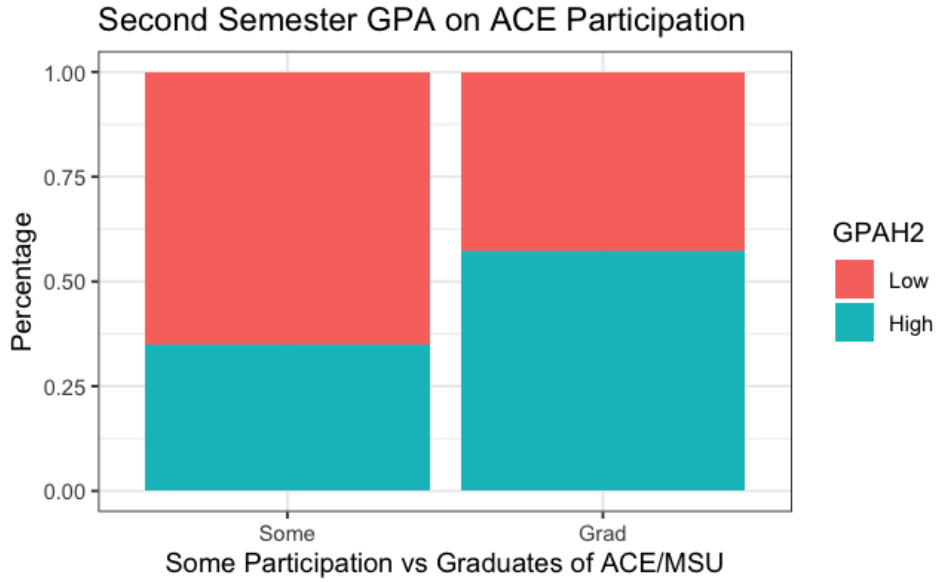


Figure 11 Relationship Between GPA and ACE/MSU: Second Semester



<u>Model A1 Results:</u> In the first logistic regression analysis for Model A, it was observed that including ACE in the model produced a significant improvement in predicting first semester GPA, $\chi^2(1,\ \ N = 135) = 3.20, p = 0.073$. In the equation, $\boldsymbol{\chi}^2$ is Chi-squared, 1 is the degrees of freedom, N is the number in the sample, and p is the calculated probability for the model. Since the Chi-squared p value for the model

was less than the significance level for my study ($p < .10$), there was evidence that the distributions in Model A1 indicated a relationship between the categorical variables. Therefore, I rejected the null hypothesis that the model was no better than chance at predicting first semester GPA. The results displayed in Table 23 also indicated that there was a modest, positive

Table 23 Research Question 1: Logistic Regression Model A, ACE/MSU on GPA First Semester

Semester 1	Model A1				Model A2				Model A3[a]			
	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
GRAD	3	0.37	0.94 – 3.99	.08	2.19	0.48	0.86 – 5.74	.10	2.09	0.49	0.80–5.66	.14
NOFAIL	NA				3.99	0.41	1.81 – 9.21	.00	4.06	0.44	1.76–9.80	.00
FIRSTENGL	NA				0.86	0.11	0.69 – 1.06	.17	0.84	0.12	0.66–1.07	.16
LASTENGL	NA				0.88	0.27	0.52 – 1.50	.64	0.94	0.28	0.54–1.64	.82
Pseudo R^2 (Nagelkerke)	0.03				0.15				0.20			
Chisq	3.20			.07	15.7			.00	21.3			.35
Deviance	181.8				169.3				163.71			
AIC	185.8				179.3				185.7			
DF	1				4				10			

Note. N = 135. GRAD = graduated from ACE/MSU; NOFAIL = did not fail any classes at ACE/MSU; FIRSTENGL = first ACE/MSU program level; LASTENGL = last ACE/MSU program level; Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.
[a]Model A3 includes a set of dummy variables to account for any potential confounding influence year of entrance to MSU had on the relationships of interest.

relationship between GRAD and High GPA; the relationship was statistically significant (p = .075). The odds of a student who graduated from ACE/MSU (GRAD) getting a High GPA were 1.93 times higher than those of an ACE/MSU student who did not graduate (SOME). Model A1 explained 3% (Pseudo R^2) of the variation in GPA in the first semester explained by level (GRAD or SOME) of ACE/MSU participation.

Model A2 Results: In the second logistic regression analysis, as illustrated in Table 23, I examined how the relationship between ACE/MSU experiences (ADJUST, FIRSTENGL, and LASTENGL) measured in the first semester and GPA was different for graduating and non-graduating ACE/MSU students (GRAD/SOME). Including three more variables, ADJUST, FIRSTENGL, and LASTENGL, in the model produced a significant improvement in the fit of Model A2, $\chi^2(4, N = 135\ ) = 15.70, p < .10$ over the Model A1; a larger Chi-squared value and lower AIC value were indicators of improved model fit. Model A2 explains 14.7% of the variation in the first semester GPA. Comparing AIC scores for Model A1 and A2, we see the AIC score was higher in Model A2 than in Model A1, indicating that Model A1 was a better fit for the data. Results from Model A2 made it clear that while LASTENGL had a negative relationship to GPA (0.881) it did not predict GPA in a statistically significant way (p = .638). The relationship between ADJUST and GPA was statistically significant (p = 0.001). Not failing classes (NOFAIL) was statistically significant with a sizable odds ratio (3.99). As such, the odds ratio showed that those who never failed an ACE class had nearly four times the odds of having a high first semester GPA than those of students who failed one or more ACE classes, holding all else constant. The 95% confidence interval

demonstrated the strong association between never failing an ACE class and earning a high first semester GPA, holding all else constant. If I were to conduct this analysis on multiple samples from the same population, the population odds would fall within the range of 1.81 and 9.21 95 out of 100 times. When controlling for all other factors of the ACE/MSU experience (ADJUST, FIRSTENLG, and LASTENGL), the relationship between GRAD and high first semester GPA was almost statistically significant in Model A2 (p =.103) but not in Model A3 (p = .135).

Model A3 Results: In the final logistic regression analysis for Model A shown in Table 23, I investigated whether or not the relationship between all factors related to a student's experience in ACE/MSU (GRAD, ADJUST, FIRSTENGL, and LASTENGL) and first semester GPA were maintained when the years the students entered university (COHORT) were included as statistical controls in the model. Pseudo R^2, when COHORT was included in the model, explained 5% more of the variance in GPA in the first semester. However, including the set of dummy variables for COHORT did not improve the fit of the model, $\chi^2(10, N = 135) = 21.30, p > .10$ over the second model. Odds ratio for variables GRAD, FIRSTENGL, LASTENGL remained relatively stable when COHORT was introduced. However, the odds ratio for students who did not fail classes in ACE/MSU (NOFAIL) was stronger and statistically significant (4.06, p = .001) in Model A3.

In summary, students who were in ACE/MSU had various experiences. The effects of graduating (ACE/GRAD), never failing classes (ADJUST/NOFAIL), level of initial level of English as indicated by program level placement (FIRSTENGL), and the

last level of English at ACE/MSU (LASTENGL) on first semester GPA were all considered. Logistic regression analysis revealed two positive statistically significant relationships with High GPA for international students in the first semester: in Model A1, graduating from ACE/MSU (GRAD) and in Model A2, NOFAIL. When the factor ACE was considered alone, graduating from ACE/MSU (GRAD) compared to not graduating (SOME) had a positive, statistically significant (p = .075) relationship with earning a High GPA in the first semester; however, the statistical significance was lost when controlling for other factors in Model A2. In summary, two groups, NOFAIL and GRAD, had positive relationships to High GPA in the first semester. Of the three models, Model A2 had the lowest AIC statistic and, thus, provided the best fit for the data.

Research Question 1, Model B:

Research Question 1, in addition to looking at the effectiveness of the ACE/MSU program, sought to investigate the continuing influence of the program into the second semester. Two factors, graduating from ACE/MSU (GRAD) and passing all classes in ACE/MSU (NOFAIL), showed a statistically significant correlation with earning a high GPA in first semester (GPAH1). Academic success in the second semester and first year have been shown to be indicators of retention to second year (Kwai, 2009). Since his study indicated the importance of the second semester GPA in predicting first to second year retention, I considered the correlation between ACE/MSU and academic performance in the second semester. A necessary condition for academic performance in the second semester was persisting to the second semester. For ACE/MSU students, the average persistence rate to the second semester was 91% (see Table 17 Number of

Students by PATH: First and Second Semester). According to OPA, freshman fall-to-spring average retention rate for the years 2010-2016 was 89% (MSU, OPA, 2020b). Clearly, international students who attended an on-campus English language intensive program persisted at a rate equal to or above all students in the MSU cohort 2010-2016. Table 17 indicated that a larger percent of the students who did not graduate from ACE/MSU (SOME) persisted at a rate lower than those who did (GRAD). Figures 9 and 10 illustrated a bivariate analysis indicating that SOME students' and GRAD students' average GPAs in the second semester were quite similar to the first semester.

Model B1 Results: In the first logistic regression analysis for Model B, I examined the relationship between graduating from ACE/MSU and second semester GPA. First, I considered the fit of the model. I observed that including GRAD in the model produced a significant improvement in the fit of the model $\chi^2(1,\ N = 124) = 5.4,\ p = .020$. I rejected the null hypothesis that the model was no better than chance at predicting second semester GPA. The odds of a student who graduated from ACE/MSU getting a High GPA in second semester were 2.5 times higher than those of an ACE/MSU student who did not graduate. Graduating (GRAD), versus leaving ACE/MSU before graduating by testing out (SOME), was a strong indicator of High GPA in the second semester. In order to determine if the results were influenced by which students

Table 24 Research Question 1: Logistic Regression Model B, ACE/MSU on GPA Second Semester

Semester 2	Model B1				Model B2				Model B3[a]			
	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
GRAD	2.479	0.398	1.14–5.51	.023	3.350	0.563	1.16–10.76	.032	3.350	0.591	1.09–11.35	.041
NOFAIL	NA				4.071	0.433	1.78–9.81	.001	4.259	0.475	1.72–11.21	.002
FIRSTENGL	NA				0.966	0.111	0.78–1.20	.753	0.951	0.127	0.74–1.22	.697
LASTENGL	NA				0.838	0.304	0.46–1.53	.562	0.833	0.320	0.44–1.57	.569
Pseudo R^2 (Nagelkerke)	.057				0.175				0.263			
Chisq	5.376			.020	17.416			.002	27.21			.002
Deviance	133.52				154.48				144.69			
AIC	170.52				164.48				166.69			
df	1				4				10			

Note. N = 124. ACE level SOME and ADJUST level >0FAILS were the reference levels.
GRAD = graduated from ACE/MSU; NOFAIL = did not fail any classes at ACE/MSU; FIRSTENGL = first ACE/MSU program level; LASTENGL = last ACE/MSU program level; Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.
[a]Model B3 included a set of dummy variables to account for any potential confounding influence year of entrance to MSU (COHORT) had on the relationships of interest. No individual cohort variable differed from the reference group for cohort.

persisted, I repeated the analyses for first semester (GPAH1), using only the students who persisted to a second semester (GPA2). This analysis using only students who were in both first and second semester revealed no statistically significant relationship between GRAD and earning a High GPA in the first semester of academic studies (OR = 1.63, p = .21). Table 24 presented the results for binary logistic regression and other statistical analyses for the three models: Model B1, Model B2, and Model B3.

Model B2 Results: For the second model using logistic regression analysis, I examined how the relationship between ACE/MSU experiences (NOFAIL, FIRSTENGL, and LASTENGL) measured in the second semester and GPA was different for graduating and non-graduating ACE/MSU students (GRAD/SOME). Including three more variables, NOFAIL, FIRSTENGL, and LASTENGL, in the model produced a significant improvement in the fit of the model $\chi^2(4, N = 124) = 17.42, p = .002$. A larger Chi-Squared value (17.42 > 5.376) was an indicator that Model B2 was a better model fit for High GPA for international students: NOFAIL and GRAD. For the second semester, I found a strong positive relationship between passing all classes at ACE/MSU (NOFAIL) and High GPA (GPAH2), while controlling for all the other variables in Model B2. The NOFAIL variable had a statistically significant (p = .001) exponentiated coefficient (OR = 4.07). A student who never failed a class at ACE/MSU (NOFAIL) was 4 times more likely to earn a high GPA in the second semester than a student who failed one or more classes. The confidence interval for NOFAIL was 1.78 to 9.81. Thus, I was confident that 95 out of 100 times the population parameter would fall within this range. This was

important because it indicated the strength of the positive relationship between not failing any ACE/MSU classes and high second semester GPA. Controlling for other characteristics of ACE/MSU experiences, graduating from ACE/MSU (GRAD) compared to not graduating, had a positive, statistically significant relationship with earning a High GPA in the second semester (OR = 3.35, p =.032). Students who graduated from ACE/MSU were over 3 times more likely to achieve a High GPA in the second semester than students who did not graduate. In Model B2, the 95% confidence interval for GRAD demonstrated the strong association between graduating from ACE/MSU and earning a high second semester GPA, holding all else constant. If I were to conduct this analysis on multiple samples from the same population, the population odds would fall within the range of 1.16 to 10.76 95 out of 100 times. In conclusion, Model B2 was a better model fit than Model B1 and had two factors, NOFAIL and GRAD, with strong, positive relationships to High GPA in the second semester, holding all else constant.

Model B3 Results: In the third and final model for Research Question 1, I investigated if the relationship between all factors related to a student's experience in ACE/MSU (GRAD, NOFAIL, FIRSTENGL, and LASTENGL) and second semester GPA held constant when the year the student entered MSU (COHORT) was included in the model. The relationships between the variables GRAD, NOFAIL, FIRSTENGL and LASTENGL and second semester GPA did not change when cohort was added to the model. No cohort had a statistically significant relationship with second semester GPA. Model B3 explained 26% of the variance in second semester GPA, compared to 6% in

Model B1 and 17% in Model B3. Despite the Pseudo R^2 increase with each successive model, AIC decreased between Model B1 (171) and B2 (164) but increased for Model B3 (167). Therefore, Model B2 was the best fit for the data because it had the lowest AIC statistic (see Table 24).

Research Question 1 Summary:

Using a subset of the study sample, I examined ACE/MSU students only to consider the relationship between graduating from ACE/MSU (GRAD) and attending but not graduating (SOME) on GPA in the first two semesters of academic studies. This was the variable considered in Models A1 and B1. In the second Models A2 and B2, I added three other variables to measure ACE/MSU students' experiences in the ACE/MSU program—the initial level of English language proficiency (FIRSTENGL), the final level of language proficiency (LASTENGL), and whether a student failed ACE/MSU classes (ADJUST) > 0 FAIL or did not NOFAIL. A final factor introduced in Models A3 and B3 was cohort. I provided the demographics for each of the variables in Chapter 3. The subsample included 135 and 124 observations in first and second semester, respectively. There were more GRAD (89 and 84) than SOME (46 and 40) students both semesters. There were more NOFAIL (88 and 81) than >0FAIL (47 and 43) both semesters. The average FIRSTENGL was Level 3. The average LASTENGL was the final level of the core program. The largest cohort (20%) was in the 2011 to 2012 school year.

The results were summarized in Table 23 for first semester and Table 24 for second semester. Chi-squared values for all three models were statistically significant and provided sufficient evidence to conclude that the observed distributions were not the

same as the expected distributions. I concluded that a relationship did exist between the categorical variables in the models. For both first and second semester, the second models, Model A2 and B2, were the best fit for the data. Holding all else constant, in all models never failing a class in ACE/MSU (NOFAIL) had the strongest positive, statistically significant relationship with GPA in both semesters. Also, graduating from ACE/MSU (GRAD) had a positive, statistically significant relationship with GPA for both semesters, except in Model A3 which included COHORT. In conclusion, the results from Research Question 1 provided evidence of the benefit of graduating from ACE/MSU over attending without completing the program. The results also indicated not failing classes at ACE/MSU was a predictor of a high GPA in both semesters. In Research Question 2, I extended the examination of the effectiveness of ACE/MSU by comparing the strength of relationship between the different paths students took to be enrolled at MSU and GPA.

Research Question 2: What is the relationship between a student's path to MSU enrollment and first-year academic performance?

Research Question 2 Rationale:

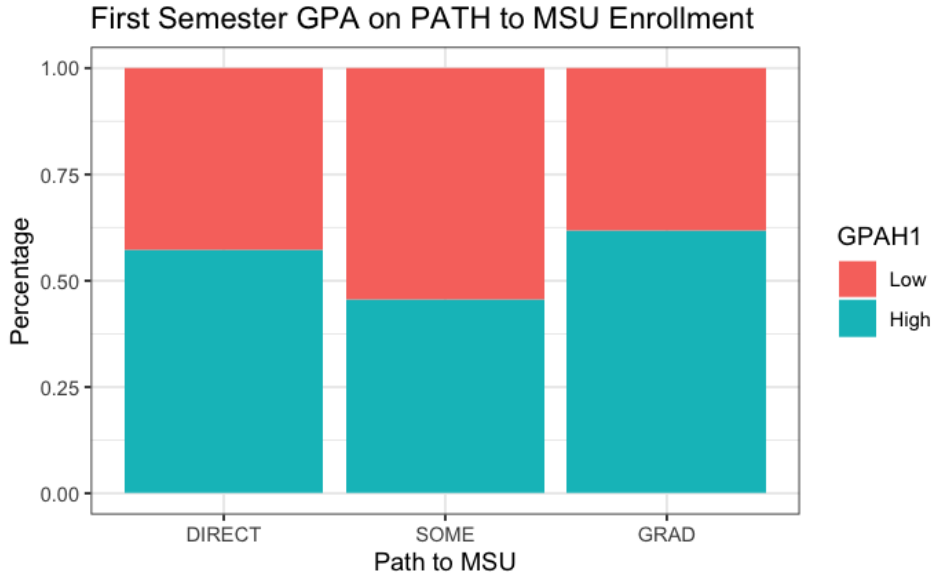
The focus of Research Question 1 was on a subsample of the study, only students who had participated to some level in the ACE/MSU program and the relationship between level of ACE/MSU participation and first-year GPA. The focus of Research Question 2 was to compare all international students based on the student's path to MSU enrollment ACE/MSU (PATH) and to determine which path(s) had positive, statistically significant relationship(s) with first-year academic performance. For my analyses, I

disaggregated students into three groups based on their path to MSU enrollment. I have already defined students who graduated from ACE/MSU (GRAD) and students who attended but did not graduate (SOME). The third group included in Research Question 2 was direct-entry students (DIRECT). Direct-entry students were admitted to MSU by providing proof of an acceptable level of English language proficiency. Although there were several options for proof of English language proficiency, most students submitted a score from a standardized test of English language accepted by MSU which met or surpassed MSU's minimally accepted score. Like direct-entry students, students who attended ACE/MSU without graduating had to submit an MSU accepted score from a standardized test of English as proof of an acceptable level of English language proficiency. See Chapter 3 of this dissertation for the complete discussion of proof of English language proficiency at MSU.

Figure 12 illustrated the bivariate relationship between PATH and GPA in the first semester. The graphic showed the variation between the three paths to MSU and High GPA. The GRAD group had a slightly higher percentage of students who received High GPA than direct-entry students (DIRECT). The SOME group was lower than both DIRECT and GRAD.

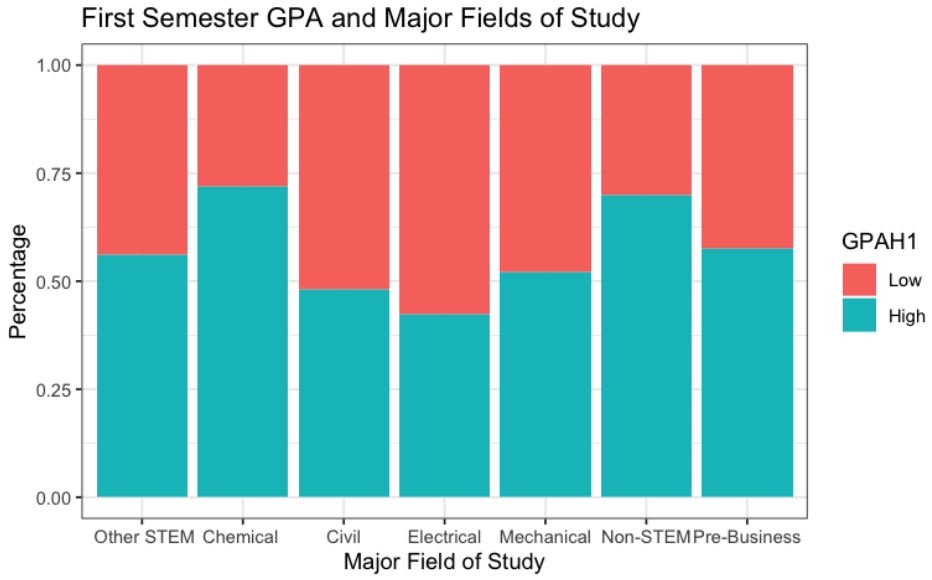
In addition to PATH, I included students' major field of study selected at the time of enrollment (MAJOR) as a confounding variable to the analyses for Research Question 2. The variable MAJOR included dummy variables, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Non-STEM, and Pre-Business. Non-STEM did not include Pre-Business. OTHER STEM was the comparison

Figure 12 Relationship Between GPA and PATH: First Semester



group; it did not include the four engineering majors in the model. I illustrated the bivariate relationship between MAJOR and GPA in the first semester in Figure 12.

Figure 13 Relationship Between GPA and MAJOR



According to Figure 13, almost 75% of the international students who majored in Chemical Engineering earned a High GPA in the first semester compared to 40% for students in Electrical Engineering. MAJOR seems to have had some relationship to GPA in the first semester. On average, international students seemed to have earned a 3.0 or higher GPA in the first semester about 50% of the time.

Research Question 2 Results:

Model C: I provided a summary of the results from the analyses in Table 25. I conducted binary logistic regression to examine the relationship between the paths to MSU admittance (PATH) and earning a 3.0 or higher GPA in the first semester (GPAH1). Model C1 included only one set of dummy predictor variables (PATH) which divided the path students took to be eligible for enrollment at MSU into three categories: attended but did not graduate from ACE/MSU (SOME), graduated from ACE/MSU (GRAD), and entered MSU directly without being in the ACE/MSU program (DIRECT). DIRECT was the reference group. In Model C2, I added a confounding variable MAJOR with seven categories, four engineering majors (chemical, civil, electrical, mechanical), Pre-business major, and two general categories of major (OTHER STEM, Non-STEM). OTHER STEM was the reference group.

Table 25 Research Question 2: Logistic Regression Model C, PATH on GPA First Semester

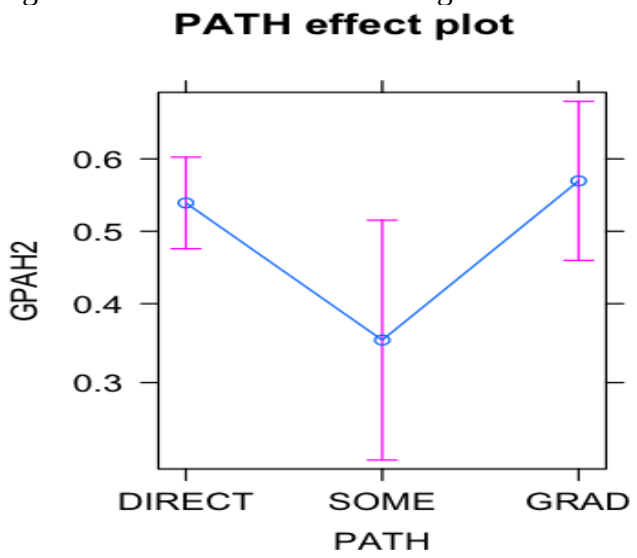
Semester 1		Model C1				Model C2			
N = 403		OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
PATH	SOME	0.631	0.321	0.334–1.182	.152	0.667	0.333	0.345–1.280	.224
	GRAD	1.216	0.251	0.747–1.100	.436	1.210	0.259	0.731–2.022	.461
MAJOR	Chemical	NA				1.951	0.401	0.908–4.432	.096
	Civil	NA				0.791	0.434	0.335–1.861	.589
	Electrical	NA				0.581	0.354	0.287–1.156	.124
	Mechanical	NA				0.842	0.348	0.425–1.671	.621
	Non-STEM	NA				1.257	0.380	0.882–3.943	.113
	Pre-Business	NA				1.070	0.296	0.599–1.920	.819
Pseudo R^2 (Nagelkerke)		0.011				0.047			
Chisq		3.227			.199	14.436			.071
Deviance		547.92				536.71			
AIC		553.92				554.71			
DF		2				8			

Note. PATH level DIRECT and Major level OTHER STEM were held constant in the models. SOME = ACE/MSU did not graduate from ACE/MSU; GRAD = ACE/MSU graduates; DIRECT = directly admitted to MSU without ACE/MSU; MAJOR = 4 engineering majors, Pre-Business major, all other students divided into STEM or non-STEM. Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.

Model C1 Results: I fitted Model C1 to estimate the relationship path to MSU (PATH) and earning a GPA of 3.0 or higher (High GPA) in the first semester. Binary logistic regression was conducted to assess whether the predictor variable significantly predicted High GPA in the first semester. There were no statistically significant findings for Model C1. The Chi-squared *p* value was > .10. The model explained only 1% of the variance in GPA. There were differences between the three groups; the differences were

not statistically significant, however, which means the chance of identifying them is the same as chance. Figure 14 provided a graphic representation of the estimated proportion of the group (PATH) with a High GPA in the first semester. The points on the Effects

Figure 14 Effect Plot PATH on High GPA: First Semester



Plot for DIRECT, SOME, and GRAD are the average estimates on the probability scale for Model C1. The group GRAD has a 58% probability of High GPA, DIRECT a 55% probability, and SOME a 35% probability. So, we are 95% confident that the true probability of successfully estimating the proportion with a high GPA from the PATH groups was between the ends of the pink bars. Because the confidence intervals overlapped, the plot provided a visual for the non-statistically significant difference in the odds of having a high GPA.

Model C2 Results: For Model C2, I added the confounding dummy variable MAJOR to the model with seven levels: OTHER STEM (reference level of the variable),

Chemical, Civil, Electrical, Mechanical, Non-STEM, and Pre-Business. In Model C2, it was observed that including MAJOR in the model produced the Chi-squared equation $\chi^2(8, N = 403) = 14.44, p = .071$. Since the Chi-squared p value for the model was statistically significant (p <.10), there was evidence that the distributions in Model C2 indicated a relationship between the variables. Therefore, I rejected the null hypothesis that the model was no better than chance at predicating first semester GPA. The model explained 5% of the variance in GPA in the first semester when PATH and MAJOR were included. Comparing the AIC for Models C1 and C2 indicated no improvement in the fit of Model C2 over C1. As demonstrated in Table 25, controlling for all other variables in the model, there was a positive, statistically significant relationship between majoring in Chemical Engineering compared to the OTHER STEM and High GPA. The odds ratio for Chemical Engineering was 1.95 with p = .096. However, confidence interval of 0.908 to 4.432 included 1 which indicates that the statistically significance of the findings may be unstable. Therefore, I was unable to determine if there was a positive relationship between majoring in Chemical Engineering compared to Other STEM and GPA in the first semester, holding path to MSU entry constant.

Model C Summary: In summary, Model C was the binary logistic regression of GPA on two predictor variables PATH and MAJOR. The parsimonious model, Model C1, included only the three levels of the predictor variable PATH and no relationships were found to be statistically significant. Although, Model C2 was not an improvement over Model C1, it did have a statistically significant Chi-squared value of 14.436 (p = .071). Majoring in Chemical Engineering, compared to OTHER STEM, had a positive

statistically significant relationship with High GPA. In the next section, Model D was fitted to consider the same variables for second semester.

Model D: The results of the analyses were presented in Table 26. In order to understand if there were any relationship between a student's path to MSU (PATH) and a 3.0 or higher GPA in the second semester, Model D1 was fitted. Model D1 investigated the relationship between the three paths to full admittance to MSU for international students in my study (DIRECT, SOME, GRAD). For Model D2, I added the confounding influence of the variable MAJOR.

Model D1 Results: I conducted binary logistic regression to investigate the relationship between three paths to admittance to MSU (SOME, GRAD, DIRECT) and receiving a 3.0 or higher GPA (High GPA). The model was not statistically significant $\chi^2(2, N = 374) = 5.807, p = .199$. Model D1 indicated that PATH explained only 2% of the variance in GPA for the second semester. Controlling for all else, the odds ratio statistic indicated that overall, the odds of earning a High GPA was lower for students who attended but did not graduate from ACE/MSU (SOME) and receiving a High GPA in the second semester (0.466), compared to those who were direct-entry students (DIRECT). This indicated that students in the SOME group were less likely than students in the DIRECT group to achieve a High GPA. The 95% confidence interval demonstrated the strong negative association between attending but not graduating from ACE/MSU and High GPA in the second semester, holding all else constant. If I were to conduct this analysis on multiple samples from the same population, the population odds would fall

Table 26 Research Question 2: Logistic Regression Model D, PATH on GPA Second Semester

Semester 2		Model D1				Model D2			
N = 374		OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
PATH	SOME	0.466	0.355	0.227–0.922	.032	0.464	0.369	0.221–0.943	.037
	GRAD	1.154	0.254	0.703–1.908	.573	1.131	0.264	0.675–1.901	.640
MAJOR	Chemical	NA				1.224	0.386	0.577–2.636	.600
	Civil	NA				0.861	0.456	0.347–2.107	.743
	Electrical	NA				0.643	0.368	0.309–1.315	.230
	Mechanical	NA				0.656	0.371	0.313–1.350	.255
	Non-stem	NA				2.881	0.414	1.315–6.757	.011
	Pre-Business	NA				1.214	0.306	0.669–2.228	.521
Pseudo R^2 (Nagelkerke)		0.021				0.070			
Chisq		5.807			.199	20.084			.010
Deviance		511.80				497.52			
AIC		517.80				515.52			
Degrees of Freedom		2				8			

Note. PATH level DIRECT and MAJOR level OTHER STEM were constants in the models. SOME = ACE/MSU did not graduate from ACE/MSU; GRAD = ACE/MSU graduates; DIRECT = directly admitted to MSU without ACE/MSU; MAJOR = 4 engineering majors, pre-business major, all other students divided into STEM or Non-STEM. Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.

with the range of 0.227 and 0.922 95 out of 100 times. Figures 15 and 16 provided a visualization of the relationship between the three categories of the variable PATH and the chances of getting a GPA of 3.0 or higher showing both first and second semester.

Figure 15 PATH and GPA: First Semester

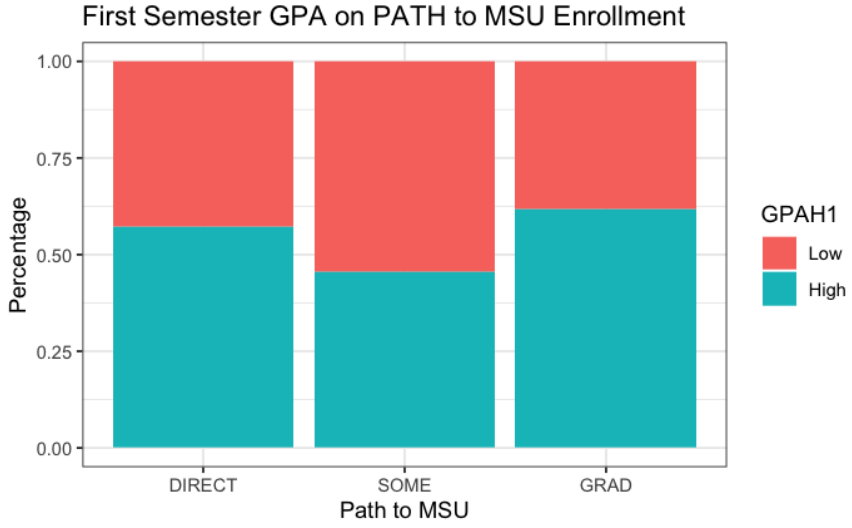
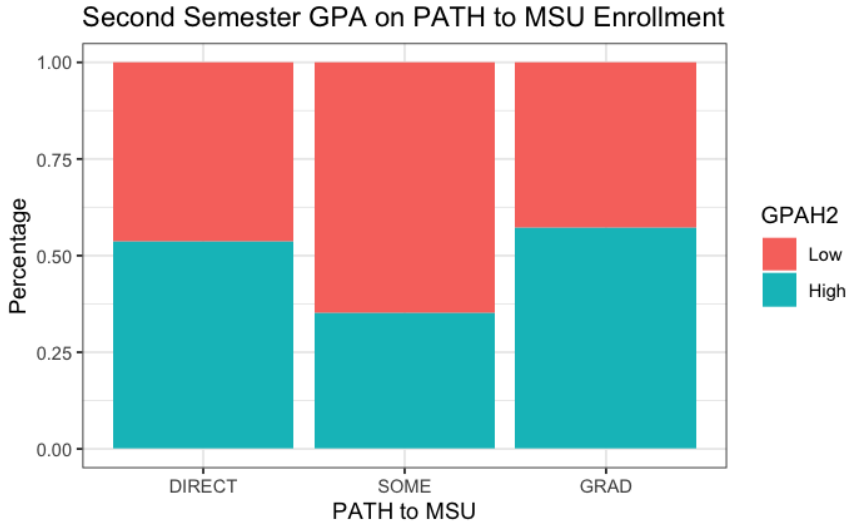


Figure 1 PATH and GPA: Second Semester



In both semesters students who graduated from ACE/MSU (GRAD) had a slight advantage (not statistically significant) over direct-entry students (DIRECT). In turn, both GRAD and DIRECT categories had a higher percentage of students than SOME with a High GPA in both semesters.

Model D2 Results: Logistic regression was conducted to assess whether the two predictor variables, PATH and MAJOR, significantly predicted whether or not an international student received a 3.0 or higher GPA (HIGH GPA) in the second semester at MSU as indicated by Table 26. When both predictor variables were considered together, they significantly predicted whether or not a student earned a High GPA, $\chi^2(8, N = 374) = 20.084,\ p = .010.$ Therefore, I rejected the null hypothesis that the model was no better than chance at predicting second semester GPA. In Model D2, I observed that adding MAJOR to the model with PATH improved the amount of variance explained, from 2% in Model D1 to 7% in Model D2. In addition, the AIC statistic, also, indicated a better model fit than Model D1. The SOME group had statistically significant lower odds of achieving High GPA in the second semester, compared to direct-entry students. SOME odds ratio was 0.46, p =.032 in the first semester and 0.46, p = .037 in the second semester. Only one category of the variable MAJOR had a positive, statistically significant relationship with High GPA in the second semester, compared to the reference group. The odds ratios indicated students enrolled in Non-STEM were almost three times more likely to achieve High GPA in the second semester than OTHER STEM students, controlling for all else. The 95% confidence interval demonstrated the association between majoring in a Non-STEM field and High GPA in the second semester, holding all else constant. If I were to conduct this analysis on multiple samples from the same population, 95 out of 100 times the population odds would fall within the range of 1.32 and 6.76.

Research Question 2 Summary:

Research Question 2 sought to understand the relationship between a student's path to enrollment at MSU (PATH) and obtaining a 3.0 or higher GPA (HIGH GPA) in the first two semesters of academic coursework. In addition, Research Question 2 considered the relationship between PATH and the confounding influence of a student's selected major field of study (MAJOR) on HIGH GPA. The results from the statistical analyses indicated that between students in the SOME group and the reference group, DIRECT there was decrease in the odds of earning a HIGH GPA in the second semester. The relationship and statistically significance held when MAJOR was added to Model C1. When holding all else constant, in the second semester Non-STEM majors had higher odds of earning High GPA than the reference group OTHER STEM. However, these two variables together, PATH and MAJOR, explained 5% in first and 7% in second semesters of the variance in GPA. More analyses are needed to determine the other 93% of variance. Research Question 3 addressed the relationship background culture had with GPA in the first year of study at MSU.

Research Question 3: What is the relationship between a student's background culture and first-year academic performance?

Research Question 3 Rationale:

The final area of investigation addressed by my study was the relationship between international students' academic performance and their background culture. As noted earlier, students from societies with different cultural backgrounds respond differently when exposed to the U.S. American academic culture (Hofstede, 1986) and

arrive with differing sets of academic strengths and experiences. In Research Question 3, I explored the relationship between achieving a 3.0 or higher GPA (High GPA) in the first and second semesters at MSU with cultural background. I operationalized culture for statistical purposes two ways, by country of passport (PASSPORT) and by country scores on Four Dimensions of Cultural Distance (PDI, IDV, MAS, UAI) (Hofstede, 2001; Hofstede Insights, 2020). I fitted separate bivariate logistic regression models for each of these two measures of background culture (PASSPORT and 4D) with GPA in Models E, F, G, and H. I introduced into the analyses for country (PASSPORT) the influence of the student's path to MSU enrollment (PATH) and the student's major field of study (MAJOR). I provided in the next section a description of the dummy variable PASSPORT.

Research Question 3 Results:

Model E1 Results: Table 27 displayed the results for Model E1. The variable PASSPORT included six countries, China, India, South Korea, Kuwait, Nigeria, and Saudi Arabia, plus a seventh category OTHER. I concluded from the Chi-squared equation $\chi^2(6, N = 362) = 23.694,\ p = .0006$ that the model provided evidence that the distributions in the model indicated a relationship between the categorical variables. Therefore, I rejected the null hypothesis that the model was no better than chance at predicting first semester GPA. Model E1 explained 9% of the variance in GPA. Four countries, China, India, Kuwait, and Saudi Arabia, when compared to students in OTHER category, had statistically significant relationships with High GPA. Students

from these countries were less likely to achieve a High GPA in the first semester than students in the reference group, OTHER, holding all else constant. Students from Kuwait were the least likely to achieve a 3.0 or higher GPA in the first semester (OR = 0.20), followed by students from Saudi Arabia (OR = 0.31). Students in the group OTHER were 80% to 69% more likely to earn High GPA in the first semester than students from Kuwait or Saudi Arabia respectively.

Model E2 Results: When the variables PATH and MAJOR were added to the model, the Chi-squared equation $\chi^2(14, N = 362) = 36.755,\ p = .0008$ indicated the null hypothesis could be rejected. While the Chi-squared statistic would indicate a better model fit for Model E2 than E1, according to the AIC statistics, Model E1 was a slightly better fit for the data than Model E2. See Table 27. Model E2 explained 13% of the variance in GPA. As in Model E1, the four countries, China, India, Kuwait, and Saudi Arabia, had moderate, statistically significant relationships with High GPA, compared to students in the OTHER group when controlling for the path the student took to enter MSU (PATH) and the student's major field of study (MAJOR). Students from countries included in the group OTHER were more likely to have High GPA in the first semester in a pairwise comparison with China, India, Kuwait, and Saudi Arabia. Students from Kuwait were the least likely to have academic success in the first semester compared to OTHER (82% more likely), holding all else constant. Students who majored in Chemical Engineering had a positive relationship with High GPA when compared to students in the group OTHER STEM when all else was held constant.

Table 27 Research Question 3: Logistic Regression Model E, Country on GPA First Semester

Semester 1		Model E1				Model E2			
N = 362		OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
TOP6	China	0.381	0.342	0.193–0.741	.005	0.358	0.388	0.166–0.764	.008
	India	0.406	0.527	0.144–0.168	.087	0.409	0.538	0.142–1.200	.097
	Korea	0.758	0.727	0.194–0.716	.703	0.575	0.761	0.137–0 .970	.468
	Kuwait	0.200	0.505	0.071–0.528	.001	0.178	0.520	0.062–0 .483	.001
	Nigeria	0.758	0.727	0.194–0.716	.703	0.602	0.754	0.145–0 .073	.501
	Saudi Arabia	0.306	0.286	0.173–0.532	.000	0.274	0.328	0.142–0 .517	.000
PATH	SOME					0.890	0.370	0.429–0 .840	.752
	GRAD					1.604	0.301	0.891–0.912	.117
MAJOR	Chemical					2.509	0.442	1.082–0.186	.037
	Civil					0.803	0.462	0.322–0 .995	.635
	Electrical					0.743	0.393	0.343–0.609	.456
	Mechanical					1.221	0.404	0.557–0.733	.622
	Non-STEM					1.672	0.457	0.700–0.264	.260
	Pre-Business					1.049	0.327	0.553–0.000	.887
Pseudo R^2	Nagelkerke	0.085				0.130			
Chisq		23.694			0.001	36.755			.001
Deviance		468.81				455.75			
AIC		482.81				485.75			
df		6				14			

Note. Country level OTHER, PATH level DIRECT, and Major level OTHER STEM were the reference variables in the models. OTHER = Countries not in the top 6 countries by enrollment data; SOME = ACE/MSU did not graduate from ACE/MSU; GRAD = ACE/MSU graduates; DIRECT = directly admitted to MSU without ACE/MSU; MAJOR = 4 engineering majors, pre-business major, all other students divided into OTHER STEM (excluding Pre-Business also) and Non-STEM; Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.

Model F1 Results: I next considered the relationship between country (PASSPORT) and High GPA in the second semester of international student academic studies at MSU by fitting the Model F1. Table 28 summarized the results from the statistical analyses. The Chi-squared equation for Model F1, $\chi^2(6, N = 332) = 20.22,\ p = .003$, was statistically significant. Thus, there was evidence that the distributions in Model F1 indicated a relationship between the categorical variables. Therefore, I rejected the null hypothesis. The model explained 8% of the variance in GPA. In the second semester, being from China (OR = 0.51), Kuwait (OR = 0.23), or Saudi Arabia (OR = 0.32), compared to students in the group OTHER countries, had a moderate, statistically significant relationship with High GPA. The relationships were less than 1; therefore, for example, students from Kuwait were 77% less likely to have a High GPA in the second semester than students from OTHER countries. Similarly, China, and Saudi Arabia were less likely to earn High GPA than those from countries in the group OTHER.

Table 28 Research Question3: Logistic Regression Model F, Country on GPA Second Semester

Semester 2		Model F1				Model F2				Model F2b			
N = 332	Variable	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
TOP6	China	0.513	0.343	0.261–1.004	.052	0.531	0.395	0.244–1.153	.109	0.526	0.390	0.244–1.131	.099
	India	0.505	0.599	0.154–1.690	.254	0.535	0.608	0.160–1.820	.303	0.492	0.603	0.149–1.661	.240
	Korea	1.010	0.725	0.260–4.937	.989	0.832	0.762	0.198–4.305	.810	0.770	0.759	0.184–3.960	.730
	Kuwait	0.233	0.519	0.080-0.629	.005	0.244	0.528	0.082–0.670	.008	0.248	0.524	0.085–0.678	.008
	Nigeria	0.541	0.707	0.134–2.321	.385	0.555	0.736	0.129–2.504	.424	0.676	0.716	0.134–2.952	.584
	Saudi Arabia	0.326	0.285	0.185–0.566	.000	0.350	0.330	0.182–0.664	.001	0.345	0.320	0.183–0.642	.000
PATH	SOME	NA				0.534	0.491	0.237–1.163	.120	0.503	0.397	0.226–1.080	.083
	GRAD	NA				1.353	0.336	0.738–2.491	.329	1.313	0.307	0.719–2.406	.375
MAJOR	Chemical	NA				1.416	0.403	0.623–3.278	.409	NA			
	Civil	NA				0.856	0.309	0.329–2.199	.756	NA			
	Electrical	NA				0.763	0.421	0.339–1.696	.508	NA			
	Mechanical	NA				0.836	0.481	0.364–1.919	.672	NA			
	Non-STEM	NA				2.643	0.409	1.052–7.359	.048	NA			
	Pre-Business	NA				1.079	0.422	0.558–2.091	.821	NA			
MAJORb	STEM	NA				NA				1.483	0.267	0.881–2.515	.140
Pseudo R^2	(Nagelkerke)	.078				0.126				0.102			
Chisq		20.22			.003	33.326			.003	26.432			.002
Deviance		442.32				429.21				432.36			
AIC		456.32				459.21				452.36			
Df		6				14				9			

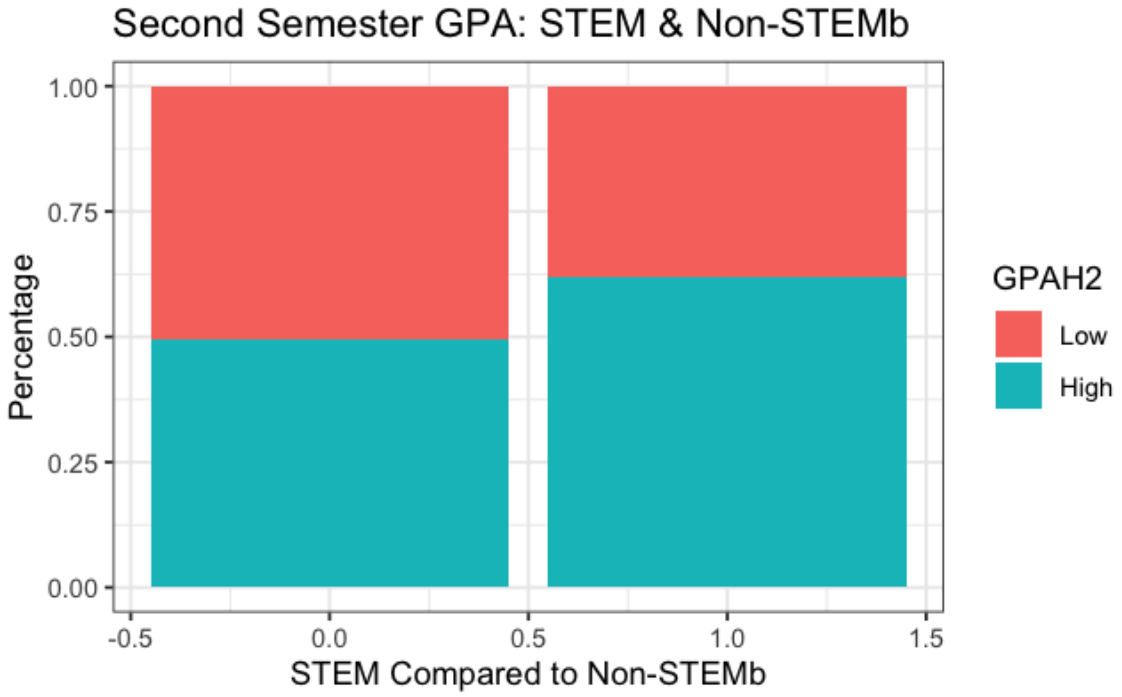
Note. Country level OTHER, PATH level DIRECT, Major level OTHER STEM and Dichotomous STEM level Non-STEMb were the reference variables in the models. SOME = ACE/MSU did not graduate from ACE/MSU; GRAD = ACE/MSU graduates; DIRECT = directly admitted to MSU without ACE/MSU; MAJOR = 4 engineering majors, Pre-Business major, all other students divided into STEM or Non-STEM. Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.

Model F2 Results: To Model F1, I added the categorical variables PATH and MAJOR, as shown in Table 28. For Model F2, the Chi-squared equation was statistically significant $\chi^2(14, N = 332) = 33.33,\ p = .003,$ and, therefore, I rejected the null hypothesis. Although the Chi-squared statistics (33 > 20) would suggest Model F2 was a better fit for the data, according to the AIC statistics, Model F1 was a slightly better fit for the data than Model F2 (456 < 459). The model explained 13% of the variance for GPA in the second semester. The PATH variable did not provide any statistically significant relationships. In the second semester, being from China (OR = 0.51), Kuwait (OR = 0.23), or Saudi Arabia (OR = 0.32) had a strong, statistically significant relationship with High GPA. In the first semester, being a Chemical Engineering major had a positive, statistically significant relationship with High GPA, compared to OTHER STEM, holding all else constant. In the second semester, being a Non-STEM major (OR = 2.64) (excluding Pre-Business majors) had a positive statistically significant relationship with High GPA, compared to OTHER STEM, holding all else constant. On the other hand, students from China (OR = 0.53), Kuwait (OR = 0.24), and Saudi Arabia (OR = 0.35) had moderate, negative statistically significant relationships with High GPA in the second semester, holding all else constant.

Model F2b Results: Model F2 was not a better fit than Model F1. To try to obtain a better model fit, I regrouped the 52 majors into a new dichotomous variable MAJORb, STEM (230) and Non-STEMb (102). Figure 17 illustrated the bivariate relationship between High GPA and STEM and Non-STEM. However, the difference was not

statistically significant. In Model F2b, I included the categorical variables PATH and MAJORb, as shown in Table 28. For this model, the Chi-squared equation was statistically significant $\chi^2(9, N = 332) = 26.43,\ p = .002,$ and, therefore, I rejected the null hypothesis. Comparing the three models, Model F2 had the highest Chi-squared statistic, and, therefore, could be considered the best model fit for the data. However, according to the AIC statistics, Model F2b was the best fit for the data. The Model F2b explained 10% of the variance for GPA in the second semester. The PATH variable SOME was statistically significant p = .083; however, the CI included the value 1. Due to the standard error, the direction of the relationship or difference in odds ratio (from greater the odds to lesser odds) across the sampling distribution was highly variable and unstable for this dummy variable. In Model F2b, being from Kuwait (OR = 0.25), or Saudi Arabia (OR = 0.35) had a strong, statistically significant relationship with High GPA. Students from these two countries had a 75% and 65% chance of not achieving High GPA in the second semester, compared to students from the group OTHER. In Model F2b, MAJORb was not statistically significant.

Figure 17 STEM and Non-STEM on GPA: Second Semester



In summary, Table 27 and Table 28 displayed the results from the statistical analyses for models considering the relationship between GPA and country (PASSPORT). The findings indicated that students from some countries were less likely to achieve High GPA in either the first or second semesters, holding all else constant. Students from China, India, Kuwait, and Saudi Arabia had a disadvantage for academic studies at MSU compared to their peers from OTHER countries, holding constant all else.

Hofstede's Cultural Distance Model Applied:

In order for my readers to understand the meaning of the results from the next set of analyses, I reviewed briefly, some key facts. The construct "background culture" was measured by four separate dimensions (Hofstede, 2001): Power Distance Index,

Individualism vs Collectivism, Uncertainty Avoidance, and Masculine vs Feminine. In my final set of statistical analyses for Research Question 3, the Four Dimensions of Cultural Distance scores (4D) (Hofstede, 2001b; Hofstede Insights, 2020) for each country represented in the dataset were considered (see Table 22 Research Question 2: Measures of Central Tendency of Scores on Hofstede's Five Dimensions in Chapter 3). Scores represented a position on a bi-directional measure for each dimension. The scores on the Power Distance Index (PDI) compared societies on the dimension of acceptance of inequality in the society. Higher scores represented societies with higher tolerance of inequality; lower scores represented societies with less tolerance of inequality. The Individualism (IDV) vs Collectivism dimension compared societies' value of the individual, higher scores, versus the value of the group, lower scores. On the dimension of Masculinity (MAS), higher scores represented societies that value assertiveness, ambition, and competitiveness; lower scores represented societies that value non-materialistic qualities of life, such as family. The Uncertainty Avoidance Index (UAI) compared societies that avoided uncertainty, higher scores, with societies that were comfortable with uncertainty, lower scores. One score was not better than another score; the scores were merely indicators of a societal norm. Table 29 provided a quick comparison among the U.S.A., China and Saudi Arabia on the four dimensions.

Table 29 PDI, IDV, UAI, MAS Scores: Saudi Arabia, China and the U.S.A.

Dimension	Saudi Arabia	China	USA
PDI	95	80	40
IDV	25	20	91
UAI	80	30	46
MAS	60	66	62

Model G and Model H Results: Table 30 presented the statistical results for Model G, first semester, and Model H, second semester. The results illustrated the relationship between GPA and the 4D (PDI, IDV, UAI, MAS) for both semesters. Model G demonstrated a statistically significant better fit for the data than no model at predicting High GPA $\chi^2(4, N = 358) = 8.91,\ p = .06$. The model explained 3% of the variance in GPA. The variable PDI had a weak (OR = 0.98) but statistically significant (p = .009) relationship with first semester GPA, holding all else constant. The 95% confidence interval demonstrated a strong association between being from a society that tolerated a high degree of inequality between the powerful in society and the less powerful and failing to earn a High GPA, holding all else constant. If I were to conduct this analysis on multiple samples from the same population, the population odds would fall between the very small range of 0.955 and 0.993. The smaller the range, the more confident I could be that the OR was representative of the population. As the PDI score became higher, the odds of earning a 3.0 or higher GPA decreased (see also Table 29). Table 30 presented the results for Model H, second semester. Model H was a statistically

Table 30 Research Question 3: Logistic Regression Models G and H, Cultural Distance Dimensions on GPA First and Second Semesters

		Model G N = 358				Model H N = 332			
		OR	SE	95% CI	*p*	OR	SE	95% CI	*p*
Cultural Dimensions	PDI	0.975	0.009	0.955–0.993	.009	0.978	0.010	0.959–0.996	.022
	IDV	0.989	0.012	0.966–1.011	.329	0.980	0.012	0.956–1.003	.091
	UAI	1.002	0.005	0.992–1.013	.683	0.997	0.006	0.986–1.008	.559
	MAS	0.999	0.009	0.982–1.016	.892	0.992	0.008	0.976–1.008	.316
Pseudo R^2 Nagelkerke	0.033					0.036			
Chisq	8.909				.063	9.191			.057
Deviance	478.59					449.60			
DF	4					4			

Note. PATH level DIRECT and Major level OTHER STEM were the reference variables in the models. SOME = ACE/MSU did not graduate from ACE/MSU; GRAD = ACE/MSU graduates; DIRECT = directly admitted to MSU without ACE/MSU; MAJOR = 4 engineering majors, Pre-Business major, all other students divided into STEM or Non-STEM. Chisq = Chi-squared; Deviance = residual deviance; AIC = Akaike information criterion; DF = degrees of freedom; OR = odds ratio; SE = standard error; CI = confidence interval; *p* = calculated probability computed using a two-tailed probability test.

significant model for the data $\chi^2(4, N = 332) = 89.19,\ p = .06$; therefore, I rejected the null hypothesis. There was evidence that the distributions in Model H indicated a relationship between the variables. Model H explained 4% of the variance in GPA. Although the estimate for PDI was highly precise, the variable Power Distance Index (PDI) had a weak (OR = 0.98), statistically significant (*p* = .022) relationship with second semester GPA, holding all else constant. The variable Individualism vs Collectivism (IDV) had a weak (OR = 0.98), statistically significant (*p* = .091) relationship with second semester GPA, holding all else constant. However, the CI included 1.0, which

indicated some portion of samples from this population would result in an odds ratio equal to even odds.

Model G and Model H Summary: The results from the binary logistical regression analyses for first and second semester found only one statistically significant relationship between a measure of cultural distance (4D) and achieving a High GPA. A higher the score on the Power Distance Index (PDI) was associated with lower odds of achieving a High GPA, for both the first and second semester.

Research Question 3 Summary of Findings:

Background culture was found to have some statistically significant relationships to GPA in the first and second semesters of study at MSU for international students in the study sample. When the student's passport country was investigated, I found that four countries, China, India, Kuwait, and Saudi Arabia, had a strong statistically significant relationship with High GPA, compared to the group OTHER, holding all else constant (see Table 27 for the details). All four relationships had OR of less than 1; therefore, students from these four countries were less likely to achieve High GPA in the first semester than the comparison group. Including the PATH and MAJOR dummy variables together in the model did not improve model fit. Only one major field of study had a modest, positive, statistically significant relationship to High GPA in each semester, Compared to OTHER STEM majors in the first semester, Chemical Engineering (OR = 2.51) had a modest, positive, statistically significant relationship to High GPA. In the second semester, Non-STEM majors (OR = 2.64), compared to OTHER STEM majors,

had a modest, positive, statistically significant relationship to High GPA. Both of these majors were two times more likely than OTHER STEM majors. Results for second semester logistic regression, Table 28 Research Question 3: Logistic Regression Model F, indicated that two countries, Kuwait and Saudi Arabia, had a statistically significant but conceptually negative relationship with High GPA, compared to the comparison group, holding all else constant. Students from these two countries were less likely to achieve High GPA in the second semester than the comparison group. Adding PATH and MAJOR to the model did not improve the model fit for second semester. According to these logistic regression models, students from these two countries were clearly less likely to achieve a High GPA than the comparison group, OTHER STEM, holding all else constant.

Another approach to answering Research Question 3 was to use the 4D model of Cultural Distance to measure background culture. The results illustrated in Table 30 Research Question 3: Logistic Regression Models G and H indicated that students from societies with a high tolerance for inequality (high PDI scores) were less likely to achieve High GPA in the first and second semesters of their first year at MSU, holding all else constant.

CONCLUSIONS

Restatement of Problem and Purpose:

Using binary logistic regression statistical analysis, I conducted a correlational study to determine the relationship between predictor variables and the outcome variable GPA. My quantitative, problem of practice study was conducted to inform constituencies at MSU about the problem of inadequately prepared international students. The initial purpose of the study was to examine the extent to which ACE/MSU was effective in preparing students linguistically and culturally for academic studies. The final purpose was to offer recommendations based on the results from my statistical analyses. My research addressed three research questions. In this chapter, I discuss the major findings, implications, limitations, and future research and outline my recommendations for institutional policy and program change related to each research question.

Interpretations of Findings:

Research Question 1

What is the relationship between studying in the ACE/MSU intensive English language program and first-year academic performance?

Major Findings: In Research Question 1, see Tables 23 and 24, when compared to other students who attended ACE/MSU but did not graduate from the program, graduates of the program were almost two times more likely to achieve a 3.0 or higher

GPA (High GPA) in the first academic semester at MSU. This advantage increased to 2.5 times in the second semester and to 3.3 times when other variables related to ACE/MSU experiences were added, holding all else constant. The strength and statistical significance did not change when the confounding variable of cohort was introduced to the model, holding all else constant. Another major finding indicated that students who never failed a class in the ACE/MSU program were almost four times more likely to earn High GPA in the first semester compared to those who failed one or more classes, holding all else constant. The advantage of passing all classes at ACE/MSU continued to the second semester. When the confounding variable, cohort, was fitted into the model, holding all else constant, the advantage of passing all classes remained at the same level of statistical significance and strength of relationship.

Implications: The construct of participation at ACE/MSU (ACE) was a dichotomous categorical variable with two groups: students who attended ACE/MSU (SOME) and students who attended and graduated (GRAD). SOME (46) and GRAD (89) composed a subsample (N = 135) of the study sample (403). The outcome variable was GPA for first (GPAH1) and second (GPAH2) semesters. GRAD students completed Level 6 of the program which was a semester in length and was the culmination of their studies. In this semester, students were enrolled in ACE/MSU and side-by-side in an academic freshman course as audit students. Together, the ACE/MSU instructor and Level 6 students attended the freshman course, studied, and prepared for and took exams. In addition, this last semester of study included courses in academic writing and research skills and advanced academic speaking and linguistic accuracy (see Table 13 ACE/MSU

Core Curriculum 2011 and Appendix A). ACE/MSU Language Institute Proficiency Scale and Interpretation.) Passing these three classes was the primary difference between SOME and GRAD in the study because many SOME students enrolled in but did not complete Level 6. My statistical results indicated that GRAD students were two to three times more likely to achieve a 3.0 or higher GPA than SOME students. My findings support previous studies by Fox (2004), Cheng and Fox (2008), James (2006), Dooey (2006), and Fox et al. (2014). Their studies reported that IEP students noted that the programs had benefited them in the areas of study skills, homework strategies, and an orientation to a new academic culture. Terraschke and Wahid (2011) conducted a longitudinal study and found similar reports from their IEP students. The students, in the Terraschke and Wahid study, suggested a few more skills learned: test preparation study skills, knowledge of how to improve their writing, and better reading speeds. South (1992) reported that IEP writing courses correlated to academic GPA in the first two years of university. I credit the curriculum of Level 6—academic writing, reading, speaking, and research skills combined with a side-by-by academic experience—with giving international students an advantage in the first year of academic studies over students who did not successfully complete Level 6 and graduate (see Appendix A). My study and others have found the benefit in completing the IEP program on academic writing style and enhanced GPA.

I noted one particularly interesting finding in the subsample model of the three types of experiences at ACE/MS which was the statistically significant relationship between never failing a class in ACE/MSU and academic GPA in the first year. I reached

out to current and former directors of ACE/MSU to ask what factors were at work in student failures during those years. They reported that failure of classes at ACE/MSU was largely due to a student's lack of adjustment to the U.S. American academic expectations (LeCain, Peters, Swift, and Ulrich, personal communication, February 17–23, 2021). Their responses were all in agreement, though gathered separately. Students who failed classes seldom failed due to lack of cognitive ability or an overactive social life. They failed because they did not complete homework, did not prepare for tests, did not recognize the advantages of learning at ACE/MSU. The IEP teachers suggested that these few students lacked the training in being independent learners. These students were more focused on retaking and retaking the TOEFL test in order to get into MSU. They lacked strong backgrounds in academic skills. In particular, a Saudi student reported having never read a book in his own language, let alone in English. In addition, Saudi students reported having little experience in essay writing and research writing in their home country. In essence, teachers felt these students' academic cultural backgrounds and failure to engage in the learning process at ACE/MSU resulted in failing classes.

Limitations, Future Research and Recommendations: A limitation in using the subsample was that it generated a small sample size and reduced the diversity of cultural and academic backgrounds. Most of the students in ACE/MSU were Saudi or Chinese, with very few from any other country. Another limitation for this set of analyses and all analyses in my study was the skewedness of GPA data. This skewedness required the creation of dummy variables High and Low GPA. Subsequently, my regression analysis was limited to the use of logistical regression. Future research using individual GPA

scores rather than a dummy variable for GPA would provide more robust correlational information. It would be useful for future planning to understand, for example, the range of GPA for ACE/MSU graduates. My data analysis revealed only that the scores were above 3.0 or below. Also, the INTERLINK, MSU curriculum should include a side-by-side or concurrent class for students in their final semester in the program. Further, students would benefit from understanding the statistical findings from this study regarding differences in levels of academic success—between failing and not failing and graduating and not graduating from the program. A positive approach to motivating students might be to place colorful, informative posters with visualizations of the statistical benefits of graduating on bulletin boards. The posters could declare that graduating is important.

Research Question 2:

What is the relationship between a student's path to MSU enrollment and first-year academic performance?

Major Findings: Only those models fitted for the data which included MAJOR were found to be statistically significant, $p < .10$. All second semester international students (374) in the study were included in the binary logistical regression analyses. MAJOR was added as a potentially confounding or mediating variable (see Tables 25 and 26). ACE/MSU graduates (GRAD) showed no statistically significant difference on achieving a High GPA, when compared to direct-entry students (DIRECT) who did not participated in the ACE/MSU program, holding all else constant. However, statistically

significant results indicated that there was 53% reduction in the odds of ACE/MSU non-graduates achieving High GPA in the second semester compared to direct-entry students (OR = 0.466), holding all else constant. In the second semester at MSU, students majoring in a non-STEM field (excluding Pre-Business) compared to students in the OTHER STEM group (Majors other than the chemical, civil, electrical or mechanical engineering), were 2.9 times more likely to achieve High GPA (OR = 2.88), holding all else constant.

Implications: Non-graduating ACE/MSU students were less likely to earn High GPA than direct-entry students in the second semester. This was a logical finding. Non-graduating ACE/MSU students tested into MSU with scores in the lower range or minimum level while direct-entry students' test scores ranged from minimum to near maximum. What was not logically expected was the slight increased likelihood of High GPA for ACE/MSU graduates over direct-entry students (see Figure 18). Therefore, n*o statistical significance* between GRAD and High GPA should not be interpreted as *no practical significance*. There was a slight difference between the percent of High GPA for students who graduate from ACE/MSU (~56%) and direct-entry students (~52%). Indeed, for there to be *no difference* of statistically significance in the second semester is highly significant for the several reasons. Claiming practical significance is consistent with the conclusions from past research such as conducted by Faulkner et al. (2017). Another reason that no statistically significant difference is important is because it indicates that on average, graduates from ACE/MSU do as well or better than direct-entry

students, who entered MSU with an iBT[48] score equal to or higher than 70, with respect to the percentage who earn a high GPA in their second semester. Because graduates of ACE/MSU were not required to take the TOEFL after graduating, the ACE/MSU program guaranteed the students and the MSU International Recruitment and Admissions Department that the students' English language proficiency was at a level acceptable for enrollment in academic studies. I include a visualization which demonstrates the relationships among the three PATHs (see Figure 18). Students who graduated from ACE/MSU were not required to take the iBT to gain full admission to MSU; therefore, the scores they might have achieved on iBT is unknowable.

The minimum required scores on tests accepted by MSU can be seen in Appendix B2 English Proficiency for MSU Undergraduate Applicants: Tests of English. International students who entered MSU via a test score did so with a range of scores. The data that I was able to acquire during data collection included 209 standardized test scores out of the 314[49] that would have been needed to include this variable in my statistical analysis. However, the data received did add to my understanding of the direct-entry and non-graduating ACE/MSU students. The 116 scores for iBT ranged from 70 to 118. For non-graduating ACE/MSU students, the range was 73 to 82. (The highest score possible on the iBT is 120.) The 17 scores on the Paper-Based TOEFL ranged from 513

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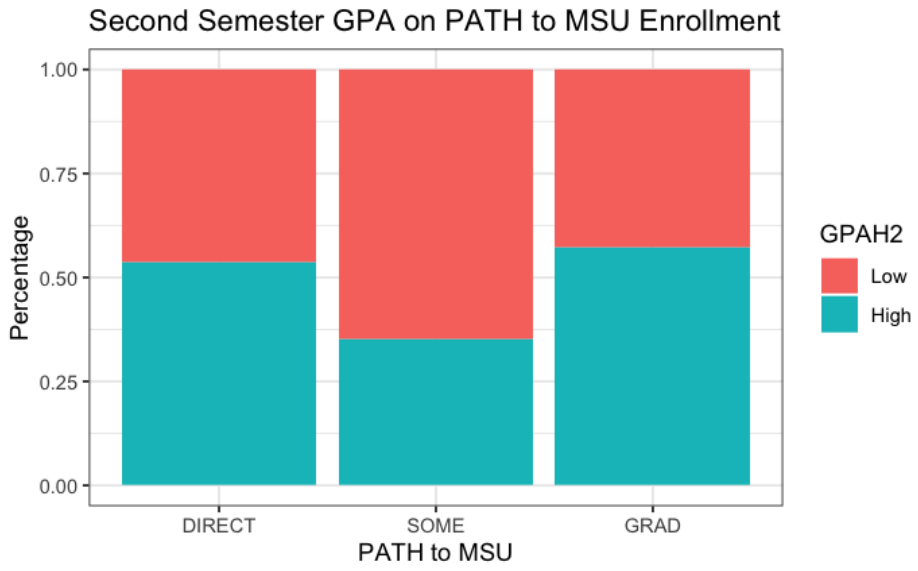
[48] Other tests may be used. For the purpose of simplification, I reference the test most commonly used.
[49] N = 403 – 89 (GRAD) = 314.

to 640. For non-graduating ACE/MSU students, the range was 523 to 583. (The highest score possible on the PBT is 677.) The 76 scores on the IELTS were 6 to 8. For non-

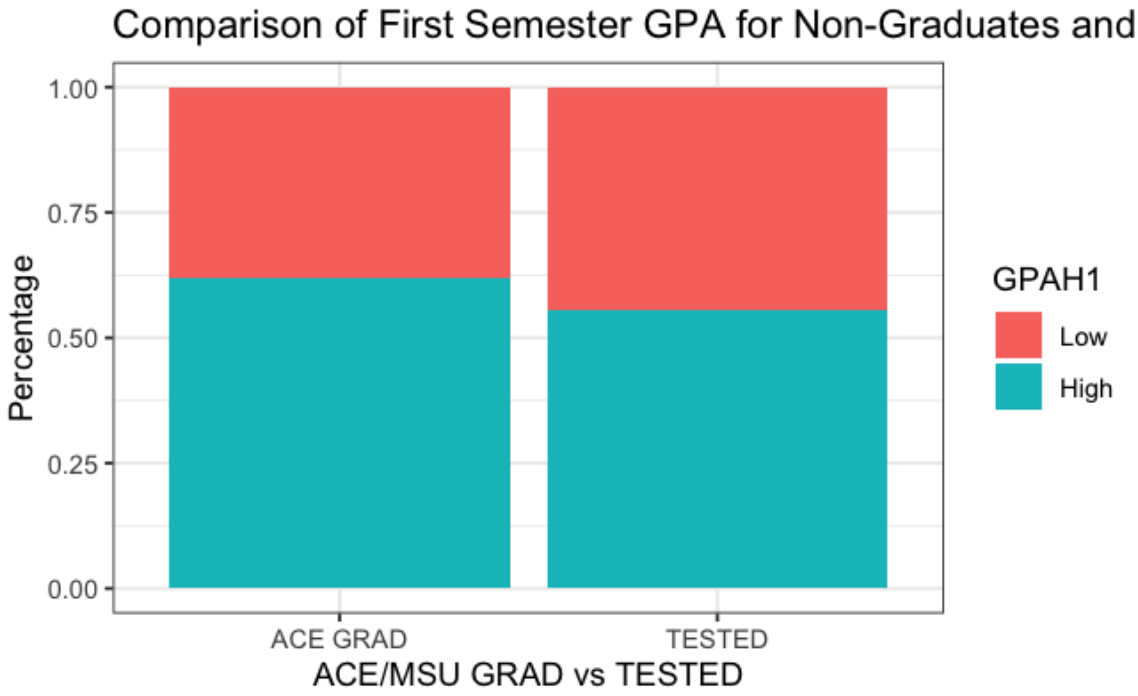
Figure 18 GPA on PATH to MSU Enrollment: Second Semester



graduating ACE/MSU students, the range was 6.0 to 6.5. (The highest score possible on the IELTS is 9.) These facts provide evidence that some direct-entry students had high scores on a standardized test at the time of their application to MSU. Therefore, it is clear; ACE/MSU graduates earned High GPAs at a rate similar to direct-entry students, some of whom had high scores on a language proficiency test. The preparation students received by completing the highest core program level and graduating from ACE/MSU was more than adequate preparation for success. For a further comparison, I combined all international students who did not graduate from ACE/MSU in one group to determine if the comparing graduates and non-graduates yielded statistically significant results. It did not. However, Figure 19 shows that graduates from ACE/MSU have a slightly higher,

though statistically insignificant, percent of students with High GPA compared to all students in the sample who did not graduate from ACE/MSU. Perhaps completing Level

Figure 19 Comparison of ACE/MSU Graduates and Direct-entry Students



6 and graduating from ACE/MSU adds a “secret sauce” that enables students to perform at an academic level as high as students with minimal or much higher test scores. In essence, the “secret sauce” is prepared with attention to second language acquisition theory and research (Fromkin et al., 2015; Krashen, 2003) and cultural factors (Hofstede, 1986; Kaplan, 1966, 1987). Studies by Cheng and Fox (2008), James (2006), Dooey (2010), and most recently Fox et al. (2014) uncovered some ingredients in that “secret sauce” to be improved academic vocabulary, homework and study strategies, exposure to

a new academic culture, and test preparation and test-taking skills. Future research could be done to confirm this interpretation.

Limitations, Future Research and Recommendations: As noted, a limitation of the study was the insufficient data provided on pre-entry English language proficiency test scores for all non-ACE/MSU graduates. Since graduation from ACE/MSU served as proof of language proficiency, graduates were not required to provide a standardized test score. Future research could use standardized test scores to select direct-entry students with scores in the same range as non-graduating ACE/MSU students for comparison on academic GPA. With only non-graduate and direct-entry students with similar English language proficiency in the analysis, it would be clearer what influence or relationship GPA had with participation in ACE/MSU. However, a full data base of test scores would be needed in order to conduct this research. I recommend that OIP review and create conformity in the coding and methods they use for submitting standardized test scores to the university data system, Banner. In addition, it might be important to inform the Office of Planning and Analysis of the coding system.

Another limitation to the type of analysis I could conduct was that ACE/MSU does not determine GPA for courses. The courses are either pass or fail. Thus, I could not compare ACE/MSU program GPA to academic GPA. South (1992) was able to compare IEP GPA with academic GPA. These factors limited my ability to have a finer-grained and nuanced data from which to detect relationships.

Future research could use a conditional effects analysis to determine the extent the relationship between PATH and GPA differs by MAJOR. More specific

recommendations could be made to departmental heads if correlation were found between a specific path to enrollment with a specific major and GPA. In addition, future research is needed to determine the long-term effects of PATH on GPA by extending the analysis to include data from the second year of academic study. In addition, OIP has the expectation that INTERLINK, MSU undergoes regular evaluation of the IEP program and remains accredited. It would be beneficial for OIP and INTERLINK, MSU to conduct a joint study to determine the academic performance of IEP students in academic course work. A joint study would be necessary since neither entity has access to both INTERLINK and MSU data.

All students face challenges when transitioning to college. Andrade and Evans (2009) note the importance of helping international student transition to university because the learning curve for them can be steep. Many universities, they suggest, use orientations to assist students in making the transition with the purpose of making it as "smooth and welcoming" (p. 104) as possible. Currently, OIP provides a one-hour, lecture-style orientation for new international students. ACE/MSU provides a 7.5-week orientation for all incoming students[50]. I recommend that the Office of International Programs (OIP) consider providing a more comprehensive and longer orientation for direct-entry students, particularly those with standardized test scores in the lower range since minimum required TOEFL scores have not been found to be predictive of academic performance (Cho & Bridgeman, 2012). The format of orientations across universities

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[50] See Methodology Chapter for more detailed comparison of the orientations.

may take a diversity of forms, according to Andrade and Evans. Wilson (2009) described an orientation program based on student needs and international student professionals at a land grant university. The orientation was three weeks long and included ongoing evaluations from students to inform changes and improvements. Housley (2009) described a three-day orientation which used peer volunteers. The orientation did not include orientation to academic English or U.S. American academic culture; however, Housley described the contents of the program and results from program evaluation. "Students who participate in orientation have a smoother transition to the start of their academic program" (p. 114). The five-week orientation described by Silver (2009) focused on three areas: academic issues, cultural issues, and immigration issues. Difficulties in one area were found to affect other areas. One orientation program used online courses. Rhodes, Cox, and Ebner (2009) described their program which acknowledge the challenges international students had in attending orientations, such as late arrival due to visa or travel complications. Students experienced jet lag, culture shock, and homesickness which interfered with their ability to benefit from an orientation. To address these issues, they developed online resources to help universities. The purpose of program was "to enable colleges and universities to have a positive impact on international students by better orienting and integrating them onto their campuses. . ." (p. 128). Pre-arrival and first semester curriculum were developed, and certificates were provided for completion. From this brief review of literature, two factors about orientation development standout. First, the program must be developed around student needs. Second, the effectiveness of the orientation needs to be regularly

evaluated. As Silver (2009) noted the challenges to creating an extended orientation—available resources, local- and state-level approval, staffing, funding, and facilities. “However, the economic and cultural benefits that international students bring to the campus and community support are more than a fair exchange for the challenges of program implementation” (p. 126). An advantage MSU has are the resources available through INTERLINK, MSU. The orientation could be taught by instructors from INTERLINK, MSU using curriculum comparable to ACE/MSU Level 6 (see Table 13 ACE/MSU Courses in Core Curriculum 2011).

My research findings indicated that passing the highest level of the ACE/MSU program (Level 6 University Practicum Course) added an extra benefit to GPA beyond enrolling in Level 6 but not passing. Admission policy regarding student placement should be reviewed to determine if there is a way to provide direct-entry students with low English proficiency with a similar experience. I recommend that the International Recruitment and Admissions Department of OIP together with INTERLINK, MSU consider developing more nuanced placement options. Other universities have a variety of pathway programs that are well defined and might serve as guides for policy decisions. Boise State University (BSU) (2021), for example, has three entry levels based on the student’s standardized test score. The top two levels of IEPATH combine IEP classes with credit-bearing academic courses. The student can earn up to 31 credits and is a considered full-time, degree-seeking student. Thus, while in the higher levels of the BSU IEPATH program the student is earning academic credit toward their major and making the transition to college in small increments. Earning credits and having access to the

same university services as all students are important policy decisions to be considered because both are strong attractants for potential international students. Combining IEP studies with academic courses, in my opinion, provides a strong but gradual transition to college for international students. The efficacy of a pathway program such as BSU's combination allows the institution to admit students with lower test scores because full support is provided for those students. This recommendation agrees with the recommendation made by Faulkner et al. (2017); a strong, effective IEP suggests that students accepted from a lower range of test scores will be able to succeed at the university. Individual academic departments can incentivize participation in IEP as did the engineering department in the Storch and Tapper (2009) study. Engineering students were admitted with lower English proficiency scores, provided they participated in the institutional IEP. One final policy recommendation, as suggested by Clark et al. (2021), is to dedicate resources for tracking international students as they move from the INTERLINK, MSU program to academic studies.

Research Question 3:

What is the relationship between a student's background culture and first-year academic performance?

Major Findings: Analyses to address Research Question 3 indicated several relationships between country of passport and GPA (see Tables 27 and 28). In the first semester, there was an 80% reduction in the odds (OR = 0.20) of achieving High GPA for Kuwaiti students compared to students from countries in the OTHER group (Countries

other than China, India, Korea, Nigeria, and Saudi Arabia), holding all else constant. When the categorical variables MAJOR and PATH were fitted to the model, the odds of achieving a High GPA for Kuwaiti students dropped to 82% (OR = 0.18) compared to students in the group Other, holding all else constant. In the second semester, there was a 77% reduction in the odds (OR = 0.23) of Kuwaiti students earing a High GPA compared to students in the Other group, holding all else constant, a 76% reduction (OR = 0.24) confounding for PATH and MAJOR, and a 75% reduction (OR = 0.25) confounding for PATH and STEM in the odds of Kuwaiti students achieving High GPA when compared to Other students, holding all else constant.

In the first semester, the odds (OR = 0.31) of Saudi students earning a 3.0 or higher GPA was 69% lower than students in the OTHER Group (Countries other than China, India, Korea, Nigeria, and Kuwait). When the categorical variables MAJOR and PATH were fitted to the model, the odds (OR = 0.27) of Saudi students achieving High GPA were reduced by 73% when compared to students in the Other group, holding all else constant. In the second semester, there was a 67% reduction in the odds (OR = 0.33) of Saudi students earning a High GPA compared to students from countries in the Other group, holding all else constant, there was a 65% decrease (OR = 0.35) confounding for PATH and MAJOR, and there was 65% decrease (OR = 0.35) confounding for PATH and STEM in the odds of Saudi students achieving High GPA when compared to Other Students, holding all else constant.

In the first semester, Chinese students' odds (OR = 0.38) of earning a High GPA were reduced by 62%, holding all else constant, compared to students from countries in

the Other group (Countries other than Kuwait, India, Korea, Nigeria, and Saudi Arabia). When the categorical variables MAJOR and PATH were fitted to the model, the odds (OR = 0.36) for Chinese students were reduced by 64%, compared to students in the group Other, holding all else constant.

In the first semester, Indian students at MSU had 59% reduction in the odds (OR = 0.41) of achieving a High GPA, holding all else constant, compared to students from countries in the Other group (Countries other than China, Kuwait, Korea, Nigeria, and Saudi Arabia). In the second semester, students majoring in Non-STEM (excluding Pre-Business) were 1.7 times more likely to earn a High GPA (OR = 1.67) than students in Other STEM majors (excluding chemical, civil, electrical, and mechanical engineering), holding all else constant.

Results from Research Question 2 indicated that for second semester there was a statistically significant relationship between ACE/MSU students who did not graduate (SOME) compared to direct-entry students (DIRECT) and High GPA when major was added to the model, holding all else constant. However, when accounting for a student's country of passport (PASSPORT) in Research Question 3, the association between SOME and DIRECT and High GPA was reduced to non-significance. The change reflects the effect of the confounding variable, PASSPORT. The variable PASSPORT introduces to the model elements of cultural background which relate to both the PATH variable and the GPA variable. Students from Saudi Arabia and China are more likely to participate in (SOME) or graduate from (GRAD) ACE/MSU. Likewise, students from

Kuwait and Saudi Arabia tend to on average have lower GPA than students from other countries.

In my final set of models for Research Question 3, I found relationships between GPA and culture using country scores on the Four Dimensions of Cultural Distance (4D) (Hofstede, 2001; Hofstede Insights, 2020). I fitted models to consider the relationship between four continuous variables PDI, IDV, UAI, and MAS[51] and academic performance (GPAH1 and GPAH2). The results from statistical analyses indicated a weak statistically significant relationship between students from societies with high PDI scores (Power Distance Index) and High GPA, holding all else constant, in the first and second semesters at MSU. The higher the score on PDI, the less likely the student was to earn a high GPA. Because IDV had a 95% CI which included 1, I did not consider the statistically significant relationship in the second semester to be trustworthy.

Implications: Figure 20 illustrates the relationship between PDI score and achieving a High GPA for first two semesters at MSU. The relationships between first and second semester average High GPA and PDI score (OR = 0.98/0.99, GPAH1/GPAH2) are linear in a negative direction. The blue lines indicate the means; the faded blue areas represent the amount of variation from the mean in the sample. What the effect plots illustrate was that for every 1-unit increase in PDI score the odds of earning a High GPA decreases .98/.99 unit, first and second semester respectively. There appears to

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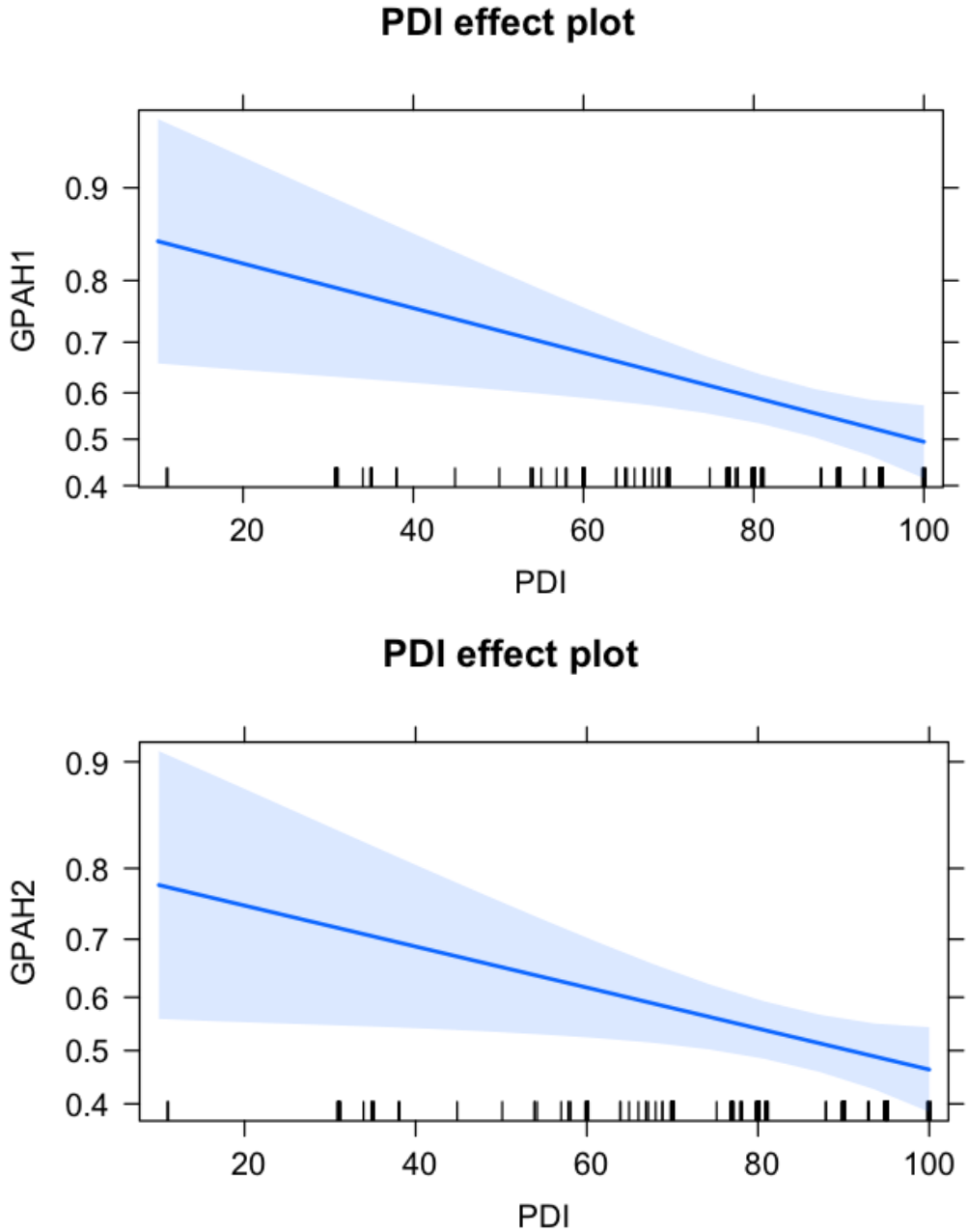
[51] Power Distance Index, Individualism versus Collectivism, Uncertainty Avoidance Index, and Masculine versus Feminine

be a wide variation among the students from countries with low PDI scores; however, PDI scores between about 70 to 100 PDI seem to gather close to the mean. Therefore, I can say with certainty (p = .002/.026) that the percent of students with High GPA, who

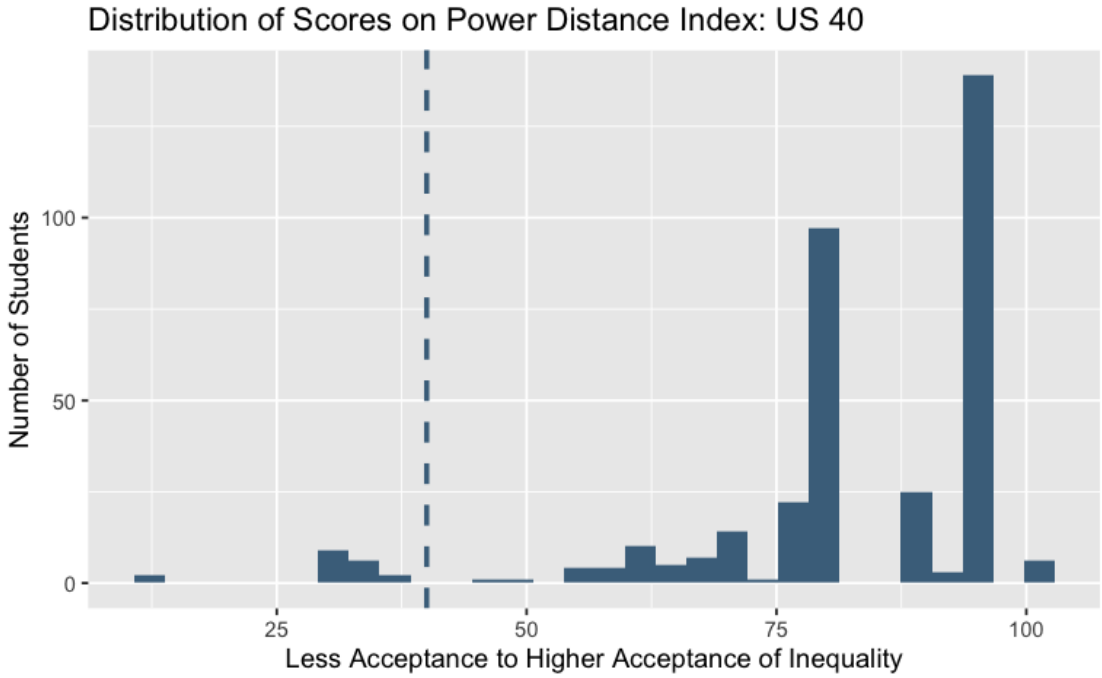
Figure 20 Effect Plots for Power Distance Scores on GPA: First and Second Semesters



come from societies with high PDI scores, is lower than for students from societies with low PDI scores.

Itaya et al. (2008) also found PDI correlated negatively to a few of the courses in her study. Figure 21 provides a clear visualization of the distance between the USA on this dimension and societies represented in this study. I review briefly what PDI scores indicate. Hofstede's Power Distance Index (2001) represents the scores of countries on a continuum from low to high acceptance of power distance between segments of society. In the US (40 PDI), people, on average, are generally less accepting of inequality. However, citizens from countries in my study such as Malaysia (100 PDI), Guatemala

Figure 21 Distribution of Scores for PDI



(95 PDI), Saudi Arabia (95 PDI), Qatar, the Russian Federation, and Kuwait (90 PDI) are comfortable with inequality (see Table 5 PDI: Differences in Teacher/Student and Student/Student Interactions). The table compares the characteristics of societies with high power distance scores to those with low power distance scores. In the classroom, acceptance of inequality would be evidenced by the student's expectation of the relationship between the teacher (more powerful) and the student (less powerful) to be distant. Domestic students expect to be treated as near equals with the instructor. U.S. American students might expect to co-create the learning and be involved in a shared critical thinking. Students from high power distance societies would expect classes at MSU to be teacher-centered: the teacher directs student learning and the student never contradicts the teacher or speaks in class unless specifically requested by the teacher. This expectation is in contrast to U.S. American students who have expectations of being autonomous, self-directed learners who are praised for challenging the instructor.

Limitations, Future Research, and Recommendations: Disaggregating the data by countries, rather than using country dummy variables, might provide better clarity of the relationship. Future research could be conducted to determine what major field of study students from China, Kuwait and Saudi Arabia, on average, selected. A longitudinal study of the academic performance of students from various countries in particular majors would provide more specific information to guide academic support services. A longitudinal study would show if the academic performance in a given major remains the same, improves, and declines in subsequent years of study. Future research could determine graduation rates for students from high PDI societies correlated to major field

of study. Additionally, further analysis using structural equation modeling (SEM) would help to quantify the influence of key predictor variables for background culture—MAJOR, PATH, country and 4 Dimensions—in the study. This kind of research is important to do. At the institutional level, regular academic program assessment and evaluation could include the academic performance of international students. From the institutional continuous improvement cycle, data can identify trends and patterns among the international student population. Clark et al. (2021) encouraged institutions to see that there is equity in analysis to ensure there is equity in opportunity for international student academic success.

It seems obvious from the results of my statistical analyses combined with theory and research (Hofstede, 2001) that students from countries with high PDI scores are at risk of less than the best academic performance at MSU. I conclude that Kuwaiti and Saudi students need academic support in the first year of academic studies at MSU. I refer to these two groups specifically because they represent a significant percent of the international students in the study. The pathways program and orientation recommended earlier would benefit students from both Saudi Arabia and Kuwait.

Overall, increasing or commencing communication between INTERLINK, MSU staff, OIP staff, and MSU instructional staff regarding the academic progress of international students is imperative. Mamiseishvili (2012) and J. Lee (2008), Hanassab (2002) have recommended that numerous entities across campus need to work together to provide international students with the support they need. Valley Peters, current Online Program Director for INTERLINK at MSU, reported strong interdepartmental

cooperation. However, she felt the need for communication between departments to be expanded to include matters related to students after they transition into MSU. "I feel that it would be quite beneficial to have some follow up on students who attended INTERLINK classes. How are they doing? Are there any academic issues coming up?" (Personal communication, April 1, 2021). In fact, the current INTERLINK, MSU Online Program Director was invited to provide a class for Kuwaiti students who were struggling because of low English skills. Unfortunately, according to Valley Peters, the class was not continued. I would encourage the INTERLINK, MSU director, to recognize their potential role in promoting issues throughout campus related to international students (Clark et al., 2021; Kimoto, 2009).

Librarians are another resource for assisting departments in helping struggling students in understanding and skills in summarizing, paraphrasing and crediting sources (Crist & Popa, 2020; J. A. Martin et al., 2012). Librarians can be used to reinforce research and writing skills including summarizing, paraphrasing, citing, and references sources. However, the librarians would need to be linked to composition instructors and other components of academic support for international students in order to be updated on the background and academic culture of the students.

Significance:

To previous research (Bridgeman et al., 2016; Clark et al., 2021; Gaffas, 2019; Itaya et al., 2008; R. C. Johnson & Tweedie, 2017; Neumann et al., 2019; South, 1992; Stoynoff, 1990), my study adds to the understanding of single-institution research on the impact of intensive English programs on academic performance. My literature review,

research methods and statistical analyses are generalizable to other universities of similar size and international student populations with a contracted IEP. It is important, within the context of each university setting, to determine the effectiveness of the IEP and provide feedback to the program as well as admissions (Faulkner et al., 2017). As Bridgeman et.al (2016) contended, the results from institutional correlational studies were not be generalizable between departments or between institutions because of the characteristics of the study sample. My findings align with previous research and as such are at least transferable. Furthermore, I suggest that collectively, single-institution studies provide insight into a variety of populations, settings, program types, program purposes, and results. As a unit, the cumulation of approaches, methods, and variables create a theoretic basis for future single-institution research studies and the need for them. Single-institution studies provide a sound basis for problem of practice research. The results from problem of practice, single-institution studies can inform institutional policies and practices and, thus, increase the level of excellence in education (Astin & Antonio, 2012). Of value to the field of English language education would be a meta-analysis of all current and past studies which address the relationship between completion of IEP and academic GPA.

My findings cohere to other studies relating to English language preparation and cultural challenges for international students from Muslim-majority countries (Duignan, 2012; Faulkner et al., 2017; Fox et al., 2014; Gaffas, 2019; R. C. Johnson & Tweedie, 2017; Neumann et al., 2019). Recognizing the similarities in Muslim-majority societies as suggested by Al Saqer (2019) and Perez-Huertas and Barquin-Rotchford (2020), may

prove helpful to institutions. While the country of origin may change over time from Saudi Arabia to Kuwait to Turkey, but the inherent academic challenges may remain the same.

Internationalization and Institutional Change:

Before I conclude my dissertation, I wish to address the broader topic of which international students are a critical component, internationalization. International students have represented between three and five percent of the MSU student body. What is important to consider is that, while they represent a relatively small percentage of the students at MSU, this student group provides opportunities otherwise unavailable for faculty and students who do not travel internationally. First of all, the presence on campus of international students provides the opportunity for exposure to other languages and cultures and is a benefit to our students, faculty and institution (Di Maria, 2015). In a state with international diversity limited to proximity with major universities, this student population is a literal gold mine of cultural information. Secondly, encounters with international students create opportunities to develop intercultural communication skills, which in turn help to promote a better world—a more peaceful world. Furthermore, intercultural communication skills are essential for students entering the global marketplace. A third opportunity presented by the international student population at MSU is the opportunity for future international collaborations, both academically and personally. It is clear that domestic students, teachers, staff and administration benefit when they take advantage of every opportunity to engage with our international students.

All segments of the MSU campus will benefit from a thriving, growing international student population.

> Comprehensive internationalization attempts to create a mutually-reinforcing cycle of related international activities. For example, international research activities on the part of the faculty result in infusing the curriculum with international content as faculty apply their research to their classrooms. Exposing students to international content in the classroom, in turn, increases the interests of students to engage in study abroad as well as internships, group service projects and other overseas activities. Having more students and faculty abroad results in increased interest on the part of international students to come to the campus on exchange. Expanding international student enrollments increases the contact of U.S. students with other cultures, and this, in turn, promotes interest in going abroad. This interest motivates the faculty to take student groups abroad. These activities motivate academic colleges and departments to establish international certificate programs and international options within their majors, etc. Thus, if properly aligned, all the elements of the international activity should be mutually reinforcing. (MSU Internationalization Committee, 2013, pp. 3-4)

However, Knight and de Wit (2018) warn that such comprehensive internationalization of campus does not just happen; it must be intentional. De Wit, Hunter, Egron-Polak, and Howard (2015, as cited in de Wit, 2020) refined Knight's (2004) definition of internationalization as follows:

> The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff and to make a meaningful contribution to society. (p. iii)

The Center for Internationalization and Global Engagement (CIGE) (2012) included the recruiting and supporting of international students as one the key areas for campus comprehensive internationalization with regard to initiatives, policies, and programs (p. 4). Other areas key to internationalization are the curriculum and the faculty according to

CIGE. Internationalization of the curriculum can take many forms including the following: required courses that focus on global trends and issues, foreign language requirement for graduation, and specific global student learning outcomes. Policies which lead to faculty engagement in internationalization included professional development workshops that focus on skills and information for internationalizing the curriculum, opportunities for improvement of foreign language proficiency, and training on creating opportunities for interactions between domestic students and international students (CIGE, 2012). Shapiro et al. (2014) further suggest that Professional Development and Training programs and services ought to include cross-cultural communication skills and suggestions for teaching international students. Experiential trainings, such as the simulation "ACIREMA" used by former Associate Provost for International Programs Dr. Di Maria (Personal communication, 2016), contribute to building awareness among faculty and staff of issues faced by international students when they arrive on campus.

MSU has a strong history of international engagement as listed in the 2013 "Recommendations for an Internationalization Action Plan." (MSU Internationalization Committee, 2013). The list included the following:

- MSU President Waded Cruzado has been appointed by President Obama to serve on the Board of International Food and Agricultural Development
- The Association of Public and Land-grant Universities has established the Michael P. Malone International Leadership Awards in honor of the international leadership of the late MSU President Mike Malone
- The Institute of International Education awarded MSU the Andrew Heiskell Award for Campus Internationalization for its work in developing the innovative U.S. Arabic Distance Learning Network. (p. 3)

According to Rasmussen and Gonzalez (2018), a part of the MSU Strategic Plan was "MSU graduates will have global and multicultural understanding and experiences" (Slide 1). In a small way, my doctoral educational research project will contribute to the ongoing list of internationalization efforts at Montana State University. In keeping with the purpose of my study, I hope the information, data, and statistical results from my study will provide an encouragement and foundation for ongoing assessment of the programs and services for international students and further the development of coordination between INTERLINK, MSU and OIP. I further hope that my recommendations for change in policies and programs will be seriously considered and many will be implemented.

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APPENDICES

APPENDIX A

A.C.E. MSU LANGUAGE INSTITUTE PROFICIENCY SCALE & INTERPRETATION

Literacy - Beginning Foundations

Students who exit the Beginning Foundations level understand the English alphabet and the sound the letters make. They are familiar with basic vocabulary, simple sentences, and basic punctuation and are competent in writing new words and simple sentences. They are able to write sentences associated with a topic although they may not form a structured paragraph. They are able to follow simple instructions and conversation but may rely on gestures, repetition, and illustration for meaning. They speak with limited words, phrases, and simple sentences; and they may revert to native tongue or gestures to communicate. Much listener effort is required.

High Beginning - Level 1

Students who exit Level 1 can read simplified English at a literal level effectively. They are competent in writing at the basic paragraph-level with effective topic sentence, support and concluding sentences. They can respond to simple instructions and questions and follow class conversation and simplified English. They are beginning to be able to open, carry on, and close a simple conversation. Pronunciation may be distracting, and much listener effort may be required to understand.

Low Intermediate - Level 2

Students who exit Level 2 can read well mostly at the literal level with some interpretive thought. They are developing competence in writing, but their writing may be flawed on the rhetorical and/or syntactic level. They are able to write linked paragraphs on a topic although may not form a well-organized and/or a short narrative essay. They can follow conversation and makes contributions to class discussion. They are developing competence in speaking and can complete 3 to 5 minute presentations. Pronunciation may be distracting but is generally intelligible and some listener effort is required.

Intermediate - Level 3

Students who exit Level 3 are competent in reading simple but authentic materials, such as juvenile literature and other short fiction or non-fiction texts. They have skill in several discussion strategies such as agreeing or disagreeing politely, asking for clarification, and expressing their own ideas and opinions. They have adequate communication with a medium-sized vocabulary. They can write basic 5-paragraph essays with a controlling idea. Pronunciation may be distracting but is generally intelligible and some listener effort is required.

High Intermediate - Level 4

Students who exit Level 4 are familiar with basic library resources and can do simple research. They have begun to interpret academic readings and have experience with summarizing, paraphrasing and quoting. They have adequate but minimal competence on both the rhetorical and syntactic levels with some errors that do not significantly obscure meaning. They can write a 5-paragraph essay using comparison/contrast rhetorical styles. They comprehend most spoken language, including authentic but simple recordings with some clarification. They can speak naturally, with practice on speech flow and rate. Pronunciation may be occasionally distracting but is generally intelligible and some listener effort required.

Advanced - Level 5

Students who complete Level 5 display strong competence in reading authentic English materials, including novels, sample research papers and other academic writing. They can use basic library resources. They have strong competence on both the rhetorical and syntactic levels; they may have errors that do not distract or confuse the reader. They can summarize, paraphrase, and quote academic sources satisfactorily. They can write effective argumentative and cause/effect essays. They can comprehend university lecture with some guidance and comprehend all classroom instruction and discussion. Communication is generally effective with some advanced vocabulary and few errors. Little listener effort is required.

Proficient - Level 6

Students who exit Level 6 have accomplished college-entrance-level competence in reading academic books, articles, essays at literal, interpretive, and applied levels. They can use library databases and catalogs comfortably. Their writing displays college-entrance-level competence on both the rhetorical and syntactic levels with rare errors. They can summarize, paraphrase, and quote academic sources effectively. They can write a research paper and essays of several rhetorical patterns effectively. They have college-entrance-level competence in comprehending university lectures and all classroom discussion. Communication is almost always effective, with sophisticated vocabulary, correct grammar and pronunciation. Almost no listener effort is required.

(A.C.E. Language Institute at Montana State University, 2011, pp. 87-88)

APPENDIX B

ENGLISH PROFIENCY FOR MSU UNDERGRADUATE APPLICANTS

APPENDIX B1
INTENSIVE ENGLISH PROGRAMS

Intensive English Program	Minimum Required Level
INTERLINK International Institutes of MSU*	Successful completion of level 5
BridgeEnglish Language Center	Successful completion of program level B2
ED Language Centres	Successful completion of Upper Intermediate Level
EF Education First International Language Centers	Successful completion of program level C-1
ELS Language Centers	Successful completion of program level 112
Embassy English	Successful completion of program level 4
FLS International	Successful completion of program level 8
ILSC	Successful completion of University Pathway Program Advanced Level 2
Open Hearts Language Academy	Successful completion of Advanced 2 level of Elite level
PGIC	Successful completion of Advanced level
Spring International Language Center	Successful completion of level 6

Note: Taken from (Montana State University Office of International Programs, 2020b) "The Office of International Programs reserves the right to request students to submit additional proof of English proficiency even if they meet the above-listed requirements. Sub-scores for different sections within the examination are also considered in determining whether a student has a strong enough command of the English language in order to succeed at Montana State University."
* From 1994 – 2017, Associates in Cultural Exchange Intensive Language Program (A. C. E.), successful completion of Level 6.
** Indicates % of international students in the study admitted by this proficiency measure.

APPENDIX B2
TESTS OF ENGLISH

	Minimum Required Score
Internet-based TOEFL test (iBT)	71
Revised TOEFL Paper-delivered test	56
Paper-based TOEFL test (PBT)	525
IELTS	6.0
iTEP	3.7
PTE Academic	48
Duolingo	110
APIEL	3
English3	58
SAT – Writing/Language Score	25+
SAT – Evidence-based Reading/Writing	440
ACT – English score	20+
EIKEN	Pre-1

Note: Taken from (Montana State University Office of International Programs, 2020b). "The Office of International Programs reserves the right to request students to submit additional proof of English proficiency even if they meet the above-listed requirements. Sub-scores for different sections within the examination are also considered in determining whether a student has a strong enough command of the English language in order to succeed at Montana State University."
* Indicates % of international students in the study admitted or conditionally admitted by this proficiency measure.

APPENDIX C

RESEARCHER'S PROFESSIONAL TESOL EXPERIENCE

Type	Timeframe	Location	Description
Intensive English Programs (IEP)	1998–2001 (3 years)	Japan	Five-level English Program (FLEP) at Japan Christian Junior College
	2007–2012 (8 semesters)	Lithuania	LCC International University (LCC), Full-time faculty
Summer Language Institute (SLI)	2002–2005 (5 summers)	Montana (Russian)	Literacy Volunteers; Director of Family Literacy Intensive English in the Summer (FLIES)
	2011 (3 weeks)	Kazakhstan	Provided 4 hours of English lessons per day for ages 12–23, assisted with field trips, worked with the existing English language school.
	2011 (3 weeks)	Ukraine	Provided 4 hours of English lessons per day for ages 16–17, assisted with field trips,
	2013 & 2014 (2 weeks each)	Russia	Provided 4 hours of English lessons per day for ages 16–23
English Teacher Trainings	2012 & 2013 (6 weeks each)	U of M (S. Koreans)	Provided 4 hours of English methodology and language improvement per day for 20 teachers
	2013 to Present (5 days)	MSU (Okinawan)	Provided 3 hours of English methodology and language improvement per day for 2–6 teachers
	2013 to Present (3 weeks)	MSU TEA Fellows (30 countries)	Provided a total of 20 hours of English methodology and language improvement per day for 19 teachers
	2013 (3 weeks)	Libya	Provided 4 hours of English methodology and language improvement per day for 10 teachers, gave feedback on classroom observations.
	2019 (6 weeks)	Republic of Georgia	Provided 4 hours of English methodology and language improvement per day for 9 teachers, gave feedback on classroom observations.
Professional Development Seminars on Behalf of LCC 15–20 Total Seminars	2005–2011 (1–9 hours)	Lithuania, Poland & Ukraine	Traveled around the country with LCC's admissions team, gave short trainings in numerous high school settings.
	2011	Kazakhstan	Gave short trainings prior to SLI
	2013 & 2014	Russia	Gave short trainings prior to SLI 2013; invited speaker, 9-hour PDS for St. Petersburg English Teacher Association Conference 2014 (SPELTA)
	2014	Moldova	Traveled around the country with LCC's admissions team, gave short trainings in numerous high school settings.
	2014, 2015, 2018, 2019 (1–3 PDS per year)	Republic of Georgia	Traveled around the country with LCC's admissions team, gave short trainings in numerous high school settings.
	2018 & 2019	Armenia	Invited speaker for Armenian English Language Teacher Association (AELTA) 2018 & 2019
	2019 (4 seminars)	Mongolia (Buddhist)	3 3-hour seminars in high schools in Ulaanbaatar; 1 9-hour seminar in Baruun-Urt and visited 4 high schools to present the LCC option to over 200 students
English as a Foreign Language (EFL)	2005–2007 (3 semesters)	Lithuania	LCC; evening courses for high school students, adults, and company executives
	2015 & 2018 (6 weeks)	Republic of Georgia (Muslim)	Remote town in Adjara, lived in girls' dorm and taught English to Muslim high school students
	2019 (1 week)	Chinese	MSU University exchange with Agricultural Majors