


2013

The Perspectives of University Administrators Towards International Leadership, Study Abroad Programs, and Cooperative Agreements in Central American Public and Private Universities

Aurelio Curbelo
Iowa State University

Follow this and additional works at: <https://lib.dr.iastate.edu/etd>

 Part of the [Higher Education Administration Commons](#), [Higher Education and Teaching Commons](#), [Other Education Commons](#), and the [Other History Commons](#)

Recommended Citation

Curbelo, Aurelio, "The Perspectives of University Administrators Towards International Leadership, Study Abroad Programs, and Cooperative Agreements in Central American Public and Private Universities" (2013). *Graduate Theses and Dissertations*. 13219.
<https://lib.dr.iastate.edu/etd/13219>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

The perspectives of university administrators towards international leadership, study abroad programs, and cooperative agreements in Central American public and private universities

by

Aurelio Curbelo Ruiz

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

Program of Study Committee:
Larry Ebbers, Major Professor
Sharon Drake
Robert Martin
Mack Shelley
Clinton Stephens

Iowa State University

Ames, Iowa

2013

Copyright © Aurelio Curbelo Ruiz, 2013. All rights reserved.

TABLE OF CONTENTS

LIST OF FIGURES	vi
LIST OF TABLES	viii
ABSTRACT	x
CHAPTER 1. INTRODUCTION	1
Introduction	1
Statement of the Problem	2
Need for the Study	3
Purpose of the Study	4
Objectives of the Study	4
Research Questions	5
Significance of the Study	5
Delimitations	6
Definitions of Terms	7
Chapter Summary	11
CHAPTER 2. REVIEW OF THE LITERATURE	13
Introduction	13
Theoretical Framework	13
Basis for the Research	16
Global Higher Education Model	17
Central American Demographics	18
Population	19
Population Growth Rates	20
Median Age	21
Gross Domestic Product	22
Labor Force by Occupation	23
Unemployment Rates	25
Poverty Levels	26
Literacy Rates	27
School Enrollment	28
Higher Education System	30
General History and Influences	30
Pre-Columbian System of Education	32
Post-Classic Education Period	33
Post-Colonial Education Period	34
Role of Universities	36
Educational Expenditures and Investments	36
Public and Private Universities	38
Global Academic Policies	39
International Academic Programs	40

Student Exchange Programs	41
International Academic Strategies	42
Global Academic Providers	43
Global Trade of Educational Services	44
Study Abroad	46
U.S. Students Studying Abroad	46
U.S. Study Abroad Students by Field of Study	47
Enrollment of International Students at U.S. Institutions	48
Enrollment of Latin America Students at U.S. Institutions	48
Students from Central America at U.S. Institutions	49
Chapter Summary	50
CHAPTER 3. METHODOLOGY OF THE STUDY	53
Introduction	53
Methods and Procedures	54
Research Design	55
Setting	56
Targeted Population	56
Sample Population	57
Central American Universities	58
Universities Represented in this Study	59
Instrumentation	65
Survey	66
Survey Improvement	68
Variables	69
Data Collection	75
Data Analysis	76
Method of Analysis	77
Reliability of the Survey Instrument	78
Content Validity of the Instrument	79
Phases of the Study	79
Phase 1: Project Initiation	79
Phase 2: Project Planning	80
Phase 3: Data Collection	80
Phase 4: Data Analysis	81
Phase 5: Project Results and Presentation	81
Budget of the Study	81
Budgetary and Logistical Problems	82
Limitations of the Study	82
Ethical Considerations	83
Chapter Summary	84
CHAPTER 4. RESULTS AND DISCUSSION	85
Introduction	85
Response Rates, Gender, and Age	87

Response Rates	87
Gender	89
Age of Administrators	91
International Leadership	94
Previous Study Abroad Experiences	95
Study Abroad Travel Locations	96
Reasons for Studying Abroad	98
Academic Degrees Held by Administrators	100
Locations Where Graduate Degrees Were Earned	103
Academic Disciplines	105
Administration Experience	106
Language Abilities	109
Student Exchange Programs	113
Campus-Based Activities	114
Types of Student Exchange Programs	115
Locations of Student Exchange Programs	116
Leadership in Establishing Student Exchange Programs	118
Preferred Locations for Student Exchange Programs	119
Importance of Overseeing Student Exchange Programs	122
Importance of a Global Academic Plan	123
International Cooperative Agreements	125
Nature of Cooperative Agreements	126
Public International Cooperative Agreements	127
Leadership in Establishing Cooperative Agreements	129
Importance of Establishing Cooperative Agreements	131
Importance of Overseeing the Outcomes of Public Agreements	134
Chapter Summary	136
CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS	137
Introduction	137
Instructive Discoveries	138
Contribution to the Body of Knowledge	139
Conceptual Framework Effects	140
Future Expectations	141
Recommendations	142
Global Academic Policies	143
Diversity and Equity Policies	143
Mentorship Programs	144
Future Student Exchange Programs	144
Future International Cooperative Agreements	145
Student Exchange Programs Office	146
International Accreditation	147
Databases and Websites	148
Further Research	149
Implications for Higher Education Stakeholders	150

Chapter Summary	151
APPENDIX A. SURVEY INSTRUMENT—ENGLISH.....	154
APPENDIX B. SURVEY INSTRUMENT—SPANISH.....	160
APPENDIX C. IOWA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVAL	167
APPENDIX D. INFORMED CONSENT DOCUMENT—ENGLISH.....	169
APPENDIX E. INFORMED CONSENT DOCUMENT—SPANISH.....	170
APPENDIX F. FIRST SURVEY REMINDER LETTER—ENGLISH.....	171
APPENDIX G. FIRST SURVEY REMINDER LETTER—SPANISH	172
APPENDIX H. SECOND SURVEY REMINDER LETTER—ENGLISH.....	173
APPENDIX I. SECOND SURVEY REMINDER LETTER—SPANISH.....	174
APPENDIX J. THANK YOU LETTER—ENGLISH.....	175
APPENDIX K. THANK YOU LETTER—SPANISH.....	176
REFERENCES CITED.....	177
ACKNOWLEDGMENTS	190

LIST OF FIGURES

Figure 1. Theoretical model of internationalization in higher education.....	15
Figure 2. Global higher education model	18
Figure 3. Historical timeline of higher education in the Americas.....	35
Figure 4. Map of Central American universities	38
Figure 5. Ethnicities of U.S. students participating abroad	46
Figure 6. U.S. study abroad students by field of study.....	47
Figure 7. International students at U.S. institutions.....	48
Figure 8. Latin American students at U.S. institutions.....	49
Figure 9. Central American Students at U.S. academic institutions.....	50
Figure 10. Variable codification.....	71
Figure 11. Phases of the research process and study	80
Figure 12. Survey participants per country.....	88
Figure 13. Response counts from public and private administrators by country.....	89
Figure 14. Gender ratios for administrators at public and private universities.....	90
Figure 15. Gender comparison for administrators at public versus private institutions	90
Figure 16. Age of university administrators	92
Figure 17. Frequency counts of administrators' age.....	93
Figure 18. Previous study abroad participation by administrators	95
Figure 19. Frequency counts of administrators' study abroad experience	96
Figure 20. Locations traveled to by administrators	97
Figure 21. Reasons for studying abroad by university administrators in Central America.....	99
Figure 22. Academic degrees held by administrators in Central America	102

Figure 23. Locations where administrators received graduate degrees	104
Figure 24. Comparison of administrators' academic disciplines.....	106
Figure 25. Central American university administrators' professional experience by years. .	108
Figure 26. Language abilities of public administrators in Central America.....	110
Figure 27. Language abilities of private administrators in Central America.....	112
Figure 28. Study abroad programs at public and private universities in Central America....	116
Figure 29. Administrators' leadership in establishing student exchange programs	119
Figure 30. Preferred locations for student exchange programs	121
Figure 31. International cooperative agreements in public and private institutions.....	128
Figure 32. Cooperative agreements established by administrators in Central America	130

LIST OF TABLES

Table 1. Population and Population Growth Rate in Central American Countries.....	20
Table 2. Median Age in Central American Countries.....	21
Table 3. Gross Domestic Product (GDP) Rates in Central America.....	22
Table 4. Labor Force in Central America by Occupation	24
Table 5. Unemployment Rates in Central America by Country	25
Table 6. Poverty Levels in Central American Countries.....	26
Table 7. Literacy Rates in Central American Countries.....	27
Table 8. School Enrollment Rates (%) in Central American Countries.....	29
Table 9. Educational Expenditures in Central America	37
Table 10. Premier Organizations for Executive Administrators	57
Table 11. Research Sample Steps and Procedures	58
Table 12. Number of Universities per Country in Central America	59
Table 13. Academic Institutions in Belize	60
Table 14. Academic Institutions in Costa Rica	61
Table 15. Academic Institutions in El Salvador.....	62
Table 16. Academic Institutions in Guatemala	63
Table 17. Academic Institutions in Honduras	63
Table 18. Academic Institutions in Nicaragua	64
Table 19. Academic Institutions in Panama.....	65
Table 20. Survey Response Rate from University Administrators	77
Table 21. Research Study Budget	82
Table 22. Location of Student Exchange Programs	117
Table 23. Importance of Supervising, Evaluating, and Reporting Student Exchange Programs.....	123

Table 24. Administrator Preferences for a Global Vision, Mission, or Strategic Plan	124
Table 25. Importance of Cooperative Agreements.....	133
Table 26. Importance of Overseeing the Outcomes of International Agreements	135

ABSTRACT

As the world becomes globalized by the influence of science and technology, academic institutions in Central America must provide international academic and research opportunities that are conducive to multicultural learning for students, faculty, and staff. Public and private universities in Central America are attempting to increase awareness about their international leadership, study abroad programs, and cooperative agreements to compete in the global market of higher education. As a result, undergraduate students in the region are currently participating in global experiential learning programs under the guidance of faculty mentors. Students experience unique teaching methods, conduct scientific research projects, practice a different language, and enhance their understanding about other cultures.

The purpose of this research study was to develop a profile of university administrators in Central America based on professional and personal characteristics, perceptions, and experiences working with international programs. A second purpose was to describe the diversity of international leadership, study abroad programs, and cooperative agreements available for undergraduate students in Central American. Specifically, this research explores the academic background of university administrators and their leadership role establishing study abroad programs and cooperative agreements with academic institutions worldwide.

A descriptive electronic survey method was used in this research study to collect data from a group of executive university administrators working with international programs in Central America during 2011. The administrators could choose the English or Spanish language versions of the survey. From a total of 885 administrators contacted, 32% of the executive administrators completed and submitted the electronic survey. The study

comprised a group of university administrators working in the countries of Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama.

Results of this study indicate that executive administrators have graduate degrees, academic experience, and language abilities to establish exceptional study abroad programs and cooperative agreements with institutions worldwide. Based on the results of this study, the most common forms of study abroad programs established by administrators were designed to provide students with academic experiences, internship opportunities, research experiences, and foreign language skills. Furthermore, executive administrators helped in establishing international cooperative agreements to improve the quality of education in science and technology programs. They also signed unique agreements to provide undergraduate students with academic scholarships. Overall, the executive administrators emphasized their interest in establishing modern study abroad programs with universities in the United States and in expanding the number of cooperative agreements with European countries. This research study serves as a resource for universities worldwide because it provides information about the diversity of international academic initiatives and professional leadership available at Latin American universities.

CHAPTER 1. INTRODUCTION

Introduction

One of the major academic policies in Central American higher education has been the internationalization of higher education. Internationalization is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of university programs (Knight, 1994, 2004b; Knight & de Wit, 1995). International academic policies are strongly implemented by administrators of community colleges and universities to promote the exchange of students, research collaborations, and unique partnership ventures. International academic policies provide universities in Central America with the opportunity to thrive with a variety of global programs designed to prepare students with international academic experiences. These programs are formed through the establishment of unique cooperative agreements organized by individuals, private entities, and public agencies.

The effectiveness of cooperative agreements and global exchange programs depends on the leadership of university administrators with international experiences. Therefore, in Central America there is a need to provide original information about the international leadership of executive university administrators and their professional abilities to lead global exchange programs. Furthermore, to understand the process of internationalization in universities it is important to examine the types of global exchange programs that are available for undergraduate students. For that reason, it was crucial to describe the diversity of international cooperative agreements established by university administrators in Central America and describe the participation of students in global exchange programs.

Statement of the Problem

University administrators in Central America need modern peer-reviewed information about the abundance of international leadership, programs, and agreements available for undergraduate students. Furthermore, to prepare students with international skills, information about the global academic policies in public and private Central American institutions is necessary to establish future international cooperative agreements. Scholars have noted that global academic policies vary over time and are driven by economic, political, and social philosophies (de Wit, 2002; Knight, 1999c). During the 1990s, after the end of several war conflicts in Central America, an international consensus led to the establishment of new universities and global exchange programs. As a result, public and private universities need outstanding global education programs to reduce illiteracy, improve the welfare of people, and promote democratic practices (Birenbaum & Kornblum, 1999).

The rationale for global academic programs in Central America was grounded on democratic principles promoted by university leaders who perceived them as a contribution to the overall welfare of society. Consequently, exchange programs and cooperative agreements were preferred among university administrators because they conveyed democratic philosophies that improved the global experiences of students in Central America (Birenbaum & Kornblum, 1999). However, despite the increased emphasis to establish groundbreaking student exchange programs, little was known about the international leadership, programs, and agreements managed by executive administrators. This has led to further study of the professional characteristics of a sampled group of university administrators. Therefore, it was essential to study administrators in Central American

institutions to ascertain the presence of effective global policies, standards, and regulations in higher education (Schwartzman, 2002).

Need for the Study

Higher education policies in Central America fluctuate due to the institutional priorities of university administrators as well as the academic and cultural needs of their students. Therefore, it is crucial to study university administrators who are fully engaged in strengthening an array of global programs at their academic institutions (Schwartzman, 1993). In addition, university administrators who institute the necessary global programs must be studied to understand how to maximize the benefits of student exchange programs and minimize the unwanted consequences of a globalized economy (Fonthal, 2010).

Due to the current demand for economic development in Central America, there are great opportunities to establish exceptional global exchange academic programs and cooperative agreements with higher learning institutions worldwide. These global initiatives must support the social, economic, and academic development of people living in the region. Consequently, for this study several global initiatives were researched to promote unique academic policies and to produce accurate information about the administration of international programs in public and private universities.

Research is needed to evaluate the current academic policies that are impacting higher education in Central America (World Bank [WB], 2006). There also is a need to research the needs of university administrators working with international academic programs. Therefore, the researcher designed this study to explore the diversity of international programs and cooperative agreements in Central America. Clearly, the need for the study is imperative for

executive university administrators and faculty interested in understanding the outcomes of establishing modern international academic policies.

Purpose of the Study

The purpose of the study was to develop a profile of university administrators based on professional and personal characteristics, perceptions, and experiences working with international academic programs. The study sought to inform professionals working in higher education with a comprehensive description of the academic backgrounds, communication skills, and leadership capabilities of Central American university administrators as global leaders. The research study incorporated a descriptive bilingual electronic survey instrument to identify the abundance of global programs established by university administrators and examine their personal preferences toward the establishment of student exchange programs. Furthermore, to compare the professional characteristics of male and female administrators, this study provided a gender-based analysis about their global academic experiences in higher education. In the long run, this study is expected to serve as a background document in higher education to promote the establishment of student exchange programs and international cooperative agreements with Central American universities.

Objectives of the Study

The first objective of the study was to survey the educational backgrounds of university administrators to demonstrate their professional leadership and experience leading international programs. The second objective was to describe the diversity of student exchange programs designed to prepare students, faculty, and staff with global academic experiences. The third objective was to describe the types of international cooperative

agreements preferred by administrators in the region. The fourth objective was to recommend academic policies to increase the number of international programs and cooperative agreements. Finally, the fifth objective was to suggest global policies to describe the leadership skills of female and male university administrators in Central America.

Research Questions

The study incorporated the following research questions to develop a profile of the university administrators and understand their personal experiences internationalizing their universities:

1. What are the leadership characteristics of executive university administrators working with international programs?
2. What types of global study exchange programs are available for undergraduate students, faculty, and staff?
3. What are the international cooperative agreements that are preferred by university administrators to support the establishment of new global academic programs?

The population for the study included 285 university administrators possessing an array of professional academic experiences working with international programs. In order to answer these research questions, the study surveyed a diverse group composed of 113 female and 172 male administrators.

Significance of the Study

This study added original information to the literature about the professional characteristics of university administrators in Central America and their leadership in establishing international cooperative agreements to manage student exchange programs. It is a significant study about the status of global academic programs in Central American

countries after a historical series of social conflicts. Further, the opportunity to conduct a descriptive quantitative analysis of a group of executive administrators greatly contributes to academia by revealing the global perceptions and program preferences of university administrators working in Central America.

Given the high level of importance bestowed upon such a group of academic leaders, this study provides insights as to what university leaders believe is needed to advance the integration of international programs in higher education institutions. This study also discovered the different adaptations used by administrators to provide international academic programs in a region suffering from educational disparities and at a time when international programs are essential to public and private institutions.

The opportunity to study the global leadership skills of university administrators should encourage further discussions about the internationalization of higher education in Central America. This study also should encourage conversations among university administrators on how to serve the global academic, scientific, and research priorities of their students. In the long run, this study is opportune because it provides a survey research methodology to evaluate future administrators, global exchange programs, and cooperative agreements in South America, the Caribbean, and Europe.

Delimitations

In developing survey questions to explore international study abroad programs and cooperative agreements in Central American universities, a notable challenge was to account for the numerous ways that nonfaculty personnel across differing countries, academic institutions, and educational backgrounds might interpret and process those questions. The challenge was even more intense because international programs and agreements are

complex to understand due to the existence of several definitions and characteristics. Furthermore, international programs can vary depending on the cultural, economic, and social status of universities in Central America. Because these factors might influence the way nonfaculty personnel might interpret and respond to the questions, these differences can lead to missing information or errors in the survey data. As a result, the scope of this survey was strictly focused on executive administrators at public and private academic institutions in the countries of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

The survey delivery process was conducted from November 2011 until March 2012. The scope of the study was limited to a total of 885 higher-level executive administrators who were identified by the researcher to be working in 80 different Central American institutions. The variables of interest in this study were delimited to executive administrators in public and private institutions and to self-reported data including demographic information, international experiences, communication skills, educational levels, and professional perspectives. This information was selected in an effort to develop a modern profile of the international leadership, student exchange programs, and cooperative agreements available for undergraduate students pursuing academic degrees at Central American universities.

Definitions of Terms

Executive university administrators: A high-ranking administrator with the responsibility and authority to manage the affairs of a public or private university. Examples can be deans, provost, presidents, vice-presidents, and senior faculty members working at a higher education institution.

Internationalization of higher education: For many years, there have been discussions and debates about the several existing definitions in higher education surrounding the term “internationalization.” One of the most prolific and cited scholars in the field of internationalization is Jane Knight (1994, 1999a, 1999b, 1999c, 2002, 2003, 2004a, 2004b, 2005a, 2005b, 2006a, 2006b). According to Knight and de Witt (1995, 1997, 1999) internationalization at the institutional level of higher education is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of postsecondary education (Knight, 1999c). However, the use of the term “international education” or “internationalization of higher education” has been used by other scholars to describe such phenomena (Hawkins, Haro, Kazanjian, Merckx, & Wiley, 1998; Henson, Noel, Gillard-Byers, & Ingle, 1991; Holzner & Harmon, 1998; Siaya & Hayward, 2003). In addition, other terms, such as globalization, multicultural education, and ethnocentrism, have been used to demonstrate the impact of education at a global level (Knight, 2004a).

Due to the purpose of this study, the term “internationalization of higher education” as described by Knight (1994, 1999a, 1999b, 1999c, 2002, 2004b, 2006b) will be used to explore the integration of an intercultural or international dimension into the administrative, teaching, and research functions of institutions. According to Knight (2004b), the term “internationalization” is conceptualized under a framework that identifies rationales, stakeholders, and leadership approaches to disseminate an educational curriculum with a global understanding. Such a framework allows the researcher to explore internationalization from an array of contexts and interests used

by university presidents as part of the intercultural and globalized dimension of their higher learning institutions in Central American countries.

Tertiary education: Also referred to as third stage, third level, or postsecondary education, is the educational level following the completion of a school providing a secondary education, such as a high school, secondary school, or gymnasium (Task Force on Higher Education and Society [TFHES], 2000).

Poverty: According to the U.S. Central Intelligence Agency's ([CIA], 2010c) *World Fact Book*, the state of living on less than \$2 a day; representing a lack of opportunity and empowerment as well as a bad quality of life in general; or a situation in which a person or household lacks the resources necessary to be able to consume a certain minimum amount of items or goods, which might consist of either food, clothing, housing, and other essentials, or food alone (CIA, 2010c).

Literacy rate: The percentage of population age 15 years and over who can both read and write with understanding of a short simple statement (CIA, 2010c).

Higher education: All types of courses of study, or sets of courses of study, training or training for research, at the postsecondary level that are recognized by the relevant national authorities of a participating country as belonging to its higher education system of institutions (TFHES, 2000).

Higher learning institution: An establishment that grants postsecondary academic degrees in a variety of subjects where a set of higher learning is promoted as are opportunities for research and teaching (TFHES, 2000).

Central America: The isthmus joining North America and South America that extends from the southern border of Mexico to the northern border of Colombia. The Central

American region is composed of the following seven countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama (“Central American,” 2010).

Globalization: A complex series of economic, social, technological, cultural, and political changes seen as increasing integration and interaction between people and institutions in disparate locations. Higher education is one of the sectors highly impacted by globalization, and in that context, globalization is the process of increasing the flow of people, culture, ideas, values, knowledge, technology, and economy across borders. The result of globalization is a more connected and interdependent world that can have both positive and negative consequences according to the history, traditions, culture, priorities, and resources of a country (Knight, 2004a).

Multicultural: Refers to a society that recognizes values and promotes the contributions of the diverse cultural heritages and ancestries of its entire people (“Multicultural,” 2010).

Internationalization strategies: In the context of higher education, refers to campus-based activities and cross-border initiatives to facilitate and promote internationalization. Strategies include but are not limited to: (a) international cooperation and development projects, (b) institutional agreements and networks, (c) intercultural dimensions of teaching and learning processes, (d) curriculum and research, (e) campus-based extracurricular activities, (f) faculty exchange programs, (g) field work, (h) sabbaticals, (i) consulting work, (j) recruitment of international students, (k) student exchange programs, (l) joint or double degree programs, (m) twinning partnerships, and (n) branch campuses (Knight, 2004b).

Cross-border education: The movement of people, knowledge, programs, providers, and curriculum across national or regional jurisdiction borders; also a subset of internationalization of higher education that can be an element in the development of cooperation projects, academic exchange programs, and commercial initiatives (Knight, 2005a).

Trade of educational services: A cross-border education initiative that is commercial in nature and intended to be for profit in the majority of situations in higher education (Knight, 2006a).

Chapter Summary

Chapter 1 demonstrated the need to study the international leadership of university administrators in Central America to understand their preferences for unique global programs and agreements in a globalized society. It is clear that a study of this magnitude was needed to add to the body of knowledge and inform professionals about the global academic initiatives established by university presidents. Therefore, for this study, a quantitative descriptive analysis was proposed to explore some of the issues that university administrators experience when promoting the international programs at their respective institutions. The objectives of the study were adopted to explore the process of internationalization at Central American universities based on the perspectives of a group of executive administrators. Furthermore, the study provides descriptions of the plethora of experiential global programs in the region that enhance the education of students, faculty, and staff at an international level. In sum, the researcher encourages people to use this study as a stimulus to conduct further studies in regards to the condition of higher education in Central America.

In the second chapter of this dissertation the researcher offers a literature review about Central America as a geographical region. It provides an introduction of the history of higher education and a discussion of some of the socioacademic issues impacting global education. The information includes remarks about the history of public and private universities as well as facts about the need for global leadership, study abroad programs, and cooperative agreements. The second chapter provides an image of the history of higher education in Central America and presents a deeper demographic analysis of the population and their resources. Finally, the researcher describes the status of higher education and the abundance of global academic programs in the Central American region.

CHAPTER 2. REVIEW OF THE LITERATURE

Introduction

The participation of students traveling to Central American countries to study abroad has been on the rise and is expected to increase as the region becomes economically stable. There is a need to provide information to inform students and administrators about the global academic opportunities offered by Central American institutions. The delivery of an electronic bilingual questionnaire (Appendix A and B) in the study was the measurement tool utilized to develop information about global leadership, study abroad programs, and cooperative agreements. In sum, the electronic questionnaire contained questions to explore three main areas: (a) global leadership of university executive administrators, (b) student exchange programs, and (c) cooperative agreements available in Central American institutions.

Providing innovative information, the study's findings demonstrated the professional characteristics of executive administrators including their years of experience working in higher education, their perspectives toward global academic initiatives, and their needs for international partnerships. Furthermore, the line of inquiry allowed for the examination of the basic structure of international academic programs and cooperative agreements in Central America. The survey study offers a richer and deeper understanding of what programs were available for students.

Theoretical Framework

The abundance of international leadership, programs, and agreements in higher education is poorly documented in public and private Central American universities. The limited information focuses mainly in South American nations, such as Argentina, Brazil,

Chile, and Peru, but excludes many of the Central American countries. This situation is undesirable because in the 21st century it is crucial for university administrators to understand the effects of global student exchange programs and international cooperative agreements in the Central American region. However, it is well known that the establishment of global academic programs highly depends on the professional leadership of university administrators and their abilities to administer their institutions in accordance to the constant demands of a globalized society (Knight, 1999a).

For this study, a theoretical model for internationalization that has been widely used by economists to explain the involvement of for-profit academic businesses at an international level was adopted (Johanson & Vahlne, 1977, 1990, 2003). Basically, the theory validates the mechanisms that explain internationalization, which requires being knowledgeable and committed to working with foreign markets while promoting global activities, research, and branch operations (Johanson & Vahlne, 1977). The internationalization theory was modified to look at Central American universities as businesses responding to the inherited effects of a global economy. The researcher utilized the theory to identify the global economy as the main reason for academic institutions to adopt international recruitment strategies and retention efforts supported by fiscally granted partnerships.

Thus, the theoretical perspective of this study assumes that, if university administrators are influenced by a globalized economy to establish global programs and agreements, then internationalization in higher education is being attained. Using the framework for internationalization developed by Johanson and Vahlne (1977), the researcher modified their theoretical global business economic model to validate the outcomes of this

study. The researcher then created a unique model to infer about the process of internationalization in Central America based on the abundance of international leadership, programs, and agreements in public and private universities.

As shown in Figure 1, the international leadership skills of university administrators are necessary to establish an array of international cooperative agreements and exchange programs in Central America. For the study, it was theorized that if university presidents were experienced global leaders with a variety of academic and communication skills, then the number of programs and agreements at their respective institutions typically would be abundant. In addition, the international framework model was used in the study as a professional scope to study the perspectives of university administrators. Specifically, the model was used to explore the current status of the global academic programs and make interpretations about the internationalization of higher education in Central America.



Figure 1. Theoretical model of internationalization in higher education.

Basis for the Research

This study is of significance to the domain of international programs in higher education institutions as it extends the body of knowledge that currently exists in that field. The concepts of international leadership, programs, and agreements in Central America are necessary to prepare faculty, students, and staff with global professional skills. Therefore, this research explored the characteristics of global leadership, programs, and agreements in the region to increase awareness among professionals who are unaware of its potential applications and benefits for their educational institutions. To illustrate the potential of the global initiatives in Central American universities, public and private institutions promoting global initiatives were investigated. The findings have the capacity to improve the participation of students and promote the establishment of future cooperative agreements with universities worldwide.

The information in this study was needed to inform stakeholders in higher education and advise executive directors how to develop modern global exchange programs with Central American institutions. Furthermore, this project can be used as a template for future global initiatives with other South American, Caribbean, or European Spanish-speaking institutions of higher education. Clearly, this study was needed to identify the types of global programs and recognize the cooperative agreements that could benefit the needs of multicultural students in the region. Subsequently, the global leadership skills that administrators possess to produce fruitful partnerships can be used to further guide the interpretation of this study's data as well as the selection of future global initiatives for Central America. The next section provides information about the significance of this study and the plan for data collection.

Global Higher Education Model

For this study a global higher education model was engaged to understand the abundance of international leadership, programs, and agreements in Central American universities. The researcher created the global higher education model to describe the institutional characteristics needed to compete at an international level (see Figure 1). The first characteristics of this model include the adoption of a global academic vision to establish professional leadership, cooperative agreements, and student exchange programs. Having administrators with travel experiences, graduate degrees, academic experiences, communication skills, and global perspectives are necessary founding elements to prepare students with international academic experiences. Equally, the establishment of cooperative agreements are necessary to enhance the education of students in science or technology, to establish research or branch campuses, and to provide students with financial scholarships. Further, agreements are needed to obtain financial advice to enhance the economic condition of the institutions and participate in the global trade of academic services.

The third element of the model is the introduction of student exchange programs to promote the participation of students in foreign language programs and academic or research programs with the use of a multicultural curriculum of global activities. Finally, the foundation of the model relies on the underpinnings of global academic policies, international accreditation, diversity or equity practices, and professional development opportunities for faculty and staff. The researcher used the global higher education model to guide the study and produce the most accurate information from university administrators in Central America. The global education model used in this study with all the elements and characteristics is illustrated in Figure 2.

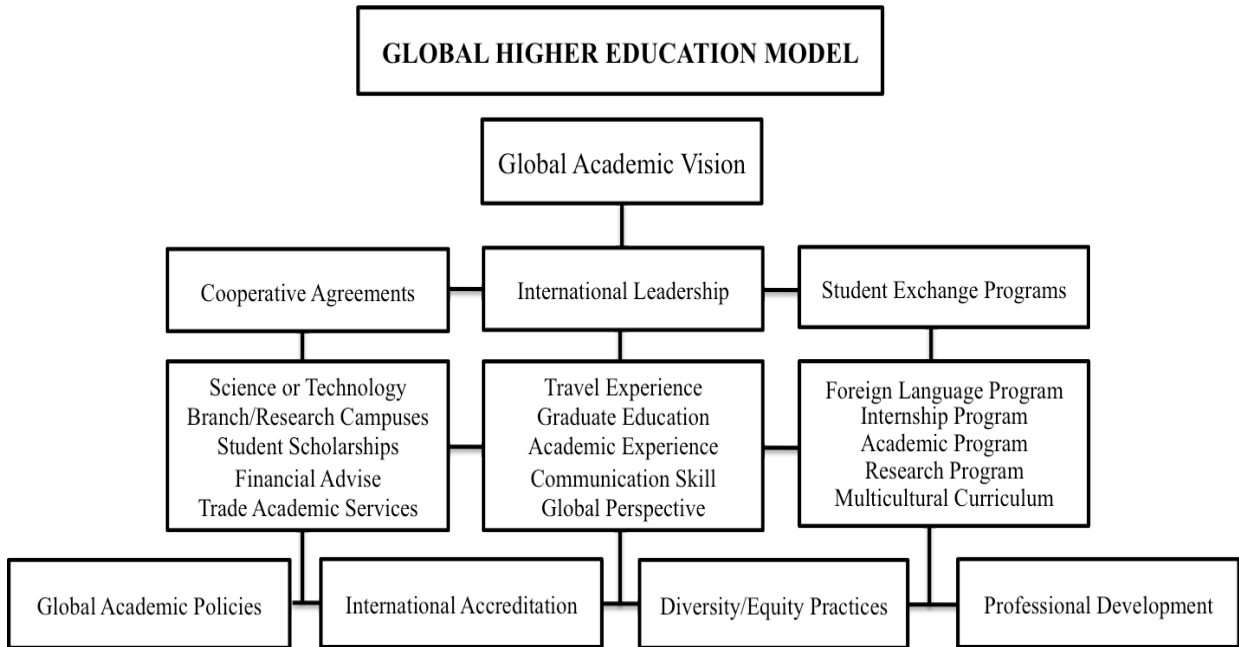


Figure 2. Global higher education model.

Central American Demographics

Central America is the southern isthmus of the North American continent that connects with South America. The region became independent from Spain in 1821 and was named the Federal Republic of Central America. Currently, the countries of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama comprise the major countries. The total area of these seven countries is 530,247 square kilometers with an extraordinary variety of geographical features and natural resources (Edelman, 1992).

According to the *Population Reference Bureau Database* (2012), the current population in the region is estimated at 44 million and is expected to increase to 67.8 million citizens by the year 2050. In the long run, the Central American region is destined to successfully thrive in the future with better technologies, science practices, and global academic institutions.

Central America was chosen as a region to study to inform professional university administrators worldwide about the global leadership and academic opportunities available in higher education and to explore the use of multicultural global programs for teaching, research, and extension purposes. This study provides exclusive information about the administrative practices used to integrate multicultural global programs in higher education. The study focused on Central America as a geographical region to present information about the global leadership and academic experiences of university administrators working with international programs. Another reason was to promote democratic practices in Central America through the exchange of students, faculty, and staff in higher education. The following information describes the socioeconomic status of people living in the region and the current system of higher education available for global academic partnerships.

Population

The countries of Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama comprise the geographical region called Central America. In 2010, the World Bank identified Guatemala as the Central American country with the largest population at 13,686,128 citizens (Table 1; WB, 2010d). Honduras was second most populous with a population of 7,318,789 people, third was El Salvador with 6,133,910 residents, and fourth was Nicaragua with a population of 5,667,325 individuals (WB, 2010c, 2010e, 2010f). The countries with the smallest populations were Costa Rica, Panama, and Belize. Costa Rica was the fifth most populous country with a total population of 4,519,126 citizens, and Panama followed in the sixth position with 3,398,823 Panamanians (WB, 2010b, 2010g).

Table 1

Population and Population Growth Rate in Central American Countries

Country	Population	Population growth rate (%)
Belize	322,100	2.1
Costa Rica	4,519,126	1.3
El Salvador	6,133,910	0.3
Guatemala	13,686,128	2.0
Honduras	7,318,789	1.9
Nicaragua	5,667,325	1.7
Panama	3,398,823	1.4

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Finally, Belize was the least populated country in the region with a population of 322,100 residents (WB, 2010a).

Population Growth Rates

Population growth rates are influenced by the average positive or negative annual percentage changes in the population. This is the result of a surplus or deficit of births over deaths and the balance between migrants entering or leaving a country (CIA, 2010c). The growth rate determines how great a burden would be imposed on an institution or country by the changing needs of its people regarding infrastructure, resources, and jobs. In addition, rapid population growth can be seen as threatening by neighboring countries (CIA, 2010c).

During 2010, the Central American country with the largest population growth rate of 2.1% was recorded in Belize (Table 1; CIA, 2010a). Guatemala followed with 2.0% and Honduras with 1.9% (CIA, 2010e, 2020f. Nicaragua's percentage growth rate was fourth at

1.7%, and Panama's was 1.4% (CIA, 2010g, 2010h). Costa Rica had a growth rate of 1.3%, trailed by El Salvador with a 0.3% growth rate (CIA, 2009b, 2010d).

Median Age

The median age divides a population into two numerically equal groups and serves as an indicator of the average workforce population that universities are preparing for their countries. That is, half the people are younger than this age and half are older (CIA, 2010c). The median age was used in this study as a single index to summarize the age distribution of a population in Central American countries. As shown in Table 2, the median age in Costa Rica was 28.4 years of age, followed by Panama with 27.2 years, El Salvador with 23.9 years, and Nicaragua with 23.4 years (CIA, 2010b, 2010d, 2010h). Finally, Belize and Honduras each had median ages of 21.3 years, and Guatemala had the lowest median age: 20.4 (CIA, 2010a, 2010e, 2010f).

Table 2

Median Age in Central American Countries

Country	Median age
Belize	21.3
Costa Rica	28.4
El Salvador	23.9
Guatemala	20.4
Honduras	21.3
Nicaragua	23.4
Panama	27.2

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Gross Domestic Product

The gross domestic product is the value of all final goods and services produced by a country in a given year. This is the measure used by economists to observe the per capita welfare of a country and compare the economic resources of nations (CIA, 2010c).

Generally, the gross domestic product growth rates were not positive for in this region. As shown in Table 3, only Panama had a positive rate of 2.4% on its gross domestic product (CIA, 2010h). The remaining countries demonstrated negative rates across the economic spectrum. Guatemala had a -0.5% rate, whereas Belize and Costa Rica experienced rates of -1.5% and -1.6% , respectively (CIA, 2010a, 2010b, 2010e). Among the most negatively economically affected countries were Nicaragua with a gross domestic product rate of -2.9% and Honduras and El Salvador with rates of -3.0% each (CIA, 2010d, 2010f, 2010g).

Table 3

Gross Domestic Product (GDP) Rates in Central America

Country	GDP (%)
Belize	-1.5
Costa Rica	-1.6
El Salvador	-3.0
Guatemala	-0.5
Honduras	-3.0
Nicaragua	-2.9
Panama	+2.4

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Labor Force by Occupation

Understanding the main occupations comprising the labor force is critical to developing a higher educational system that serves the economic needs of the region well. According to the U.S. Central Intelligence Agency *World Fact Book* (2010c), there are three main occupation categories used to measure the condition of employment in Central America: agriculture, industry, and services occupations. The highest percentage of people employed in agricultural occupations was recorded in Nicaragua and Belize, both with 29%, followed by El Salvador with 19% (CIA, 2010a, 2010d, 2010g). The remaining four countries had similar percentages of their work force working in the agriculture sector: Panama with 15%, Honduras and Costa Rica both with 14%, and Guatemala with 13.5% (CIA, 2010b, 2010e, 2010f, 2010h).

The industrial sector in Central America includes manufacturing, mining, and construction. The *World Fact Book* demonstrated that Honduras surpassed all countries in the region, providing industrial jobs to 28% of its labor force (CIA, 2010f). Guatemala did well with 25% of its population employed in manufacturing, mining, and construction occupations, followed closely by El Salvador, which employed 23%, and Costa Rica, which provided 22% of its jobs in the industrial area (CIA 2010b, 2010d, 2010e). Nicaragua had 19% of its labor force employed in the industrial area, in Panama the percentage of people working in industries was represented by 18%, and Belize provided industrial opportunities to employ 17% of its workforce (CIA, 2010a, 2010g, 2010h).

The last category of the labor force occupations in Central America was the services sector. Employment in this area includes, but is not limited, to transportation, communications, and utilities. It also comprises wholesale trade, retail trade, finance,

insurance, real estate, public administration, and others services areas (CIA, 2010c). The services sector proved to be the largest area of employment overall for the Central American region. As shown in Table 4, 67% of Panama's workforce was employed in the services sector, the most of any Central American country (CIA, 2010h). Costa Rica provided opportunities in the service sector to 64% of its citizens, similar to Guatemala, which benefited from 61% employment in the services industry (CIA, 2010b, 2010e). Both El Salvador and Honduras employed 58% of their workforce in the service sector (CIA, 2010d, 2020f). Finally, Belize provided opportunities for 54% of its population and the country of Nicaragua employed 52% of its people in that sector (CIA, 2010a, 2010g).

Table 4

Labor Force in Central America by Occupation

Country	Labor force %		
	Agriculture	Industry	Services
Belize	29	17	54
Costa Rica	14	22	64
El Salvador	19	23	58
Guatemala	13.5	25	61
Honduras	14	28	58
Nicaragua	29	19	52
Panama	15	18	67

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Unemployment Rates

As shown in Table 5, the level of unemployment in Central America was highest in the country of Belize with a rate of 13.1% (CIA, 2010a). El Salvador and Nicaragua had similar rates of 7% followed by Costa Rica with 6.5%; Honduras, Panama, and Guatemala all had unemployment rates below 5% (CIA, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

These unemployment rates demonstrate a need to diversify the occupations of the labor force as well as the need to globalize the economy in order to reduce the amount of unemployment. These rates are relevant information that can be used to develop unique academic programs according to the international needs to prepare a global workforce with professional skills and understanding about the world.

Table 5

Unemployment Rates in Central America by Country

Country	Unemployment rates (%)
Belize	13.1
Costa Rica	6.5
El Salvador	7
Guatemala	4.1
Honduras	4.8
Nicaragua	7.3
Panama	4.5

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Poverty Levels

Poverty level statistics are used by international organizations to monitor the development of the economy as well as its educational system (WB, 2006). The percentage of people living in poverty in Central America is shocking. As shown in Table 6, the country with the highest level of poverty was Honduras with 59% of its population living on less than \$2.00 a day (WB, 2010e). Guatemala had the second highest level of poverty with 56% of its population, and Nicaragua had the third highest level with 48% of its population lacking adequate opportunities (WB, 2010d, 2010f). Belize had 33.5% and El Salvador 31% of their citizens experiencing a generally poor quality of life, followed by Panama with 28.6% of its people lacking from basic resources (WB, 2010a, 2010c, 2010g). Costa Rica was the country with the lowest level of poverty with 16% of its people lacking living essentials (WB, 2010b).

Table 6
Poverty Levels in Central American Countries

Country	Poverty level (%)
Belize	33.5
Costa Rica	16.0
El Salvador	31.0
Guatemala	56.0
Honduras	59.0
Nicaragua	48.0
Panama	28.6

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

Literacy Rates

A definition provided by the U.S. CIA *World Fact Book* (2010c) describes the literacy rate as the percentage of people in a country with the ability to read and write a short or simple statement in his or her everyday life. On the contrary, people who can only read but not write, or can write but not read, are considered to be illiterate. Clearly, in order to understand higher education in Central America, one must have a mental picture of the levels of literacy in the region. Based on information from the World Bank (2010b) the country with the highest literacy rate in Central America was Costa Rica with 96% of its population knowing how to read and write (see Table 7). Panama followed in second place with a 93.5% rate, and El Salvador was third with only 84% of its population having that skill (WB, 2010c, 2010g). Following close behind were Honduras and Nicaragua with 83.6% of their citizens being literate (WB, 2010e, 2010f). In contrast, the countries with the lowest literacy rates in Central America were Guatemala with only 74% literacy and Belize, in last place

Table 7

Literacy Rates in Central American Countries

Country	Literacy rates (%)
Belize	70.0
Costa Rica	96.0
El Salvador	84.0
Guatemala	74.0
Honduras	83.6
Nicaragua	83.6
Panama	93.5

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

with the lowest literacy rate of 70% (WB, 2010a, 2010d). Clearly, the literature demonstrates that education in Central America continues to be a topic of discussion for professional researchers in public and private universities. The following sections will provide an insight into primary, secondary, and tertiary education enrollment to provide a picture of the current educational status in the region.

School Enrollment

Primary. As shown in Table 8, the highest rate of primary school enrollment of students living in Central American was recorded in Belize with a 120% of primary school-age children enrolled (WB, 2010a). Honduras and Nicaragua had similar rates around 116%, and El Salvador followed closely with a rate of 115% (WB, 2010c, 2010e, 2010f). The lowest rates were recorded in Guatemala with 113%, Panama with 111%, and Costa Rica with 109% (WB, 2010b, 2010d, 2010g). Clearly, the primary school enrollment rates rose above the traditional rates due to the efforts of international organizations' efforts to eradicate illiteracy in the region (Schwartzman, 1999).

Secondary. The enrollment of students at the secondary level was highest for the country of Costa Rica with a rate of almost 90% (WB, 2010b). Belize and Panama followed with 75% and 71%, respectively (WB, 2010a , 2010g). Nicaragua was recorded as having a 68% secondary school enrollment rate, whereas Honduras and El Salvador were near the 64% level (WB, 2010c, 2010e, 2010f). Guatemala had the lowest secondary enrollment in the region with 56% of its population in secondary education (WB, 2010d). See Table 8. The rates for secondary school enrollment indicate a rise in the retention of students in the school system and a profitable recruitment source for tertiary institutions. Moreover, if these rates continue rising, higher education in Central America will be flourishing with a talented

Table 8

School Enrollment Rates (%) in Central American Countries

Country	Primary	Secondary	Tertiary
Belize	120	75	11
Costa Rica	109	90	25
El Salvador	115	64	22
Guatemala	113	56	20
Honduras	116	64	20
Nicaragua	116	68	20
Panama	111	71	45

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

group of individuals ready to enter the global workforce with professional academic preparation.

Tertiary. Tertiary education in Central America normally requires the successful completion of education at the secondary level (Organization for Economic Cooperation and Development [OECD], 2005; WB, 2006). As shown in Table 8, the country with the largest gross enrollment in tertiary education was Panama with 45% of its population enrolled in postsecondary institutions (WB, 2010g). Costa Rica and El Salvador followed with 25 and 22%, respectively (WB, 2010b, 2010c). Honduras, Nicaragua, and Guatemala had similar enrollment rates near the 20% level (WB, 2010d, 2010e, 2010f). Belize had the lowest rate with only 11% of its citizens in tertiary education (WB, 2010a). This data reveals that there is great room to increase the levels of enrollment of college students in Central America. Further, it is important to elevate the levels of enrollment at the tertiary level in order to produce an educated workforce prepared with global skills.

Comparison of the enrollment rates. A comparison of the enrollment rates at the primary, secondary, and tertiary education levels in Central America is necessary to describe the existing differences among the educational levels. The rates of primary education demonstrated higher percentages above 100 throughout the region, whereas the rates of secondary enrollment demonstrated moderate discrepancies between 56% and 89% (WB, 2010a, 2010c, 2010d, 2010e, 2010f, 2010g). However, the largest discrepancies were recorded at the tertiary level, where countries had enrollment percentages ranging from 11% to 45% (WB, 2010a, 2010c, 2010d, 2010e, 2010f, 2010g). In sum, tertiary institutions demonstrated the lack of the necessary mechanisms to provide an equal level of education while the population at the secondary and primary levels is expected to continue growing in the years to come.

Higher Education System

General History and Influences

Universities in Central America were established by the Catholic Church to evangelize people through the study of art, theology, and law. The first institutions followed the Spanish model of the University of Alcala in Henares to promote the medieval ideologies of the Spanish conquest in the Americas. From the 16th to the 19th centuries, the Catholic Church managed the Autonomous University in Mexico City and the Autonomous University of Lima in Peru. During that time period, only a privileged group of men were the ones benefiting from education and the only individuals who traveled abroad sharing their written tales about the Spanish agenda in the Americas with the European elite.

With time, a modern university was created in Guatemala to educate the populace of the region and to continue the agenda of the conquering of the Americas. However, the

majority of unprivileged citizens in Central America suffered from high illiteracy rates, social oppression, and extreme poverty levels, which gave rise to future social conflicts in the region (Gacel-Ávila, Jaramillo, Knight, & de Wit, 2005). In the early 20th century, students in Argentina revolted as a result of the unequal condition of education, and the Cordoba Reform was established allowing for university autonomy. The Cordoba Reform introduced student participation and increased the role of these institutions in developing their societies, at the same time reflecting astounding disparities across the countries in the region due to their locations in an underdeveloped and dependent continent (Gacel-Ávila et al., 2005).

Higher education institutions in Latin America during the 19th century did not reach adequate sustainable levels of science and technology to become independent centers of thought (Gacel-Ávila et al., 2005). Nonetheless, at the dawn of the 20th century, higher education in Central America played a big role in the globalization of the academic services. Governments developed a variety of higher educational approaches to solve the problem of high illiteracy rates and to reduce poverty (Gacel-Ávila et al., 2005). Further, the administration of higher education in Central American universities continued to be influenced by the European academic frameworks such as the Spanish and the French models. The French, or Napoleonic, model of education became highly accepted because it was vocational and nationalistic in nature, whereas the Spanish model continued providing general education to the elite (Schwartzman, 1999). As a result, higher education in Central America experienced an expansion of international programs and further opportunities arrived to improve the welfare of people living in the region.

Higher education was fundamental in offering scholarships, graduate education, technical assistance, and promoting the development of scientific research projects in the

region (Gacel-Ávila et al., 2005). In sum, the history of higher education in Central America continues to be influenced by political, religious, and governmental forces (Schwartzman, 1999). Additional research is needed at a global level to explore the historical influences, colonial past, impact of global opportunities, and the influence of cooperation between institutions to enhance higher education in Central America (Gacel-Ávila, 2005). The following section will provide an overview of the social, economic, and educational conditions in Central America.

Pre-Columbian System of Education

During pre-Columbian times, Central America was home for sedentary and nomadic cultures that flourished from the northern borders of Mexico all the way to the southern boundaries of Costa Rica. By the third century B.C., the City of Teotihuacan in the Yucatan Peninsula sustained a population of perhaps 80,000 or more (G. L. Cowgill, 1979, p. 55; Millon, 1992, p. 351). Certainly, the native inhabitants of the Americas had a highly advanced knowledge about the arts, mathematics, architecture, agriculture, and astronomy (León-Portilla, 1969).

The family and community members educated their children in outdoor areas and built city centers intended to teach a variety of subjects such as military skills. The pre-Columbian educational system of the Native Americans played an important role in building some of the most remarkable urban centers, such as the Mayan capital of Tikal in Guatemala, built during third century C.E., or the mighty Pyramid of the Sun, constructed during the second century B.C. in Teotihuacan, Mexico (León-Portilla, 1969).

Agriculture also was an important educational area of study for the natives because they had a large body of knowledge in science, technology, and engineering that was crucial

to feeding thousands of people living in large urban centers (U. M. Cowgill, 1962). In sum, education was present in the lives of the earliest inhabitants of the Americas because their survival depended on how efficiently their children could learn or master new skills (León-Portilla, 1969).

Post-Classic Education Period

The pre-Columbian educational system in the region perished with the arrival of Spanish explorers during the 1500s. The arrival of the Spanish conquerors marked the end of the pre-Columbian educational system period for Mesoamericans whom then were experiencing the Post-Classic Period, an era between 1000 and 1697 C.E. when the educational system in the region was drastically changed to follow Christian traditions (León-Portilla, 1969).

During the Post-Classic period in Central America, the Catholic Church began to establish universities by royal decrees to teach Spanish literature, arts, and religious studies. The 16th century marked the beginning of American higher education with academic institutions established in Mexico, Peru, and Santo Domingo. In 1517, the Catholic Church established St. Thomas Aquinas University, the first American institution of higher education in the Caribbean island of Santo Domingo. Similarly, during 1551 the Royal and Pontifical University of Mexico and the National University of San Marcos in Lima Peru opened their doors to teach, train, and prepare members of the Church (Castaneda, 1930).

In 1636, Harvard University was established in the United States, and in 1676 the University of San Carlos de Guatemala was established by a royal decree from Spain (Castaneda, 1930; Zubatsky, 1979). Finally in 1701, Yale University opened its doors to begin a new chapter in the history of higher education in the Americas (Zubatsky, 1979).

Post-Colonial Education Period

The 18th century was a tumultuous period for higher education as a result of conflicts, rebellions, and wars across the region. During the 1800s, the number of universities in Latin America increased sporadically as did the number of academic programs offering advanced programs in medicine, science, mathematics, and engineering (International Association of Universities [IAU], 2011). The 19th century witnessed the establishment of the first academic institutions in Honduras, Nicaragua, and El Salvador (IAU, 2011). In 1812, the National Autonomous University of Nicaragua was founded in the province of León, and in 1841 the University of El Salvador was founded. Honduras also welcomed a public university in 1847 and named it the National University of Honduras. By the 1900s Central American universities were expanding to rural areas in the form of specialized agricultural and scientific research institutions (IAU, 2011). Some examples include the National Agrarian University of Nicaragua in 1917, the Zamorano School of Agriculture in Honduras founded in 1941, and Earth University established in 1990.

Panama inaugurated its public institution as the University of Panama in 1935 and five years later, in 1940, the University of Costa Rica opened its doors in the City of San José. More recently, during the 1990s, the region experienced the rise of specialized institutions for scientific teaching, research, and extension services in Central America. In 2000, the University of Belize was established followed in 2003 by Galen University, one of the youngest universities in Central America. See the timeline shown in Figure 3. Overall, the 20th and early 21st centuries was a period of fast urban development and population increases for all the Mesoamerican countries. Currently, in the 21st century, education continues to be a topic of discussion because of the recent demand for modern academic

institutions in urban and rural areas and because of the efforts made by international leaders in higher education to promote democratic practices in Central America.

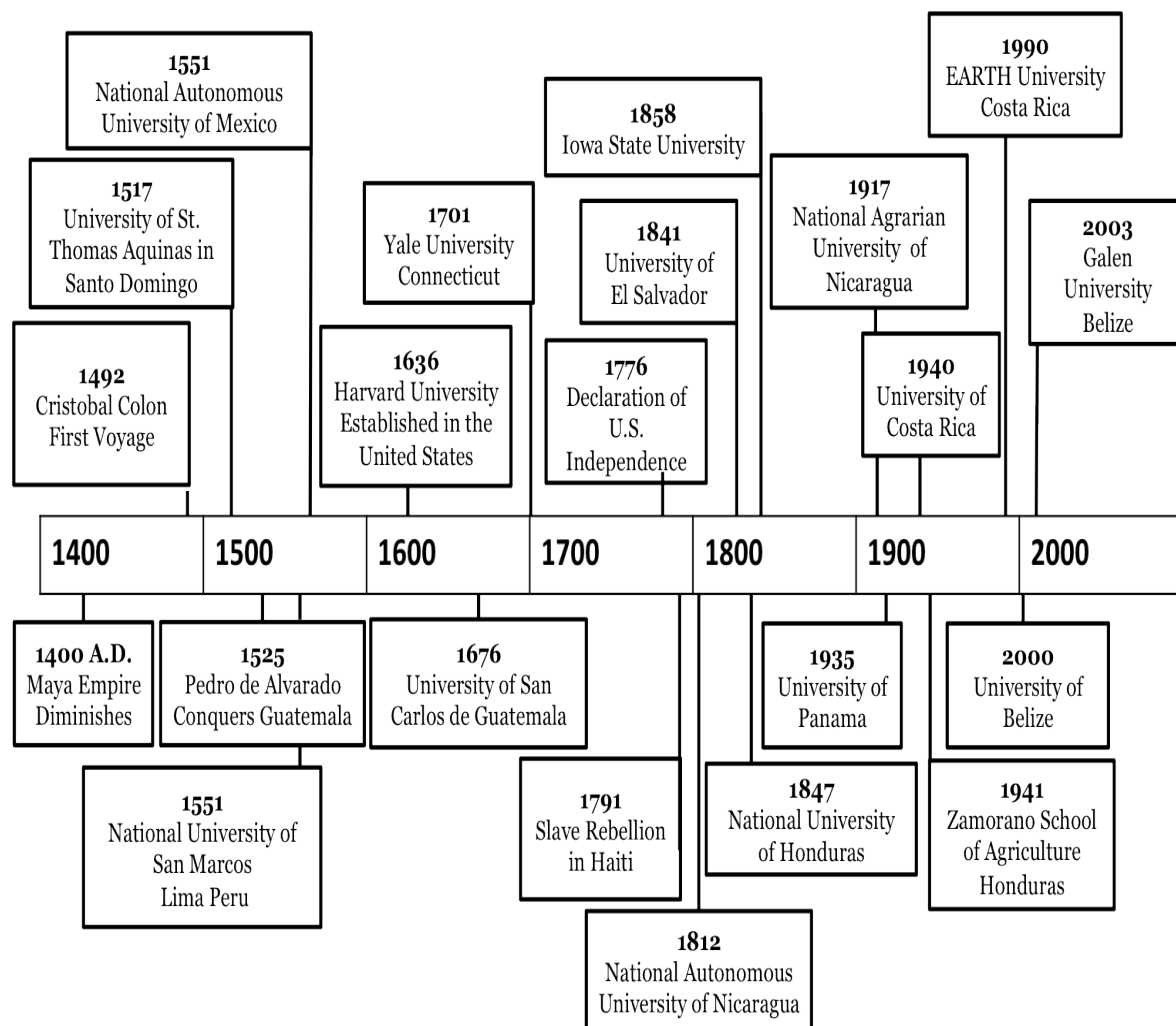


Figure 3. Historical timeline of higher education in the Americas.

Role of Universities

Central American universities have gone through a series of turbulent situations that diminished the number of international academic programs in the region. The current global economic crisis also has severely tested the people and governments of Central America. Currently, the region is facing a growing constraint on reducing poverty and illiteracy rates through the expansion of global academic programs (UNESCO, 2009b). In response, higher education institutions are becoming instrumental in promoting the economic, social, and cultural welfare of people. Furthermore, research is needed to understand the abundance of global programs and agreements for policy development in higher education (Thulstrup, 1999a, 1999b, 2001, 2002; see also Cetto, Freyvogel, Touré, & Thulstrup, 2001; Thulstrup, Muñoz, & Decoster, 2006). Therefore, it is important to study the leadership roles of university administrators working with international programs at Central American universities to study the advancement and potential of student exchange programs.

Educational Expenditures and Investments

The amount of public expenditure on education as a percentage of the gross domestic product is another developmental factor for higher education in Central America. In the Central American region, the country with the largest educational expenditure was Belize, which invested 5.3% of its national budget on education (CIA, 2010a). Costa Rica had the second highest educational expenditure, investing 4.9%, higher than Honduras and Panama, which both spent 3.8% (CIA, 2010b, 2010f, 2010h). El Salvador and Nicaragua both invested 3.1% of their gross domestic product in education (CIA, 2010d, 2010g). Finally, Guatemala, with only 2.6% of educational expenditures, invested the smallest percentage in the Central American region (CIA, 2010e). See Table 9.

Table 9
Educational Expenditures in Central America

Country	Education expenditures (as a percentage of GDP)
Belize	5.3
Costa Rica	4.9
El Salvador	3.1
Guatemala	2.6
Honduras	3.8
Nicaragua	3.1
Panama	3.8

Note. Source: CIA (2010a, 2010b, 2010d, 2010e, 2010f, 2010g, 2010h).

The percentages presented in Table 9 demonstrate the investment of Central American governments in the education of their citizens. For comparison, the United States directed 5.3% of its national budget toward education (CIA, 2010i). However, Belize and Costa Rica were the only countries in Central America with rates close to that of the United States (CIA, 2010a, 2010b); Nicaragua, Honduras, El Salvador, Nicaragua, Guatemala, and Panama all invested lower percentages of their budget in education (CIA, 2010d, 2010e, 2010f, 2010g, 2010h) and need to increase their educational investments as a strategy to eradicate poverty and illiteracy rates in the region. This information is crucial for university administrators because they are responsible for advocating and encouraging global academic policies that will benefit the quality of services provided by their institutions. Therefore, if universities in Central America invest in unique global academic policies, then higher education in the region will benefit from the advantages of a globalized economy.

Public and Private Universities

The first types of universities established in Central America were private in nature and accessible only to elite members of the colonial society. In the present day, Central America possesses first class public and private universities that are continuously searching for student academic opportunities worldwide. A map showing the locations of public and private universities in Central America during 2012 is shown in Figure 4. Public universities have the largest enrollment rates in the region and typically are located in urban areas close to large populations of students. Private universities also are located in urban areas but are expanding rapidly to rural areas and attracting students through distance education programs and online courses. Financially, public universities depend on the financial support they receive from their government allocations, student tuition revenues, research grants, and partnership programs. Private universities rely mainly on tuition revenues, research grants,

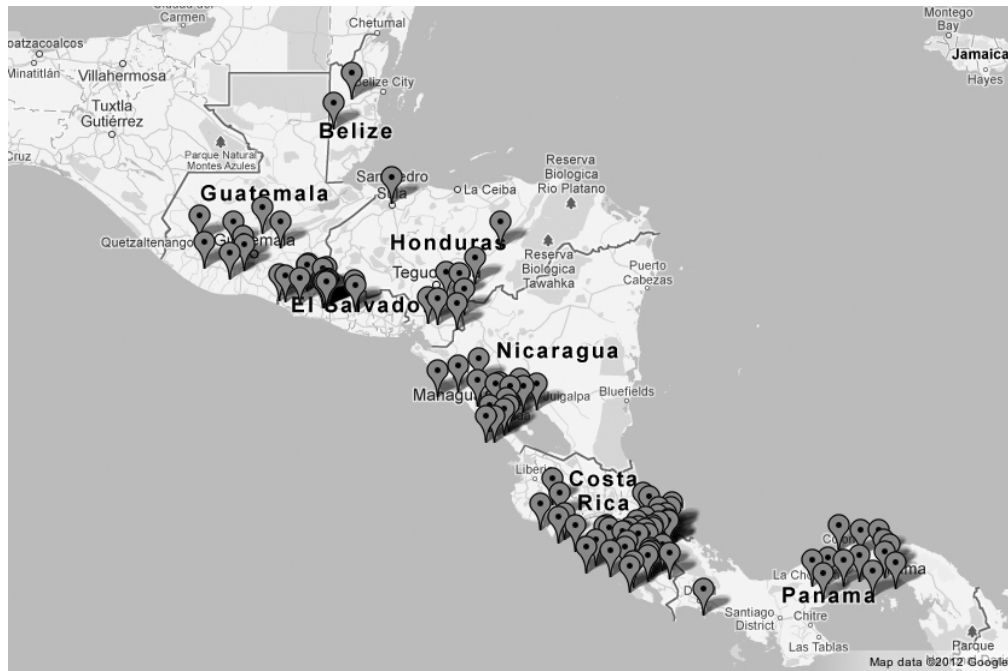


Figure 4. Map of Central American universities.

and branch campuses to compete with the public institutions. Together ,public and private universities provide the necessary academic resources and leadership to educate their citizens and move the region forward in a globalized economy.

Global Academic Policies

Academic policies in higher education are highly influenced by globalization, which is defined as a complex series of economic, social, technological, cultural, and political changes. Global policies in higher education increase the academic integration and interaction of students and institutions in locations worldwide (Knight, 2005a). In the context of higher education, global academic policies help increase the flow of people, culture, ideas, values, knowledge, technology, and economy across borders (Knight, 2004a). To adopt global academic policies in higher education, universities in Central America should be responsive and alert because globalization is likely to produce outcomes that can be beneficial or detrimental to the socioeconomic growth in a region (Rodrik, 1997a, 1997b, 1998). Therefore, higher education institutions in Central America must facilitate the establishment of unique global academic policies to benefit faculty, students, and staff by providing international experience opportunities (Uvalic-Trumbic, 2002; see also Knight, 2006a; Altbach, 2002; Bruno, 2005).

Furthermore, Central America is expected to experience challenges as a result of globalization (Agosin, Bloom, & Gitli, 2000). These challenges depend on a workforce prepared with adequate basic academic skills, access to technologies, civil security, and certainty in the enforcement of laws and agreements. Institutions of higher education in Central America ought to deal with the issues of globalization through dialogue and cooperation to foster international opportunities for students, faculty, and staff. The

opportunity to study abroad is necessary to promote the enrollment of international students and to export a variety of academic programs (Chan & Dimmock, 2008). In sum, higher education in the 21st century will experience institutional changes that will require the institutionalization of global academic policies and adaptation of exclusive priorities in a globalized society (Vaira, 2004). As a result, the adaptation of special academic policies in Central America will require a framework of institutional dynamics and competitive academic imperatives to reshape the role of higher education in developing countries (Schwartzman, 2002; see also Vaira, 2004).

International Academic Programs

The phenomenon of internationalization is one of the outcomes of globalization for higher education in the Central American region. Internationalization is defined as the integration of an intercultural or international dimension into the administrative, teaching, and research functions of institutions (Knight, 1994, 1999a, 1999b, 1999c, 2004b, 2006b; Knight & de Wit, 1995). It is conceptualized under a framework that identifies rationales, stakeholders, and leadership approaches that disseminate an educational curriculum with a global understanding (Knight, 1999a). Furthermore, internationalization is changing the landscape of higher education in ways that will challenge the modus operandi of institutions (Perkinson, 2006). The increasing impact of internationalization is becoming a cross-border activity that enhances the institutional relationship as well as increases the demand for the transferability of academic credits at a global level (Perkinson, 2006; see also Stier, 2006).

In developing Central America, the effects of internationalization also can be negative due to the unequal access to higher education among providers, negative competition between domestic institutions, influx of low quality foreign providers, and worsening of

equity in access to higher education (Bashir, 2007). However, the solutions to these negative consequences are embedded in the enhancement of the academic quality in the public and private sector as well as in the creation of a competitive environment that fosters equity in access (Teichler, 2004; see also Bashir, 2007). Clearly, while institutions improve their investments, international policies should be established with regard to foreign providers to ensure that the trade in higher education promotes institutional goals that are beneficial for the region and are capable of attracting additional resources to exploit the opportunities offered by the internationalization of universities in Central America (Busso, Cicowiez, & Gasparini, 2005).

Student Exchange Programs

The demand for student exchange programs is increasing due to a change in demographics, the increased number of secondary school graduates, movement of lifelong learning, and the growth of the knowledge economy (Enders & Fulton, 2002; see also Garrett, 2004; Knight, 2002, 2004a, 2005a, 2006a, 2006b). Cross-border education is defined as the movement of people, programs, knowledge, and services across national boundaries (Knight, 2006a). For higher education institutions in Central America, it is imperative that their programs are able to move across borders through the use of franchises, twinning, double degrees, articulation, validation, and virtual programs. For example, a franchise arrangement allows a provider in Costa Rica to authorize a provider in Panama to deliver a course, program, or service based on national academic regulations. However, a twinning arrangement is more collaborative. For example, a provider in Belize can team up with one in Honduras to develop agreements by which students take course credits in

Guatemala or El Salvador but are awarded only one diploma by an institution in Belize (Knight, 2006a).

The double degree programs allow providers to offer programs in which students receive qualifications in either country with customized qualifications established by national academic regulations. The articulation arrangement encourages students to take courses from all of the collaborating providers instead of only through the provider awarding the qualification. For example, students in Costa Rica can study in Panama or Honduras and obtain qualifications by the providers. However, the validation arrangement allows students in one country to receive credits by the partner country only when the source country does not have all the resources. Finally, a virtual arrangement allows several providers to deliver distance education and online courses in different regions (Knight, 2006a).

International Academic Strategies

The role of universities in a society is to serve as a crucial part of the infrastructure of the knowledge economy by providing mechanisms for generating and harnessing talent in a variety of academic fields (Florida, 1999). To internationalize institutions of higher education, a series of strategies have been recommended to achieve the highest level of efficiency. These strategies encompass a variety of program, research, extension, and support services. Academic programs promote student exchange, foreign language studies, international program studies, study abroad, international students, double degree programs, intercultural training, and visiting professors (Knight, 2004b). The research area includes student exchange, joint research projects, and research agreements. Extension also is an important strategy for internationalization because it endorses intercultural events and strategic alliances with private or public institutions. On the other hand, external relations

and services offer assistance programs at an international level, training programs, community service, network participation, and cross border academic opportunities (Knight, 2004b).

Governance enhances the compromise of higher learning institutions toward active participation and accepts the dimension of internationalization. The operations area integrates the concept of internationalization and appropriate organizational structure. In addition, it promotes communication and balances financial resources for distribution. Finally, the support services strategy provides international services to faculty, students and staff by providing advice, an organized record system, and planning. In sum, to achieve internationalization institutions of higher education need to operate based on a continuous cycle composed of awareness, commitment, planning, action, review, and reinforcement (Knight & de Wit, 1995; see also De Wit, 2002; Knight, 2004b).

Global Academic Providers

Cross-border academic providers move across a national border to establish a presence in order to offer education and training programs or services to students and other clients (Knight, 2006a). A characteristic of the cross-border mobility provider program is the scope, scale, and investment in the services offered by the foreign provider (Knight, 2006a). These exist in the form of branch campuses, independent institutions, acquisitions, study centers, affiliations, and virtual universities. For example, the branch campus arise when a provider institution in Costa Rica establishes a satellite campus in Nicaragua to deliver courses or programs awarded by the Costa Rican provider (Knight, 2006a). In contrast, an independent provider mobility program allows an academic provider, which can be a private or public entity, to establish an independent institution in a different country to offer courses,

programs, and degrees without a home institution of its own. An acquisition or merger provider program is more competitive and aggressive because it encourages a foreign academic provider to purchase part of the services provided by an institution in the country (Knight, 2006a). A study center provider encourages the establishment of student centers by a foreign provider of any country to support students independently or through collaborations. An affiliation program allows different academic providers to deliver courses or programs in foreign countries through distance or face-to-face methods. Meanwhile, a virtual university uses postal services to deliver distance coursework information. A virtual university allows academic providers to deliver courses and programs through distance education networks without using face-to-face methods (Knight, 2006a; see also UNESCO, 2005a; UNESCO, 2007).

Global Trade of Educational Services

The trade of educational services encompasses four main approaches that can benefit university administrators internationalizing Central American institutions. These four approaches to academic trade include cross-border supply, consumption abroad, commercial presence, and the presence of natural persons (Knight, 2006a). Cross-border supply delivers a service across a border without the physical movement of the consumer as, for example, with distance education, electronic learning, and virtual universities. Establishing cross-border programs in Central America increases the use of cooperation, information, and communication technologies. However, the disadvantage of this type of trade is the difficulty in monitoring the quality of the education being delivered at a national or international level (Knight, 2006a).

The second approach to trading of educational services is the study abroad trade, in which a student moves to the country of the academic supplier to obtain credits or a degree. An example is when students travel abroad to experience education in a different country. The advantage of this trade service is that it is part of the largest share of the global educational market with high expectations for it to continue to grow in the 21st century (Knight, 2006a). The third type of trade of educational service allows the academic provider to establish a commercial facility in a different country to deliver academic or research services. Ultimately, this type of trade is characterized by the establishment of local branches while encouraging the formation of twinning partnerships and franchising arrangements with regional institutions (Knight, 2006a).

An advantage of having a global commercial presence in higher education is the increasing interest and future economic potential to compete with universities worldwide. A disadvantage is the vast array of international rules on foreign investments affecting the progress of education (Knight, 2006a). Finally, it is important to mention that the presence of university administrators in the trade of global academic services allows universities to establish unique academic services with a strong market of professionals with global leadership skills (Knight, 2006a).

Understanding the trade of educational services in the 21st century is essential for cooperation and the establishment of innovative global exchange programs with the potential to benefit Central American institutions. The trade of educational services is a growing global business offering financial benefits to those who promote it. University administrators in Central America can benefit greatly from the quality of teaching, research, and extension at their campuses by participating in the global market of education. The advantage of

trading educational services at a global level is that it can enhance the flow of international students, faculty, and researchers at Central American institutions. However, university administrators are encouraged to be careful when selecting the type of global academic programs that best suits the needs of their students because these programs require a process of organization, adaptation, and modification in order to function properly (Guzmán, 2000; see also Knight, 2006a; Ferreira & Gignoux, 2008; Cogneau & Gignoux, 2009).

Study Abroad

U.S. Students Studying Abroad

During the 2008–2009 academic year the 260,327 of U.S. students studying abroad represented only about 1% of all students enrolled at institutions of higher education in the United States (Institute of Education Sciences, National Center for Education Statistics [IES], 2011). Of that national portion, 80% were Caucasian students (Figure 5; IES, 2011), leaving African American, Latin American, Asian American, and Native American students underrepresented in all U.S. study abroad

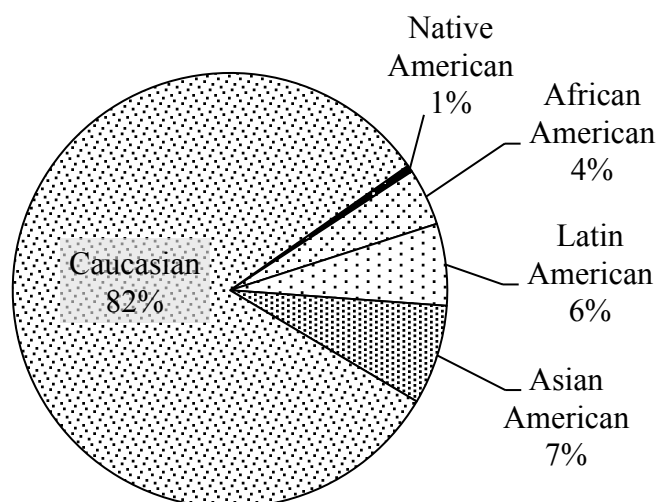


Figure 5. Ethnicities of U.S. students participating abroad (Source: IES, 2011).

programs. Only 7% of Asian American students participated in programs abroad, followed by Latin Americans with a 6% participation rate. African American students participated at a rate of 4%, and Native Americans were at the bottom with less than a 1% participation rate of students in the United States.

U.S. Study Abroad Students by Field of Study

U.S. students studying abroad participated in a variety of academic fields. The most common academic fields among U.S. students were the humanities at 28%, followed by the social sciences at 22% and business management at a 20% participation rate (see Figure 6; Institute of International Education [IIE], 2010a). Physical and life sciences were the academic fields among the least popular selections with only an 8% participation rate; engineering followed with 5%, whereas health sciences and education had the lowest percentages among the preferred academic fields of study abroad by U.S. students. Other academic fields selected by the students were grouped by NAFSA in order to demonstrate the lower strata participation of U.S. students abroad.

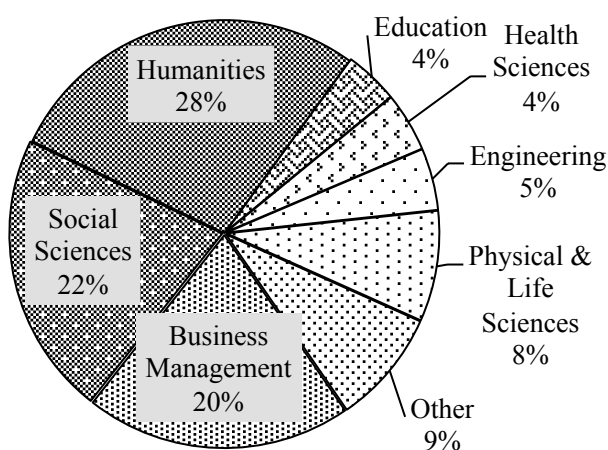


Figure 6. U.S. study abroad students by field of study (Source: IIE, 2010a).

Enrollment of International Students at U.S. Institutions

Students from Asia, Europe, Latin America, Africa, and the Middle East dominated the population of international students in the U.S. higher education system during the 2009–2010 academic year (Figure 7). The largest group, with 66% of the international student population, was Asian students, followed by European students representing 13% and Latin American students representing 10% (IIE, 2010a). On the other hand, the smallest groups of international students included Africans and Middle Easterners with less than 6% enrolled in a variety of U.S. academic institutions.

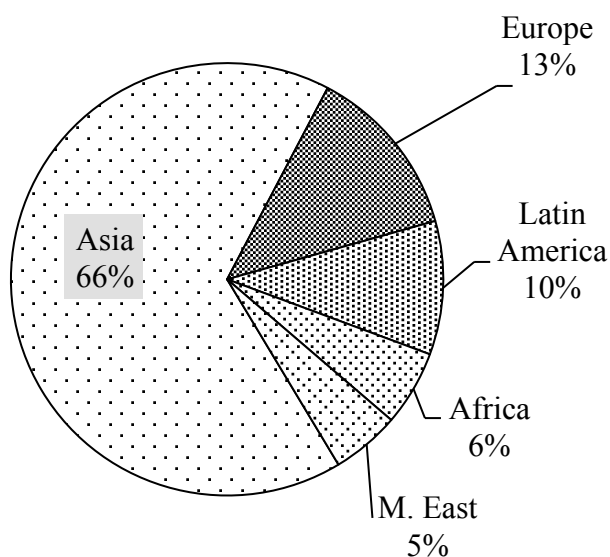


Figure 7. International students at U.S. institutions (IIE, 2010a).

Enrollment of Latin America Students at U.S. Institutions

The population of Latin American students at U.S. institutions during the 2009–2010 academic year demonstrated that the largest percentage of students came from South American countries such as Brazil, Colombia, Argentina, Peru, Uruguay, Chile, Venezuela, and Peru (Figure 8). NAFSA reported that, altogether, 50% of all students from Latin

America came from South American countries. The second largest groups of Latin American students at U.S. institutions came from Mexico and the Caribbean regions, each of which contributed 20% of the total. On the other hand, the smallest percentages of Latin American students at U.S. institutions came from Central America (IIE, 2010a).

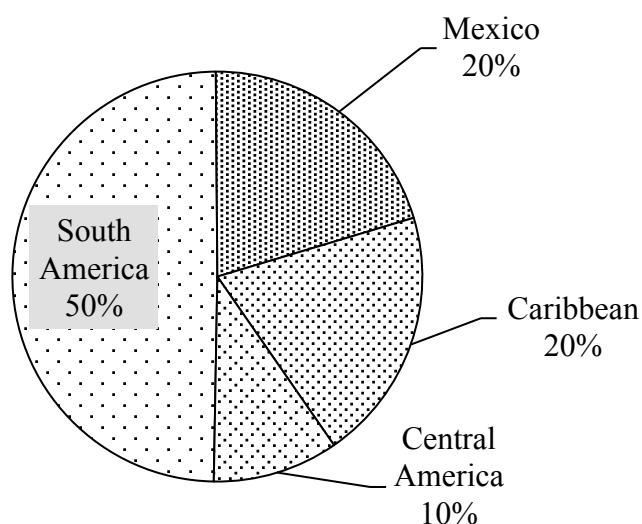


Figure 8. Latin American students at U.S. institutions (Source: IIE, 2010a).

Students from Central America at U.S. Institutions

Looking at the percentages of Central American students attending U.S. institutions during the 2009–2010 academic year reveals that 20% of the students came from Honduras, 19% from El Salvador, 17% from both Costa Rica and Panama, and 15% from the country of Guatemala. The smallest groups of Central American students came from Belize and Nicaragua with less than 6% each (Figure 9; IIE, 2010a).

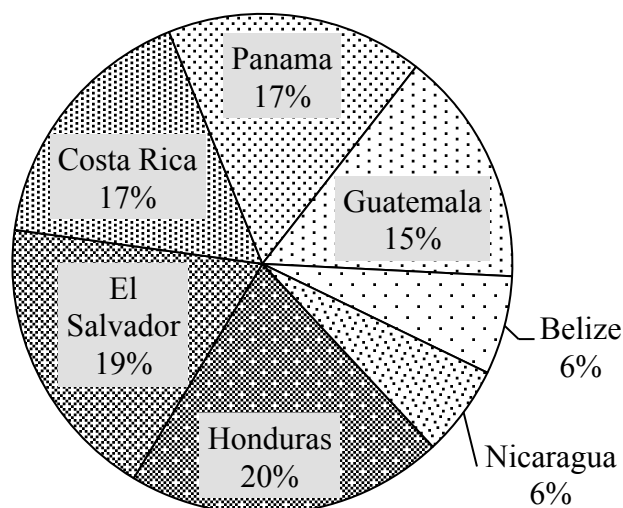


Figure 9. Central American Students at U.S. academic institutions (Source: IIE, 2010a).

Chapter Summary

The literature review presented in this chapter provided a description of the history of higher education as well as the social, economic, and educational conditions in Central America. Clearly, the increasing population of people experiencing poverty, illiteracy, unemployment, and lack of tertiary educational are indicators that university administrators in Central American institutions ought to internationalize their curriculums and programs to better serve their countries (UNESCO, 1974). If university administrators work together toward internationalization, a series of global agreements or programs can benefit the financial status, quality of education, and research prestige of their academic institutions. However, it is necessary for university administrators to consider the disadvantages of internationalization and act with caution when implementing and promoting student exchange programs at their institutions (Odin & Mancias, 2004).

At the dawn of a new century, the academic challenges impacting universities in Central America because of the modern globalized economy requires a highly interconnected group of professionals with international experiences. However, the social differences that are present in the region will be amplified if higher education is not enhanced with distinctive global academic policies. It is imperative that university executive administrators provide solutions to existing problems to raise the overall quality of life and education in Central America. To maintain excellence, university administrators must become global leaders and incorporate a spectrum of multiculturalism into the global service functions of their institutions. Therefore, university administrators in Central America must foster study exchange programs to form economically competitive and politically powerful institutions (Huisman & Wende, 2005; see also UNESCO, 1993, 1998, 2005a, 2005c, 2007, 2009a, 2010; Altbach, Reisberg, & Rumbley, 2009).

Due to the fact that internationalization does not occur at a rapid pace, university administrators must become familiar with globalization to adapt programs that promote the advancement and potential of Central American universities. The IAU (2003) encouraged leaders to adapt professional initiatives rather than reacting unprepared to external global economic forces. To obtain adequate funding, university administrators must develop international policies, programs, and agreements as an integral part in the life of the institution. On the other hand, global universities in Central America should prepare their citizens with equity, cultural awareness, and financial readiness (Betts & Roemer, 1999, see also De Ferranti, Perry, Ferreira, & Walton, 2004; Waltenberg & Vandenberghe, 2007; Barros, Freije, Molinas, & Saavedra, 2008; Inter-American Development Bank, 2008).

Further efforts also should be made by university administrators in Central America to establish academic exchange programs as well as international cooperative agreements in higher education (National Education Association, 2004; see also OECD, 2004a, 2004b; Central American Bank for Economic Integration, 2010a, 2010b, 2010c, 2010d, 2010e, 2010f). Such goals can be achieved by establishing a series of dynamic academic policies to ensure the quality and abundance of international academic exchange programs for undergraduate students. The information that follows comprises the global leadership, programs, and agreements managed by university administrators in Central America. The researcher developed a methodology for the descriptive exploration of the perspectives of university administrators working with international academic programs.

CHAPTER 3. METHODOLOGY OF THE STUDY

Introduction

The purpose of this research study was to develop a profile of university administrators in Central America based on professional and personal characteristics, perceptions, and experiences working with international programs. The study describes the diversity of international leadership, study abroad programs, and cooperative agreements in Central American universities. This chapter explains in detail the research design used to answer the main questions of this study. The chapter encompasses, in detail, information about methods and procedures, research design, development and adaptation of survey instrument, and collection procedures. The chapter concludes with a list of assumptions and limitations as well as a summary of the information provided herein. It provides a description of the professional skills of university administrators and their efforts in managing international global study exchange programs.

To accomplish the purpose of the study, a review of university administrators, study abroad programs, and cooperative agreements in Central American universities was necessary to answer the following research questions:

1. What are the leadership characteristics of executive university administrators working with international programs?
2. What types of global study exchange programs are available for undergraduate students, faculty, and staff?
3. What types of international cooperative agreements are preferred by university administrators to establish new global academic programs in Central America?

Methods and Procedures

The purpose of this study was to develop a profile of university administrators in Central America and describe the diversity of international leadership, study abroad programs, and cooperative agreements in the region. Because of cost, distance, and time constraints, the researcher designed a bilingual electronic survey questionnaire in the Spanish and English languages to answer the research questions proposed in this study (see Appendix A and B). The bilingual survey instrument was created as a data-gathering instrument to provide accurate information about the professional characteristics of university administrators working with international programs. Furthermore, the survey instrument included two additional sections to gather descriptions of the variations of global student exchange programs and cooperative agreements in the Central American region. Emphasis was placed specifically on the global leadership characteristics of university administrators to infer about their ability to establish study abroad programs and cooperative agreements.

The study required the use of an effective structure to collect data from public and private administrators. To properly evaluate the international academic efforts of university administrators, the goal of the survey was not only to assess their leadership skills in public and private universities, but also to aggregate data across genders to gather broader insights about the potential of global academic programs in the region. The core evaluation system encompassed the collection of standard data during the fall of 2011 and spring of 2012. All of the evaluation procedures were driven by a set of core evaluation questions. The system included the collection of information about the professional experiences of higher level university administrators and comprised institutional data about the global initiatives needed in higher education.

Research Design

Following the suggestions of Denzin and Lincoln (1994), this study was designed to position the researcher in the pragmatic world of university administrators leading global academic programs in Central American institutions. The design of the study was to connect the research questions with the information obtained from the subjects of the study. In order to address the research questions of this study, a cross-sectional descriptive electronic questionnaire was created to survey the target population. Creswell (2009) advised the collection of quantitative data using a cross-sectional design to look at the professional skills of university administrators as the unit of analysis. The purpose of conducting an electronic survey research was to generalize from the responses and perspectives of a group of executive university administrators working with international programs.

The study was developed using scholarly research information to describe the abundance of global leadership, programs, and agreements in Central America. It was designed to measure the attitudes, beliefs, and academic characteristics of university administrators. Further, an original bilingual survey instrument was created to effectively collect , from a distance, data from the sample population of university administrators. The study involved the characterization and description of the population based on several analyses provided by the administrators. The study provided an array of data across public and private institutions that can serve in the future as background for in-depth studies in the region. As advised by Vogt (2007) and Creswell (2009), the survey methodology facilitated the gathering of information from a geographically disperse group of leaders with promising comparisons about the leadership skills of university administrators.

Setting

The study encompassed a multi-country site comprising 285 executive university administrators working in academic institutions scattered across the Central American nations of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama. The researcher identified the universities in Central America using the *World List of Universities* published by IAU (2011). A database was created to organize the universities by country, type of institution, zip code, year founded, and identification number. In addition, the contact information obtained about the executive administrators was organized in a similar manner and used by the researcher to connect with university administrators, college deans, department chairs, provosts, and higher level faculty working for various institutions. A detailed Internet search of all the university websites also was performed to obtain additional information about the universities in Central America and validate the information obtained from the *World List of Universities* (IAU, 2011).

Targeted Population

The targeted population for this cross-sectional research study was composed of university administrators working with international programs during the year 2011. The population of university administrators comprised a group of academic leaders employed in Central American public and private universities. Further contact information about the population of university administrators was obtained from public information provided by nine professional organizations of university administrators through their Internet websites. To obtain additional contact information, the researcher visited the websites of a premier group of organizations providing a variety of services for executive administrators in Central America. The professional organizations contacted by the researcher appear in Table 10.

The researcher obtained the advice from professional organizations and was informed how to encourage a larger number of university administrators to volunteer, complete, and return an electronic survey instrument. As a result, the researcher obtained exclusive contact information to contact a larger group of university administrators working in Central

Table 10

Premier Organizations for Executive Administrators

Premier organization	Acronym
Asociación de Universidades Privadas de Panamá (2010)	AUPPA
Catalogo de Universidades del Mundo (2010)	CUM
Consejo de Enseñanza Privada Superior de Guatemala (2010)	CEPS
Consejo de Rectores de Panamá (2010)	CRP
Consejo Nacional de Rectores de Costa Rica (2010)	CONARE
Hispanic Association of Colleges and Universities (2010)	HACU
Institute of International Education (2010b)	IIE
Organización Universitaria Interamericana (2010)	OUI
Unidad de Rectores de Costa Rica (2010)	URCR
Unión de Universidades de América Latina (2010)	UDUAL

America. Specifically, the information acquired through the collaboration included administrators' names, e-mail addresses, institutional addresses, and type of institution.

Sample Population

For the purpose of this research study, a single-stage cluster sampling was developed using Qualtrics Software® to gather data through the Internet. The procedure required a sample of experienced universities administrators to collect the information from every unit in the cluster. The first step involved the identification of universities and the population of administrators in Central American institutions of higher education based on the contact

information obtained from the professional organizations contacted for this study. The second step allowed the researcher to divide the administrators into two groups; the first group worked at private universities and the second at public institutions. The third step consisted of organizing the sample population into two additional groups categorized by their

Table 11

Research Sample Steps and Procedures

Step	Procedures
First	Identify the number of universities and administrators in Central America.
Second	Divide the population of administrators by type of institution.
Third	Categorize the sample population of administrators by gender.
Fourth	Select the sample population for the research study.

genders. Finally, the fourth step was the selection of the sample population to be examined by the electronic survey with an expected response rate of at least 30%. The simple cluster sampling research technique that was employed in the study is demonstrated in Table 11.

Central American Universities

An institution of higher learning is an entity that delivers educational programs to students in the form of universities, community colleges, and career placement institutes (IAU, 1998).

Academic institutions in Central America award a plethora of academic postsecondary and tertiary degrees as well as professional certifications. They are institutions qualified to provide professional certifications and associate's, bachelor's, master's, and doctoral degrees in a variety of subjects (IAU, n.d.). In Central America, the country with the largest number of academic institutions was Costa Rica with an estimated 51 academic institutions (see

Table 11; IAU, 2011) . Nicaragua had the second highest number of postsecondary institutions with a total of 47 followed by El Salvador with 28 and Panama with 26 centers of higher education. The number of postsecondary institutions in Guatemala numbered 20, and Honduras had 16 educational centers. Finally, Belize had the lowest number of institutions of higher education in the Central American region with only 11 (IAU, 2011).

Table 12

Number of Universities per Country in Central America

Country	Universities per country
Belize	11
Costa Rica	51
El Salvador	28
Guatemala	20
Honduras	16
Nicaragua	47
Panama	26

Note. Source: *World List of Universities* (IAU, 2011).

Universities Represented in this Study

In Belize, a group of executive administrators working in public and private universities were contacted, informed, and asked to voluntarily participate in the research study. The administrators in Belize worked for 11 different universities located in urban and rural areas. An initial invitation letter was delivered via e-mail to inform them about the purpose of the study and ask for their cooperation. Then, the survey instrument was

delivered to a select group of executive administrators working with international programs in the 12 Belizean academic institutions listed in Table 13.

Costa Rica had the largest number of universities of all the countries in Central America (IAU, 2011). For the most part, public universities were located in urban areas with some of the highest enrollment numbers in the region. On the other hand, private universities were abundant not only in urban areas but also in distant rural areas. They offered a variety of technical degrees and distant online certificates with training sessions for their students. Overall, the pool of administrators from Costa Rica were plentiful as a result of the abundance of universities and the number of students traveling to participate in a variety of international academic experiences. The researcher identified a total of 51 institutions of higher education teaching a variety of subjects (Table 14). Executive administrators in Costa Rican universities were contacted and asked to voluntarily represent their institutions in the survey study. The contact information obtained from the university administrators was arranged into an electronic and safeguarded database. Public and private administrators in El Salvador were from 28 different universities, which are listed in Table 15.

Table 13

Academic Institutions in Belize

Academic institutions	
Belize Adventist Junior College	Stann Creek Ecumenical Junior College
Corozal Junior College	University of Belize
Galen University	Wesley Junior College
Muffles Junior College	Central America Health Sciences University
Sacred Heart Junior College	School for International Training
St. Johns College	San Pedro Junior College

Note. Source: *World List of Universities* (IAU, 2011).

Table 14

Academic Institutions in Costa Rica

Academic institutions	
American University	Universidad Estatal a Distancia
Costa Rican Institute of Tecnología	Centro Agronómico Tropical de Investigación y Enseñanza
Distance State University	Escuela Universidad Libre de Derecho
EARTH University	Universidad de Ciencias Médicas
Enterprise University of Costa Rica	Universidad de Costa Rica
Hispano-American University	Universidad de las Ciencias y el Arte
Instituto Tecnológico de Costa Rica	Universidad del Valle Cartago
International University of Humanities and Social Sciences	Universidad Federada de Costa Rica
Latin University	Universidad Fidélitas
Medical Sciences University	Universidad Fundepos Alma Mater
National University	Universidad Hispanoamericana
San Juan de la Cruz University	Universidad Interamericana de Costa Rica
Universidad Adventista de Centro América	Universidad Internacional de las Américas
Universidad Autónoma de Centro América	Universidad Internacional Labrador
Universidad Autónoma Monterrey	Universidad Latina de Costa Rica
Universidad Braulio Carrillo	Universidad Latinoamericana de Ciencia y Tecnología
Universidad Católica Anselmo Llorente	Universidad Libre de Costa Rica
Universidad Central	Universidad Metropolitana Castro Carrazo
Universidad Centroamericana de Ciencias Empresariales	Universidad para la Cooperación Internacional
Universidad de Cartago Florencio del Castillo	Universidad San Francisco de Sales
Universidad de Iberoamérica	Universidad San Marcos
Universidad de La Salle	Universidad Santa Lucía
Universidad de San José	Universidad Santa Paula
Universidad del Diseño	Universidad Veritas
Universidad del Turismo	University for Peace
Universidad Empresarial	

Note. Source: *World List of Universities* (IAU, 2011).

Table 15

Academic Institutions in El Salvador

Academic institutions	
Don Bosco University	Universidad Dr. Adres Bello
Modular Open University	Universidad Dr. Jose Matías Delgado
Polytechnic University	Universidad Evangélica del El Salvador
Universidad Salvadoreña Alberto Masferrer	Universidad Francisco Gavidia
Universidad Albert Einstein	Universidad Isaac Newton
Universidad Autónoma de Centro América	Universidad Luterana Salvadoreña
Universidad Autónoma de Santa Ana	Universidad Modular Abierta
Universidad Capitán General Gerardo Barrios	Universidad Monseñor Oscar Arnulfo Romero
Universidad Católica del Occidente	Universidad Nueva San Salvador
Universidad Centroamericana Jose Simeón Canas	Universidad Panamericana de San Salvador
Universidad Cristiana de las Asambleas de Dios	Universidad Pedagógica de El Salvador
Universidad de El Salvador	Universidad Politécnica de El Salvador
Universidad del Oriente	Universidad Técnica Latinoamericana
Universidad del Sonsonante	Universidad Tecnológica de El Salvador

Note. Source: World List of Universities (IAU, 2011).

In Guatemala, a total of 20 universities were identified for the purposes of this study; their names are listed in Table 16.

In Honduras, the executive administrators worked with 16 different universities as shown in Table 17.

In Nicaragua, the sample population of university administrators worked for a total of 47 different institutions located across the country, mostly in urban areas but with branches in distant rural areas. The names of these institutions are listed in Table 18.

Table 16

Academic Institutions in Guatemala

Academic institutions	
Academia de Artes Culinarias	Universidad del Istmo
Centro Universitario Ciudad Vieja	Universidad del Valle de Guatemala
Centro Universitario de Occidente	Universidad Galileo
Escuela Nacional Central de Agricultura.	Universidad Internacional
Facultad Latinoamericana de Ciencias Sociales	Universidad Mariano Gálvez
Instituto de Capacitación	Universidad Mesoamericana
Instituto Femenino de Estudios Superiores	Universidad Panamericana
Loyola Escuela Empresarial para las Américas	Universidad Rafael Landivar
Universidad Francisco Marroquín	Universidad Rural de Guatemala
Universidad de San Carlos de Guatemala	Universidad San Pablo de Guatemala

Note. Source: *World List of Universities* (IAU, 2011).

Table 17

Academic Institutions in Honduras

Academic institutions	
Centro de Diseño, Arquitectura y Construcción	Universidad de San Pedro Sula
Centro Universitario Regional del Litoral Atlántico	Universidad Evangélica
Centro Universitario Tecnológico	Universidad Jose Cecilio del Valle
Escuela Agrícola Panamericana Zamorano	Universidad Nacional Autónoma de Honduras
Escuela Nacional de Agricultura	Universidad Pedagógica Nacional Francisco Morazán
Escuela Nacional de Ciencias Forestales	Universidad Tecnológica Centroamericana
Universidad Metropolitana de Honduras	Universidad Tecnológica de Honduras
Universidad Católica de Honduras	
Universidad Cristiana de Honduras	

Note. Source: *World List of Universities* (IAU, 2011).

Table 18

Academic Institutions in Nicaragua

Academic institutions	
Ave María University-Latin American Campus	Universidad del Norte de Nicaragua
Bluefields Indian and Caribbean University	Universidad del Valle
Centro Superior de Estudios Militares	Universidad Evangélica Nicaragüense
Escuela Internacional de Agricultura y Ganadería	Universidad Hispanoamericana
Instituto Centroamericano de Administración de Empresas	Universidad Iberoamericana de Ciencia y Tecnología
Instituto de Estudios Superiores de Medicina Oriental Japón	Universidad Internacional de Desarrollo Sostenible
Universidad Adventista de Nicaragua	Universidad Internacional de la Integración de América Latina
Universidad American College	Universidad Jean Jacques Rousseau
Universidad Americana	Universidad Juan Pablo II
Universidad Católica Agropecuaria del Trópico Seco	Universidad La Anunciata
Universidad Católica Redemptoris Mater	Universidad Martín Lutero
Universidad Central de Nicaragua	Universidad Metropolitana
Universidad Centroamericana de Ciencias Empresariales	Universidad Nacional Agraria
Universidad Centroamericana	Universidad Nacional Autónoma de Nicaragua
Universidad Ciencias Comerciales	Universidad Nacional de Ingeniería
Universidad Cristiana Autónoma de Nicaragua	Universidad Nicaragüense de Ciencia y Tecnología
Universidad de Administración, Comercio y Aduana	Universidad Paulo Freire
Universidad de Chinandega	Universidad Politécnica de Nicaragua
Universidad de Ciencias Comerciales	Universidad Popular de Nicaragua
Universidad de las Américas	Universidad Santo Tomas de Oriente y Medio Día
Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense	Universidad Tecnológica de Comercio
Universidad de Managua Universidad de Tecnología y Comercio	Universidad Tecnológica Nicaragüense
	Universidad Thomas More

Note. Source: *World List of Universities* (IAU, 2011).

Table 19

Academic Institutions in Panama

Academic institutions	
Columbus University	Universidad del Istmo
Floret Global University	Universidad Especializada de Las Américas
Florida State University Panama City	Universidad Interamericana de Educación a Distancia de Panamá
GANEXA Universidad del Arte	Universidad Interamericana de Panamá
Hosanna University	Universidad Latina de Panamá
Instituto de Enseñanza Superior Oteima	Universidad Latinoamericana de Ciencia y Tecnología
ISAE Universidad	Universidad Latinoamericana de Comercio Exterior
Lauréate International Universities Panamá	Universidad Marítima Internacional de Panamá
Universidad Abierta y a Distancia de Panamá	Universidad Metropolitana de Educación Ciencia y Tecnología
Universidad Americana	Universidad Panamericana
Universidad Autónoma de Chiriqui	Universidad Tecnológica de Panamá
Universidad Católica Santa María La Antigua	Universidad Tecnológica Oteima
Universidad de Cartago de Panama	Universidad Velásquez
Universidad de la Paz	West Coast University
Universidad de Louisville	
Universidad de Panamá	

Note. Source: *World List of Universities* (IAU, 2011).

In Panamá, the researcher identified a total of 26 universities offering associate's degrees, undergraduate programs, and graduate opportunities. The names of the public and private institutions in Panama used in this study are displayed in Table 19.

Instrumentation

Data were collected using a bilingual electronic survey instrument (see Appendix A and B). The 20-item instrument, the Executive Survey for University Administrators in Central America, was constructed as a result of the inadequate availability of past survey instruments and previous studies in the field of university administrators working in Central

America. The research measured administrators' perspectives towards the establishment of international programs and agreements in higher education. The most common method of evaluation used in educational research to understand the perspectives of university administrators is through the use of rating scales because they show the individual along a continuum view of agreement or disagreement towards the subject (Robinson, Rusk & Head 1973; Robinson, Shaver, & Wrightsman, 1991; Shaw & Wright, 1967). In sum, questions answered using a Likert-type scale were used to measure the professional perspectives of university administrators based on their personal selections.

Survey

The Executive Survey for University Administrators in Central America (see Appendix A and B) was organized in three main sections: (a) international leadership, (b) study abroad programs, and (c) international cooperative agreements. The data for this study was collected from 100 public and 185 private executive administrators during 2012. The following section provides in detail a description of each main survey section.

International Leadership. The purpose of this section was to obtain accurate background information from university administrators as a strategy to allow the researcher in making descriptive statistical comparisons of the sampled population. The leadership section included questions about gender, geographical location, type of institution, years of employment, highest academic degree, and academic discipline. The section also gathered information about the administrators' previous global experiences as well as their language abilities and international leadership experiences.

The data revealed the study abroad experiences, education, and perspectives of university administrators working with international programs at Central American

universities. The study asked for the preferences of the administrators, which helped in describing their efforts to establish unique programs at their respective institutions. The data from this section resulted in descriptions of the global leadership of the administrators and suggestions for future partnerships with higher learning institutions in Central American countries.

Study Abroad Programs. In this section, the survey asked for information about the abundance of study abroad programs supported by executive university administrators. It comprised questions about the mission of the institutions, types of programs, campus agreements, academic projects, service providers, significance of study abroad programs, campus activities, program investment, advantages and disadvantages, type of initiatives, and the need for accreditation agencies. The section on study abroad programs provided data describing the types, location, and establishment of study abroad programs offered by Central American universities. The section also included questions targeted to the perspectives of university administrators and their preferred countries or regions to establish unique study abroad programs. The purpose of the section was to gather data for a description of the global programs available for undergraduate students pursuing a variety of degrees in higher education.

International Cooperative Agreements. The purpose of this survey section was to collect data about the institutional or financial support received by the university administrators to manage global academic programs. The section provided a series of questions designed to aid the researcher in describing the current types of international cooperative agreements available at Central American universities. The data from this section included the perspectives of university administrators and indicated the current need

to establish future cooperative agreements with universities worldwide. Overall, the survey sections were developed to provide stakeholders in higher education with a significant description about the international cooperative agreements available in Central America. The design of the survey sections were to obtain accurate information that would help develop unique academic partnerships in higher education with universities worldwide.

Survey Improvement

After a careful examination of the survey instrument by a group of graduate students, faculty, and staff, the researcher proceeded to follow a number of suggestions provided. The suggestions provided by the experts required further improvement in the structure of the survey such as the incorporation of instructions, definition of terms, descriptive questions, and the construction of four supplementary letters. To improve the survey, the researcher rearranged the structure of the questionnaire into three sections: (a) study abroad programs, (b) international cooperative agreements, and (c) demographics. The content of the survey was improved in each section by adding specific descriptive queries containing close-ended and open-ended categories of questions.

Incorporating a set of instructions and definitions also was necessary to successfully guide the participant through the completion of the survey. The instructions were designed to politely request the participants to share their professional experiences and perspectives working in higher education. Two main definitions were included to clarify any doubts about the meaning of study abroad programs and international cooperative agreements. The final suggestion indicated the construction of four important letters that included a: (a) letter of consent (Appendix D and E), (b) first reminder (Appendix F and G), (c) second reminder (Appendix H and I), and (d) thank you letter (Appendix J and K).

The initial letter of consent had to be revamped based on suggestions provided by the committee members. The committee asked the researcher to invite the participants to participate in the survey, inform them about the purpose of the study, and emphasize the importance of their participation for Central American academic institutions. A short statement about the time required to complete the survey was recommended as was a clear statement of confidentiality. The central part of the consent letter included an electronic link with direct access to the survey and reminded the participants for a second time about the confidentiality of the study. For the conclusion of the letter, the committee recommended including contact information about the administrators of the survey study including the researcher, major professor, and the ISU Office for Responsible Research (Appendix D, E, F, and G).

The survey reminders were very similar to the initial consent document. The only difference was an initial sentence in the letter indicating that the researcher had not received a response and asking the participants to complete the questionnaire at their earliest convenience (Appendix H and I). As a final gesture, the researcher developed a thank you letter to acknowledge the participation of the subjects in the study (Appendix J and K). The committee recommended the delivery of the thank you letter at the conclusion of the study with a written commitment to provide an electronic link to obtain a copy of the final report.

Variables

The dependent variables suggested for this study were created to obtain responses from a series of constructed statements about international leadership, programs, and agreement practices in Central America. The dependent variable for this study was based on the influences of international leadership. Administrators were asked to indicate the extent to

which they agree or disagree with statements about their professional responsibilities and global academic practices (where 5 = *strongly agree* and 1 = *strongly disagree*).

The independent variables recommended for this study were arranged into the following categories: (a) *international leadership*, which includes typical academic and demographic information; (b) *study abroad programs*, which identified the type of global exchange programs and initiatives implemented by the administrators; and (c) *international cooperative agreements*, which measured the types of agreements available in public and private universities. Within the independent variables, there were other factors taken into consideration to measure the administrators' perspectives and preferences for international academic programs. In addition, the variables independently helped in the exploration of the abundance of international policies that are promoted and enforced by university administrators.

The variables for this study were coded as a strategy to trace back the origin of the information to its source and to enhance the ability to analyze the data. The list shown in Figure 10 presents the codification used to store the information received from each research question captured by the electronic survey, ordered according to the order of questions presented in the survey. Survey question 20, which identified if the respondents provided any final comments on the survey, was not coded as it included qualitative data that was not used in this study; this information is not included in the data provided.

Academic Institution: Codes and identifies the names of the institutions

1 = Adventist University of Central America	40 = National Agrarian University
2 = Adventist University of Nicaragua	41 = National Autonomous University of Nicaragua-Leon
3 = Albert Einstein University	42 = National Forestry Science School
4 = Alma Mater University Fundepos	43 = National University
5 = American University	44 = National University of Agriculture
6 = Andres Bello University	45 = New University of El Salvador
7 = Autonomous University of Central America	46 = Pan-American Zamorano School of Agriculture
8 = Autonomous University of Chiriqui	47 = Paulo Freire University
9 = Ave Maria University	48 = Polytechnic University of Nicaragua
10 = Captain General Gerardo Barrios University	49 = Rafael Landivar University
11 = Castro Carrazo Metropolitan University	50 = Saint Thomas University of Oriente y Medio Dia
12 = Catholic AgroSchool of the Dry Tropics	51 = Santa Maria La Antigua Catholic University
13 = Catholic University Costa Rica	52 = School of Economics and Commerce
14 = Catholic University of El Salvador	53 = Science and Arts University of Costa Rica
15 = Central American Technical University	54 = Specialized university of the Americas
16 = Catholic University of Honduras Our Lady Queen of Peace	55 = St. John's College 56 = State University of Distance Education
17 = Central American University	57 = Technological University of Honduras
18 = Central University of Nicaragua	58 = Technological University of Panama
19 = Centre for Design Architecture and Construction	59 = Tropical Agriculture Research and Higher Education Centre
20 = Corozal Community College	60 = Universidad Jose Cecilio del Valle
21 = Costa Rica Institute of Technology	61 = University Alberto Masferrer
22 = Don Bosco University	62 = University Autonomous Regions Caribbean Coast of Nicaragua
23 = Dr. Jose Matias Delgado University	63 = University for International Cooperation
24 = EARTH University	64 = University of Cartago
25 = Evangelical University of El Salvador	65 = University of Commercial Science
26 = Francisco Gavidia University	66 = University of Costa Rica
27 = Francisco Marroquin University	67 = University of El Salvador
28 = Galen University	68 = University of La Salle
29 = Galileo University	69 = University of Louisville-Panama
30 = Ibero-American University of Science and Technology	70 = University of Oriente
31 = Jose Cecilio del Valle University Tegucigalpa	71 = University of Panama
32 = Jose Simeon Canas Central American University	72 = University of San Carlos of Guatemala
33 = Latin American University of Science and Technology	73 = University of San Pedro Sula
34 = Latin University of Costa Rica	74 = University of the Isthmus
35 = Latin University of Panama	75 = University of the Valley in Nicaragua
36 = Martin Luther King Jr. Protestant University	76 = University of the Valley of Guatemala
37 = Medical Sciences University	77 = University of West Indies
38 = Metropolitan Science University	78 = University Saint Paula
39 = Monica Herrera School of Communication Studies	79 = University of Belize
	80 = Veritas University

Figure 10. Variable codification.

- ID Number*: Identifies each individual who answered the survey (1–285).
- Country Code*: Identifies each country (501 = Belize; 502 = Guatemala; 503 = El Salvador; 504 = Honduras; 505 = Nicaragua; 506 = Costa Rica; 507 = Panama).
- Gender*: Identifies the gender among individuals (1 = male; 2 = female).
- Type of Institution*: Identifies type of university in the region (1 = public; 2 = private)
- Answered all Questions*: Identifies those who answered all the survey questions (1 = yes; 0 = no).
- Year Founded*: Identifies the year that the institution was founded (1676–2010).
- Survey Question 1*: Identifies those administrators with international experiences (1 = yes; 0 = no).
- Survey Question 2*: Identifies where the administrators studied abroad in:
- 2.1: United States (1 = yes; 0 = no)
 - 2.2: Canada (1 = yes; 0 = no)
 - 2.3: Mexico (1 = yes; 0 = no)
 - 2.4: Europe (1 = yes; 0 = no)
 - 2.5: Caribbean (1 = yes; 0 = no)
 - 2.6: Central America (1 = yes; 0 = no)
 - 2.7: South America (1 = yes; 0 = no)
 - 2.8: Asia (1 = yes; 0 = no)
 - 2.9: Africa (1 = yes; 0 = no)
 - 2.10: Other country or region (1 = yes; 0 = no)
- Survey Question 3*: Identifies the reasons for studying abroad:
- 3.1: Learn or practice a foreign language (1 = yes; 0 = no)
 - 3.2: Obtain an international academic experience (1 = yes; 0 = no)
 - 3.3: Experience different learning or teaching methods (1 = yes; 0 = no)
 - 3.4: Enhance the understanding about other world cultures (1 = yes; 0 = no)
 - 3.5: Other reason for studying abroad (1 = yes; 0 = no)
- Survey Question 4*: Identifies the language abilities of the administrators in terms of their ability to communicate (talk, read, write):
- 4.1: Spanish (1 = Yes; 0 = No); 4.1.1: Speak (1 = Yes; 0 = No); 4.1.2: Read (1 = Yes; 0 = No); 4.1.3: Write (1 = Yes; 0 = No)
 - 4.2: English (1 = Yes; 0 = No); 4.2.1: Speak (1 = Yes; 0 = No); 4.2.2: Read (1 = Yes; 0 = No); 4.2.3: Write (1 = Yes; 0 = No)
 - 4.3: Portuguese (1 = Yes; 0 = No); 4.3.1: Speak (1 = Yes; 0 = No); 4.3.2: Read (1 = Yes; 0 = No); 4.3.3: Write (1 = Yes; 0 = No)
 - 4.4: French (1 = Yes; 0 = No); 4.4.1: Speak (1 = Yes; 0 = No); 4.4.2: Read (1 = Yes; 0 = No); 4.4.3: Write (1 = Yes; 0 = No)
 - 4.5: Other language (1 = Yes; 0 = No); 4.5.1: Speak (1 = Yes; 0 = No); 4.5.2: Read (1 = Yes; 0 = No); 4.5.3: Write (1 = Yes; 0 = No)

Figure 10. (continued)

Survey Question 5: Identifies the types of study abroad programs that are available at their academic institutions as:

- 5.1: Foreign language program (1 = yes; 0 = no)
- 5.2: Internship program (1 = yes; 0 = no)
- 5.3: Academic program (1 = yes; 0 = no)
- 5.4: Research program (1 = yes; 0 = no)
- 5.5: Other program (1 = yes; 0 = no)

Survey Question 6: Identifies the types of study abroad programs that were established by the administrators at their institutions as a result of their leadership:

- 6.1: Foreign language program (1 = yes; 0 = no)
- 6.2: Internship program (1 = yes; 0 = no)
- 6.3: Academic program (1 = yes; 0 = no)
- 6.4: Research program (1 = yes; 0 = no)
- 6.5: Other program (1 = yes; 0 = no)

Survey Question 7: Identifies the geographical region or countries where the academic institutions currently have study abroad programs:

- 7.1: United States (1 = yes; 0 = no)
- 7.2: Canada (1 = yes; 0 = no)
- 7.3: Mexico (1 = yes; 0 = no)
- 7.4: Europe (1 = yes; 0 = no)
- 7.5: Caribbean (1 = yes; 0 = no)
- 7.6: Central America (1 = yes; 0 = no)
- 7.7: South America (1 = yes; 0 = no)
- 7.8: Asia (1 = yes; 0 = no)
- 7.9: Africa (1 = yes; 0 = no)
- 7.10: Other country or region (1 = yes; 0 = no)

Survey Question 8: Identifies the geographical region or countries where the administrators would prefer to establish new study abroad programs.

- 8.1: United States (1 = yes; 0 = no)
- 8.2: Canada (1 = yes; 0 = no)
- 8.3: Mexico (1 = yes; 0 = no)
- 8.4: Europe (1 = yes; 0 = no)
- 8.5: Caribbean (1 = yes; 0 = no)
- 8.6: Central America (1 = yes; 0 = no)
- 8.7: South America (1 = yes; 0 = no)
- 8.8: Asia (1 = yes; 0 = no)
- 8.9: Africa (1 = yes; 0 = no)
- 8.10: Other country or region (1 = yes; 0 = no)

Survey Question 9. Identifies the importance of supervising, evaluating, or report the outcomes of study abroad programs using a Likert-type scale:

- 9.1: Supervise (0 = no answer; 4-1 = 4-point scale important to not important)
- 9.2: Evaluate (0 = no answer; 4-1 = 4-point scale important to not important)
- 9.3: Report (0 = no answer; 4-1 = 4-point scale important to not important)

Figure 10. (continued)

Survey Question 10: Identifies the perspective of administrators towards the importance of having an international vision, mission, strategic plan at their academic institution using a Likert-type scale:

- 10.1: Vision (0 = no answer; 4-1 = 4-point scale important to not important)
- 10.2: Mission (0 = no answer; 4-1 = 4-point scale important to not important)
- 10.3: Strategic plan (0 = no answer; 4-1 = 4-point scale important to not important)

Survey Question 11: Identifies the international cooperative agreements available in participating universities from the knowledge of the administrators as:

- 11.1: Agreement to enhance the education in science or technology (1 = yes; 0 = no)
- 11.2: Agreement to establish branch campuses or research centers (1 = yes; 0 = no)
- 11.3: Agreement to provide scholarships to the students (1 = yes; 0 = no)
- 11.4: Agreement to enhance the finances of the institution (1 = yes; 0 = no)
- 11.5: Agreement to promote the academic services at a global level (1 = yes; 0 = no)
- 11.6: Other agreement (1 = yes; 0 = no)

Survey Question 12: Identifies the types of international cooperative agreements that were established by the administrators at their institutions as a result of their leadership:

- 12.1: Agreement to enhance the education in science or technology (1 = yes; 0 = no)
- 12.2: Agreement to establish branch campuses or research centers (1 = yes; 0 = no)
- 12.3: Agreement to provide scholarships to the students (1 = yes; 0 = no)
- 12.4: Agreement to enhance the finances of the institution (1 = yes; 0 = no)
- 12.5: Agreement to promote the academic services at a global level (1 = yes; 0 = no)
- 12.6: Other agreement (1 = yes; 0 = no)

Survey Question 13: Identifies the perspective of administrators toward the importance of having any of the following international cooperative agreements at their academic institution using a Likert-type scale

- 13.1: Agreement to enhance the education in science or technology (0 = no answer; 4-1 = 4-point scale important to not important)
- 13.2: Agreement to establish branch campuses or research centers (0 = no answer; 4-1 = 4-point scale important to not important)
- 13.3: Agreement to provide scholarships to the students (0 = no answer; 4-1 = 4-point scale important to not important)
- 13.4: Agreement to enhance the finances of the institution (0 = no answer; 4-1 = 4-point scale important to not important)
- 13.5: Agreement to promote the academic services at a global level (0 = no answer; 4-1 = 4-point scale important to not important)
- 13.6: Other agreement (0 = no answer; 4-1 = 4-point scale important to not important)

Survey Question 14: Identifies the perspective of the administrators toward the importance of their academic institutions to supervise, evaluate, and report the outcomes of international cooperative agreements using a Likert-type scale:

- 14.1: Supervise (0 = no answer; 4-1 = 4-point scale important to not important)
- 14.2: Evaluate (0 = no answer; 4-1 = 4-point scale important to not important)
- 14.3: Report (0 = no answer; 4-1 = 4-point scale important to not important)

Figure 10. (continued)

Survey Question 15: Identifies the highest academic degree completed by the administrators (respondents) (0 = no response; 1 = doctoral degree; 2 = master's degree; 3 = bachelor's degree; 4 = other degree)

Survey Question 16: Identifies the country or region where the administrators (respondents) completed their highest degree as:

- 16.1: United States (1 = yes; 0 = no)
- 16.2: Canada (1 = yes; 0 = no)
- 16.3: Mexico (1 = yes; 0 = no)
- 16.4: Europe (1 = yes; 0 = no)
- 16.5: Caribbean (1 = yes; 0 = no)
- 16.6: Central America (1 = yes; 0 = no)
- 16.7: South America (1 = yes; 0 = no)
- 16.8: Asia (1 = yes; 0 = no)
- 16.9: Africa (1 = yes; 0 = no)
- 16.10: Other country or region (1 = yes; 0 = no)

Survey Question 17: Identifies the academic discipline in higher education (0 = unknown; 1 = humanities; 2 = social science; 3 = natural sciences; 4 = formal science; 5 = applied sciences)

Survey Question 18: Identifies the years of experience of the administrators (respondents) in higher education (1 = less than 1 year; 2 = 1-5 years; 3 = 6-10 years; 4 = 11-15 years; 5 = 16-20 years; 6 = more than 21 years)

Survey Question 19: Identifies the year that the respondent was born to calculate the age of the population (0 = Unknown; 1932–1987).

Figure 10. (continued)

Data Collection

The survey instrument was delivered electronically to the executive administrators' e-mail addresses during spring semester 2011. The study was approved by the Iowa State University (ISU) Institutional Review Board prior to the delivery of the survey (Appendix C) and was supplemented with an electronic professional cover letter (see Appendix D and E) from the School of Education at ISU. The purpose of the cover letter was to encourage university administrators to participate in the research study. After the delivery of the survey letter, the administrators were expected to answer, complete, and submit the survey instrument within a 2-week period. To employ an effective data gathering system, the

researcher utilized Qualtrics Research Survey Software Package provided by the ISU School of Education. Qualtrics was provided free of charge under expert supervision and advice of university officials at ISU to collect data from university administrators working at distant locations in Central American countries.

The collection of data utilizing Qualtrics was selected by the researcher for several reasons: (a) university administrators had valid e-mail addresses as well as access to computers at their respective institutions, (b) the administration of the survey could be delivered in a timely and consistent fashion, (c) the rapid delivery of invitations and the simplicity of completing the survey via the internet was expected to yield a high response rate from the surveyed population, (d) the legitimacy of the instrument was increased by providing the research population with an official ISU electronic invitation, (e) the quick electronic submissions of the survey responses from the university administrators provided for the immediate storage of information into a secure database, (f) the storage of information into a spreadsheet database was an efficient method for analyzing and converting the data to charts or tables, and (g) the costs related to the use of an Internet-based method for the delivery of the survey instrument as well as the gathering of data was significantly low in comparison with traditional mail type delivery or other survey methods.

Data Analysis

The response rate of university administrators working in Central American countries, as well as information regarding the total sample from the population during the 2011–2012 academic year, is shown in Table 20. For this research study, a total of 885 electronic surveys were electronically delivered to university administrators in Central America working with global programs. It was expected that 30% of the administrators

Table 20
Survey Response Rates from University Administrators

Semester	Surveys delivered	Surveys received	Response rate
Fall semester 2011	500	100	20.1%
Spring semester 2012	385	185	48.1%
Total	885	285	32.2%

would return completed surveys without lacking sufficient information. The final sample was yielded a 32% response rate from the targeted population of administrators working in the countries of Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama.

Method of Analysis

The researcher organized the information through the use of Qualtrics Research Survey Software Package provided by the School of Education at ISU. The data collected were transferred to the Statistical Analysis for Social Sciences (SAS Institute, Inc., 2011) for further analysis using descriptive statistics. A contingency table was created from the multivariate frequency distribution based on the statistical variables of the study which included: gender, level of education, area of education, country of employment, years of employment, type of institution, geographical location of institution, experiences studying abroad, places of study abroad, and language ability. By understanding the demographics of Central American universities, the researcher obtained data that aided in the implementation and establishment of inferences based on the characteristics provided by university administrators. The information was essential to establish a knowledge foundation to promote further research projects in higher education as a strategy to enhance the condition

of global education, create exceptional global programs, and increase the number of international agreements in the region.

Inferential statistics were used as a measure to understand characteristics about the population of university administrators in Central America. The group was divided into two groups, private and public institution administrators, to compare data beyond that immediately obtained from the sampled population. By using inferential statistics the researcher was able to make judgments about the probability that an observed difference between the groups was a dependable one or one that might have occurred by chance during the study. In sum, inferential statistics were essential for the researcher to make comparisons from the data under more general conditions using the general linear model in the form of the standard deviations.

Reliability of the Survey Instrument

To measure the extent of consistency among the responses provided by the sample population, it was necessary to measure the internal consistency or the degree of homogeneity in the survey instrument. The internal consistency of the instrument was measured using Cronbach's alpha because the scores on the survey decreased along a continuum of items that measure attitudes. The researcher used SAS to run a Cronbach's alpha analysis to observe the average of all possible split-half estimates from the same sample and compute the resulting correlations for dichotomous items. In sum, the reliability of the instrument was measured using a Cronbach's alpha statistic to increase the intercorrelation, whereby the number of items will equal the average variance of the sample and the average covariance between the items of the equivalent sample. The next section will provide an explanation of the methodology used to validate the instrument.

Content Validity of the Instrument

The content validity of the survey instrument reflects the extent to which a measurement demonstrates the specific domain of the content. Before sending the survey instrument to the sample population, the researcher pilot tested the questionnaire to establish the face validity. By establishing face validity, the researcher obtained suggestions for the improvement of the questions, design of the bilingual survey, and the scales used to measure the attitudes of university administrators. The questionnaire was administered to Hispanic scholars in the United States to obtain suggestions in regards to the content of the questions, importance of the items, organization of the survey, and the length of the electronic survey version.

Phases of the Study

The data for this study were collected over 5 months period from November 1, 2011 to March 31, 2012. There were five phases of the study developed by the researcher to organize the procedures and collect data from university administrators in Central America (see Figure 11).

Phase 1: Project Initiation

The first phase was the “project initiation” phase, during which all forms and documents required to conduct a research of this magnitude were submitted. After the approval of university officials, the development of a bilingual electronic survey using Qualtrics software commenced. The content validity of the survey instrument was measured by several groups including the ISU Center for Survey Statistics and Methodology, administrators at U.S. Hispanic-serving institutions, and Latin American graduate students, faculty, and staff in the College of Agriculture and Life Sciences at ISU. See Figure 11.

Phase 2: Project Planning

The second step was the “project planning” phase, during which a secured database with contact information of university executive administrators in Central America was developed. Also during the second phase the electronic bilingual survey was tested and revised based on the recommendations provided by the group of experts. All forms and documents required by the ISU Office of Responsible Research were updated. During this phase the researcher started the delivery of the survey to executive administrators to determine the abundance of study abroad programs, cooperative agreements, and global leadership capabilities. Finally, the second phase concluded with the determination of specific budgetary needs to conclude the research study.

Phase 3: Data Collection

During phase 3, the data collection phase, the researcher delivered the electronic survey instrument to the executive administrators working in Central American institutions. Travel arrangements were also made by the researcher to visit Costa Rican institutions to talk with some of the executive administrators about their experiences working with international programs. The researcher also communicated via e-mail with administrators and obtained

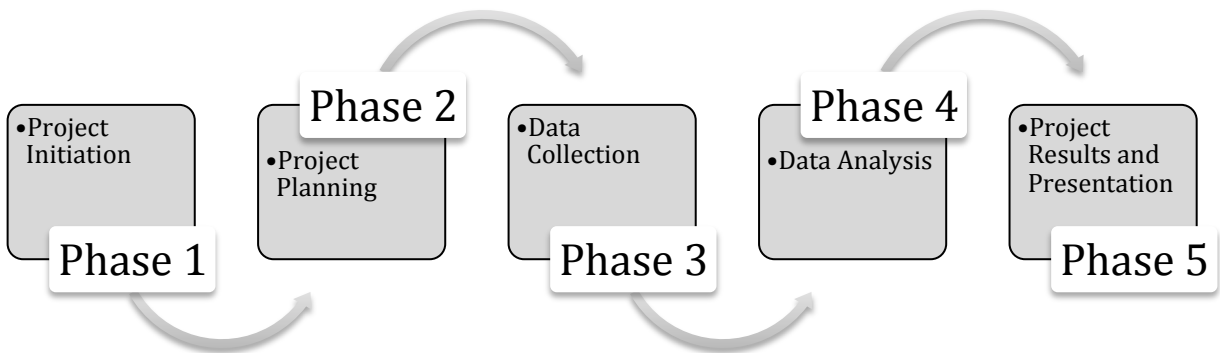


Figure 11. Phases of the research process and study.

additional information about the global initiatives sponsored by universities in Central America. Additional consultation was conducted with experienced staff at Iowa State University about study abroad programs, cooperative agreements, and global leadership skills. At the conclusion of phase 3 the researcher organized the data collected in a spreadsheet for revisions and developed a preliminary report of the findings.

Phase 4: Data Analysis

During phase 4, the data analysis phase, the researcher determined which study abroad programs, cooperative agreements, and global leadership capabilities were present in Central American institutions. A comparison of the results followed to describe the abundance of international programs in public and private universities.

Phase 5: Project Results and Presentation

During this last phase, the project results and presentation phase, the researcher completed a report of the findings of the study and made the changes recommended by the program of study committee members. A final presentation was also developed to present the results to stakeholder sin higher education. Figure 11 illustrates the phases of this research study.

Budget of the Study

The budget estimate to complete this research study is illustrated in Table 21. The estimate comprised one round trip to Costa Rica from Ames, Iowa. It also covered any additional costs for housing, land transportation, printing materials, and additional expenses that were necessary to complete the study. Costa Rica was selected as a country to visit because ISU has a history of study abroad programs and cooperative agreements with the University of Costa Rica, EARTH University, and La Selva Ecological Station. In addition,

Table 21
Research Study Budget

Item	Cost
Travel to Costa Rica and back from Ames	\$900
Land Transportation	\$600
Housing	\$500
Printing costs	\$100
Phone calls	\$75
Additional materials (flash disks and software program)	\$150
Total estimated costs	\$2,325

Costa Rican administrators were willing to share their experiences working with international programs and provided additional information about their global initiatives.

Budgetary and Logistical Problems

At the time, the only potential budgetary or logistical problems foreseen were the price change of airline tickets, land transportation, or hotel expenses. Another problem was the reliance on the availability of executive administrators in Costa Rican universities during the scheduled visits. Therefore, several meetings with students and staff also were scheduled to obtain additional information and advice about international programs in higher education.

Limitations of the Study

It is imperative that all scheduling concerns were attended to and the collection of data from the executive administrators was completed in a timely manner. The geographical distance between the United States and Central America imposed limitations on the study. The amount of time scheduled to gather data from international sources using a modern electronic survey instrument regulated the delivery, collection, and analysis of the

information. Another limitation that must be considered is the technical difficulties or lack of a modern Internet infrastructure that might have been present in Central American countries. Likewise, the technology used to design and deliver the survey was advantageous for this study, but the researcher was aware of its malfunctions and limitations.

Ethical Considerations

The delivery of electronic survey questionnaires is rapidly becoming a popular practice in today's advanced communication systems. Therefore, various ethical considerations concerning representativeness, confidentiality, and the use of technology as an instrument to gather data across the distance were considered for this study. There were three basic ethical issues considered before using an electronic survey instrument. The first consideration was the limited availability of a sample population that could serve as representative of other Central American executive administrators with international experiences. Therefore, a secured database containing contact information for an exclusive population was created for the study. A reminder was also delivered to the executive administrators containing information about the importance of the study and encouraging them to complete the survey study.

The second consideration was confidentiality because the use of the Internet can affect the security of the participants and their responses. Therefore, as recommended by Goree and Marszalek (1995), the subjects were provided with an agreement and assurance about the safeguarding of their identities after their participation. The third consideration was the use of an electronic survey to deliver and obtain information from distant places. Furthermore, the researcher was conscious about the strengths and weaknesses of using Qualtrics® as a secure electronic survey software program to protect the responses from the

population. Furthermore, because ethics is an important part of this research study, the procedures were designed to avoid conducting harmful research and to use integrity to report the results. The final objective of the ethical considerations taken in this study was to protect the confidentiality of the subjects and prevent possible ethical dilemmas that could affect the outcomes of the study.

Chapter Summary

The purpose of this research study was to develop a profile of university administrators in Central America based on professional and personal characteristics, perceptions, and experiences working with international programs. The study also describes the diversity of international leadership, study abroad programs, and cooperative agreements in Central American universities. For the study the researcher collected data, provided a descriptive analysis, and explored the degree to which university administrators incorporated, supported, and promoted international programs. Data were collected using Qualtrics Research Survey Software Package and analyzed using Statistic Analysis for Social Sciences. University administrators were invited to participate in the study through an electronic letter containing an embedded hyperlink. Data collection occurred under a confidential environment in the event that any problems or questions arose from the research population. In sum, the analysis of the data described the status of internationalization from the perspective of university administrators and provided a background document to encourage future educational global programs and agreements in Central America.

CHAPTER 4. RESULTS AND DISCUSSION

Introduction

As the world becomes globalized by the influence of technology and science, community colleges and universities must provide international academic opportunities that are conducive for multicultural learning experiences for students, faculty, and staff. This unique report is an attempt to increase awareness about the international leadership, programs, and agreements available in Central American public and private academic institutions. The study was essential to informing professionals in higher education about the international leadership skills of university administrators working in Central American countries. It also was fundamental to identifying the current types of study abroad programs and international cooperative agreements to promote the establishment of future experiential learning academic programs for teaching, research, and extension services.

The purpose of this research study was to develop a profile of university administrators in Central America and describe the diversity of international leadership, study abroad programs, and cooperative agreements in Central American universities. The study's findings provide a description of the demographic characteristics of 285 executive university administrators leading successful international programs in the countries of Belize, El Salvador, Guatemala, Costa Rica, Honduras, Nicaragua, and Panama.

The population was studied using a 20-question descriptive electronic survey instrument that was delivered via e-mail to the sample population of administrators. To deliver an electronic descriptive survey, the researcher identified 885 executive university administrators working with international programs in Central America. A total of 32% ($N = 285$) of all of the administrators volunteered, completed, and returned the electronic survey.

Based on the findings of this study, there is a field of opportunities for academic institutions worldwide to benefit from partnerships with community colleges and universities in Central America. The study serves as a model for future research projects at ISU as well as at other higher education institutions worldwide. Overall, the administrative staff at public and private universities demonstrated having global experiences, language abilities, and the willingness to establish new partnerships in higher education. These partnerships have the potential to benefit the professional development of undergraduate students, faculty, and staff in community colleges and universities worldwide.

The results are based on data from the Executive Survey for University Administrators in Central America (see Appendix A and B), which was created as part of a capstone experience program in the School of Education at ISU. As recommended by Gadermann, Guhn, and Zumbo (2012), ordinal reliability tests were utilized for Likert-type response data on an internal consistency scale ranging from .9 (*excellent*) to .5 (*unacceptable*). Cronbach's alpha was used to determine the extent to which the measured scale yielded consistent results or were free from random error. Reliability estimates were calculated on questions 9, 10, 13, and 14 of the questionnaire to establish internal consistency. The reliability test from the sample produced a coefficient alpha of .80, indicating good internal consistency by which the instrument assessed the perception, preferences, and leadership skills of executive administrators.

The findings of the study are divided into four main sections. In the first section the study's response rates and age and gender characteristics of the administrators leading international academic programs at public and private Central American institutions are provided. In the second section professional characteristics and leadership abilities of these

administrators are described. In the third section an overview of the study abroad programs available for undergraduate students is provided. Finally, in the fourth part, the current types of international cooperative agreements in Central American institutions are examined.

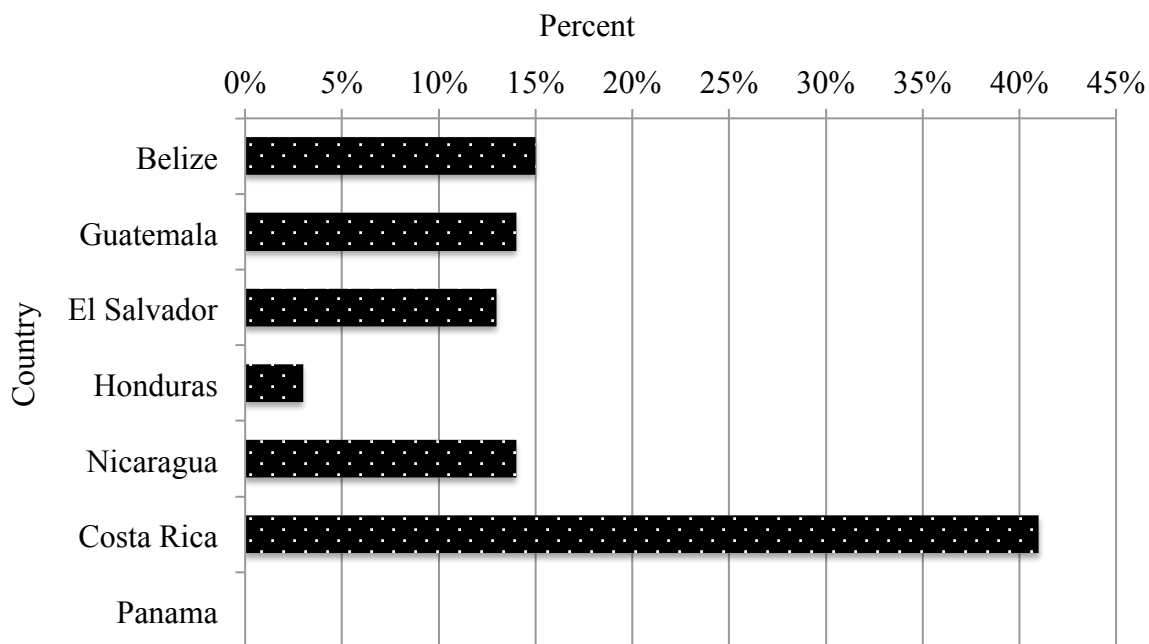
Response Rates, Gender, and Age

Response Rates

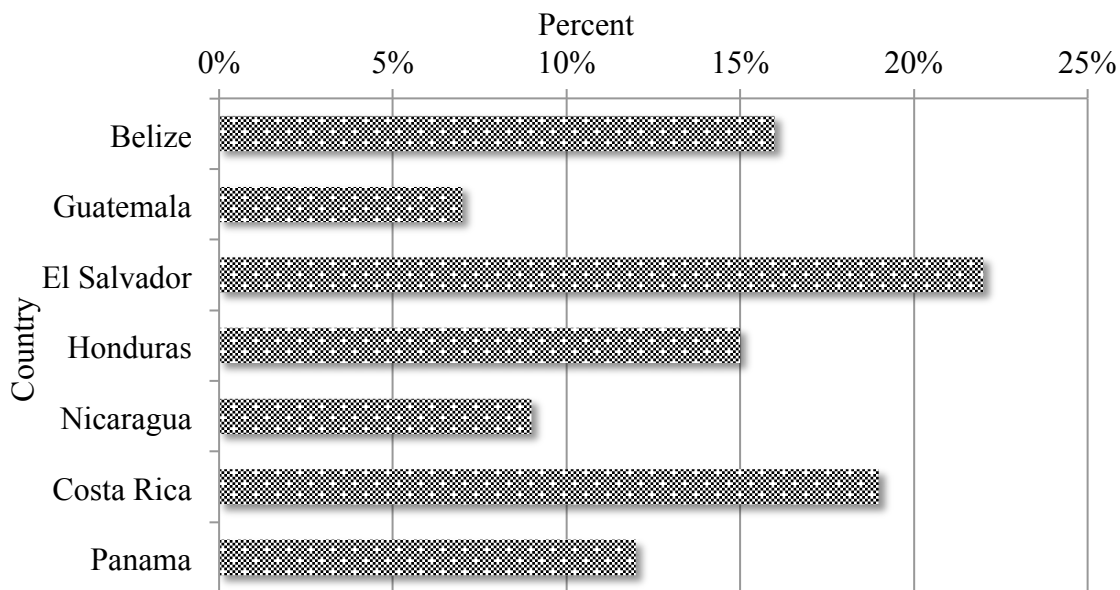
Data obtained through the Executive Survey for University Administrators in Central America revealed that a total of 100 administrators at public institutions volunteered to participate in the survey study. The highest percentage of survey respondents came from administrators in Costa Rica with 41% (see Figure 12a). The percentage of responding administrators from the countries of Belize, Guatemala, El Salvador, and Nicaragua ranged from 13 to 15% from each country. The percentage of Honduran administrators among those responding was lower at 3%, and no public administrators in Panama responded.

A total of 185 executive administrators working in private Central American institutions responded to the survey study. Twenty-two percent of the respondents were from El Salvador followed by Costa Rica with 19% (see Figure 12b). Belize and Honduras followed with 16% and 15%, respectively. Panama contributed 12% of the respondents, Nicaragua added 9%, and Guatemala supplied 7% of the participants from private universities.

From a population of 885 individuals, the number of public and private administrators comprised 285 participants or a 32% response rate. The number of responses by public and private administrators in Central America is shown by country in Figure 13. The largest group of survey participants came from private universities. From public institutions the largest number of participants were from administrators working in the country of Costa



(a) Administrators in public institutions



(a) Administrators in private institutions

Figure 12. Survey participants per country

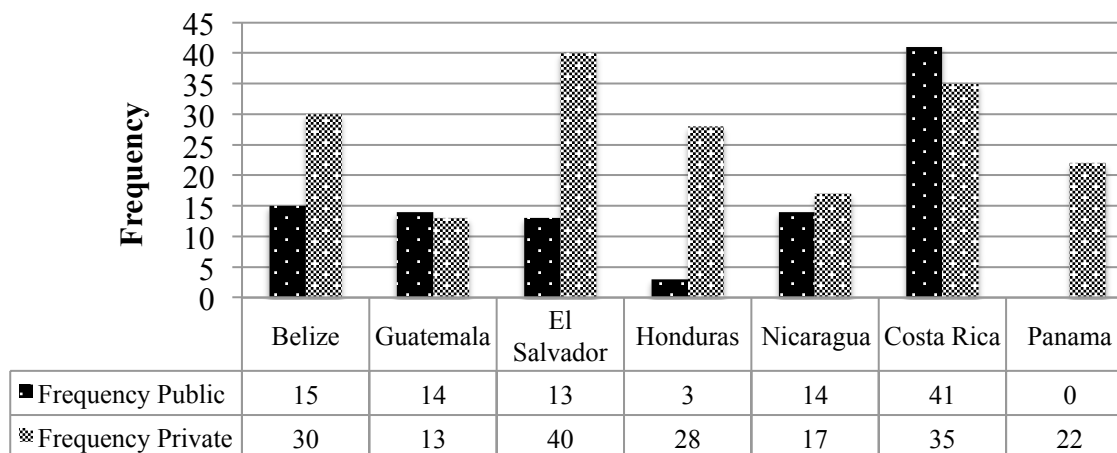


Figure 13. Response counts from public and private administrators by country.

Rica and the smallest number were from Panama. Among administrators at private institutions, the country of El Salvador had the largest number of participants in the survey study. On the other hand, Guatemala generated the smallest number of responses from the Central American countries (see Figure 13).

Gender

The gender ratios of executive administrators working in public and private Central American institutions are illustrated in Figures 14 and 15. The data obtained from the survey study demonstrated that at public institutions males dominated, comprising 70% of administrators (see Figure 14a).

Males also dominated the population of administrators at private institutions, comprising 56% of that group (see Figure 14a). The data also demonstrated that, although the male population was the majority group in private institutions, a well-balanced workforce was in place offering a larger percentage of female administrators the opportunity to play an important role at their institutions. On the contrary, their public institution female colleagues

remained dominated by a majority of male administrators. In sum, male participants in public and private institutions dominated the gender ratio while females remained underrepresented, more at public institutions than in the private sector.

A comparison of the gender ratio in the form of frequency distributions between public and private administrators in Central America is provided in Figure 15. In the public sector a total of 70 male administrators dominated the workforce, whereas 30 females

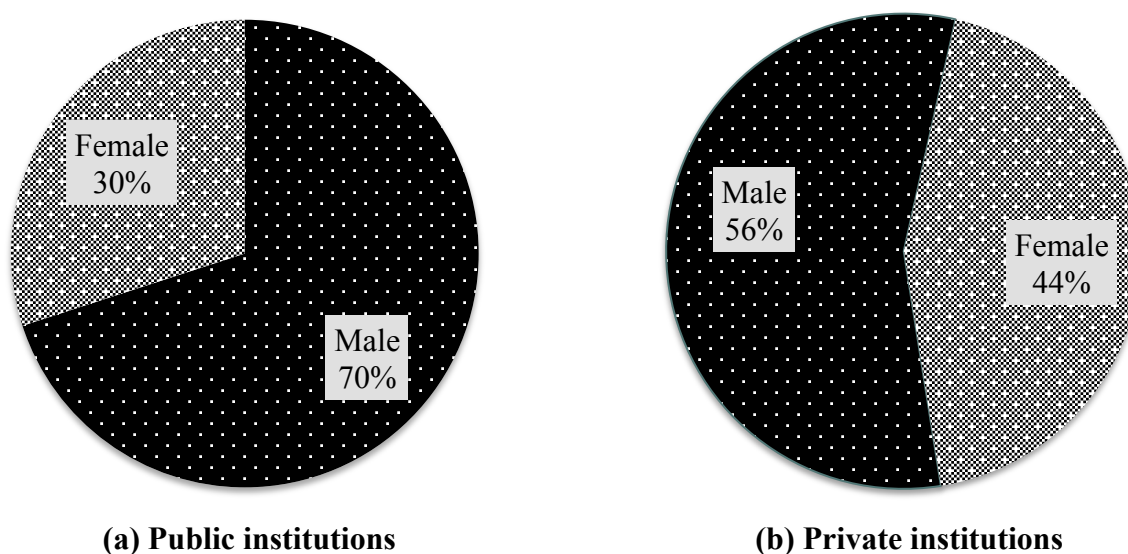


Figure 14. Gender ratios for administrators at public and private universities.

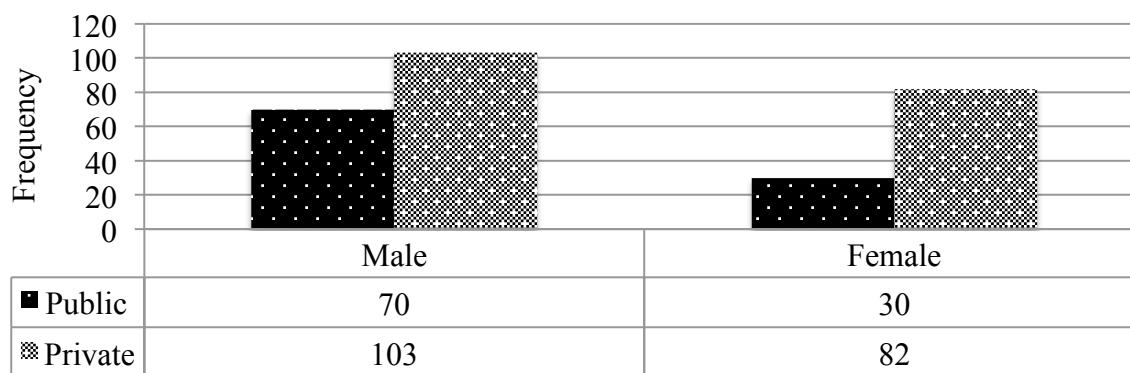


Figure 15. Gender comparison for administrators at public versus private institutions.

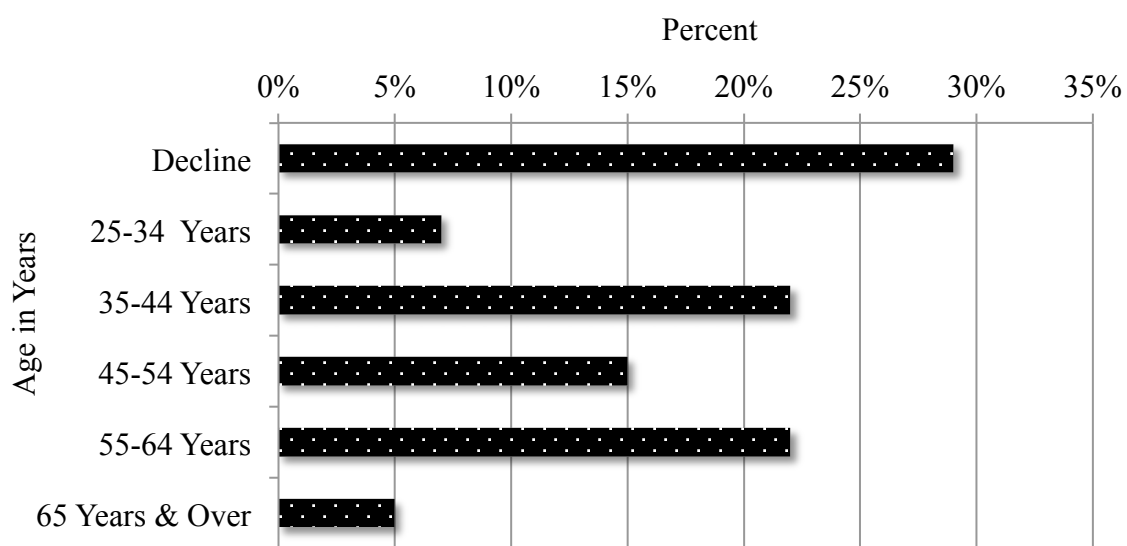
represented the minority group. The private sector demonstrated a somewhat similar pattern of male dominance in the workforce with 103 male administrators but with a higher percentage of females (44%) working with global programs.

Male administrators working with academic programs at an international level dominated the gender ratio in public and private institutions. However, female professionals working with international programs were more underrepresented at public institutions than at private universities. At private institutions, female professionals embodied a larger number of professionals than did their female counterparts in public universities. The divide between the gender ratios of executive administrators in Central American institutions clearly demonstrates the need to increase the participation of female professionals working at an international level in higher education. .

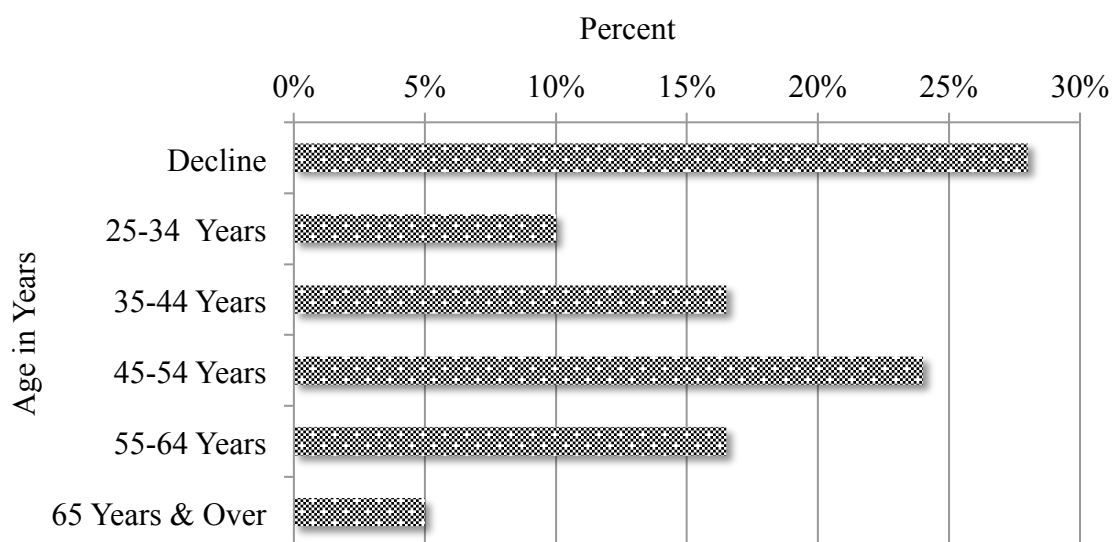
Age of Administrators

The administrators were asked their age as part of the survey study to complement the characteristics of the executive leaders in Central America. Of the public administrators who shared their age in the survey instrument, 7% were between the ages of 25 and 34 years, 22% were between 35 and 44 years of age, 15% had ages ranging from 45 to 54 years, 22% claimed to be between 55 and 64 years of age, and 5% declared to be over 65 years of age (see Figure 16a and 17). However, 29% of the administrators declined to share their age in the survey study. Overall, the age groups most represented by the public administrators was 35 to 44 and 55 to 64 years of age.

Private administrators demonstrated a different age strata than did their public colleagues. Only 10% of the administrators declared to have ages ranging from 25 to 34 years, and 16.5% claimed to be between 35 to 44, 24% were between the ages of 45 to 54



(a) Public university administrators



(b) Private university administrators

Figure 16. Age of university administrators.

years, 16.5% claimed to be between 55 to 64 years of age, 5% were over 65 years of age (see Figure 16b and 17). However, 28% declined to answer the question about their age in the survey study. In general, the most common age group among the private administrators in the higher educational system was 45 to 54 years of age.

The average age of the executive administrators at public institutions demonstrated that there were two principal age groups working with international programs in higher education: those from 35 to 44 years of age and those from 55 to 64 years of age. In the private sector of higher education, the administrators averaged 45 to 54 years of age with a young population of 34- to 44-year-olds. The data also revealed unwillingness of a significant portion of the administrators to reveal or share their age for the study.

Nonetheless, the ages of administrators from both private and public institutions indicated a young population of professionals in higher education. It also demonstrated a balanced group of professionals between the ages of 35-44 years and 55 to 64 years of age (see Figure 17). Overall, the public and private sectors of higher education possessed a mature group of experienced professionals that are being shadowed by a young population of administrators.

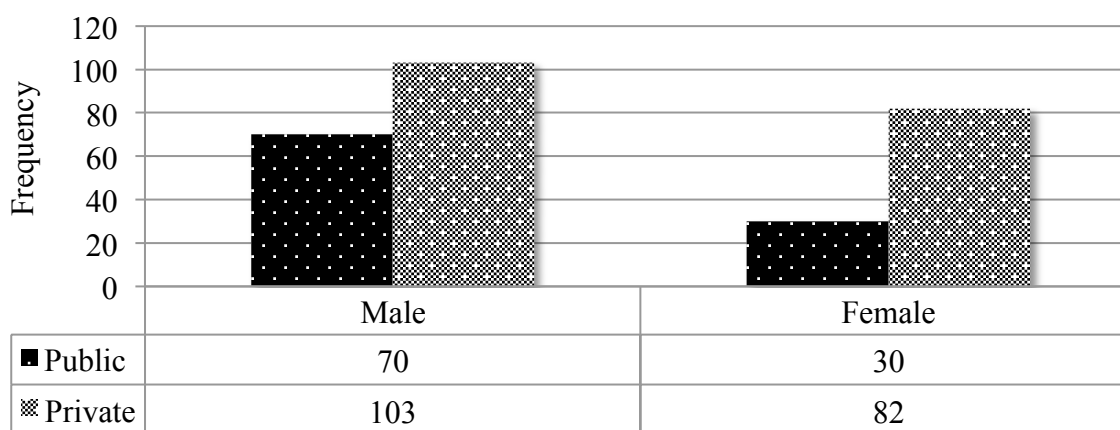


Figure 17. Frequency counts of administrators' age.

International Leadership

This section provides a description of the demographic and professional characteristics of the group of 285 executive university administrators employed in higher education. The information herein reveals the study abroad experiences, education, and leadership perspectives of university administrators working with international programs in Central American universities. This report assesses the preferences of the executive administrators and describes their leadership efforts in establishing international programs and agreements at their respective academic institutions. This section concludes with a description of the leadership accomplishments of the administrators and suggests future partnerships in higher education.

International leadership is necessary in community colleges and universities to establish some of the basic international cooperative agreements for study abroad programs in science and technology. To become a global leader in higher education, administrators must possess the ability to influence people in a global context to engage, inspire, and support the accomplishments of a shared vision or professional goal. To communicate effectively, university leaders working with international programs must have proficient language communication abilities, possess advanced degrees, and have an extensive record of cross-border travel experiences. The purpose of an international leader in higher education is to promote international teaching, research, and extension programs through diverse curriculums and academic ventures. Information about the demographic information of the sampled population, including their professional backgrounds, prior study abroad experiences, and language communication skills, is provided in the next section.

Previous Study Abroad Experiences

The first question of the electronic survey asked the administrators if they had participated in a study abroad experience as undergraduate students. The data gathered from the survey study showing that 61% (61 from a total of 100) of the administrators at public institutions had participated in at least one study abroad program as an undergraduate student (Figure 18a and 19). Information obtained from private institution administrators indicated that 68% (126 from a total 185) of the administrators confirmed to have had at least one prior study abroad experience as an undergraduate student (Figure 18b and 19). Only 59 private institutions administrators responded having not had any prior study abroad experience as undergraduate students.

The majority of university administrators in public and private universities possessed previous study abroad experiences as part of their academic repertoire. However, there still exist administrators who did not have a study abroad experience as an undergraduate

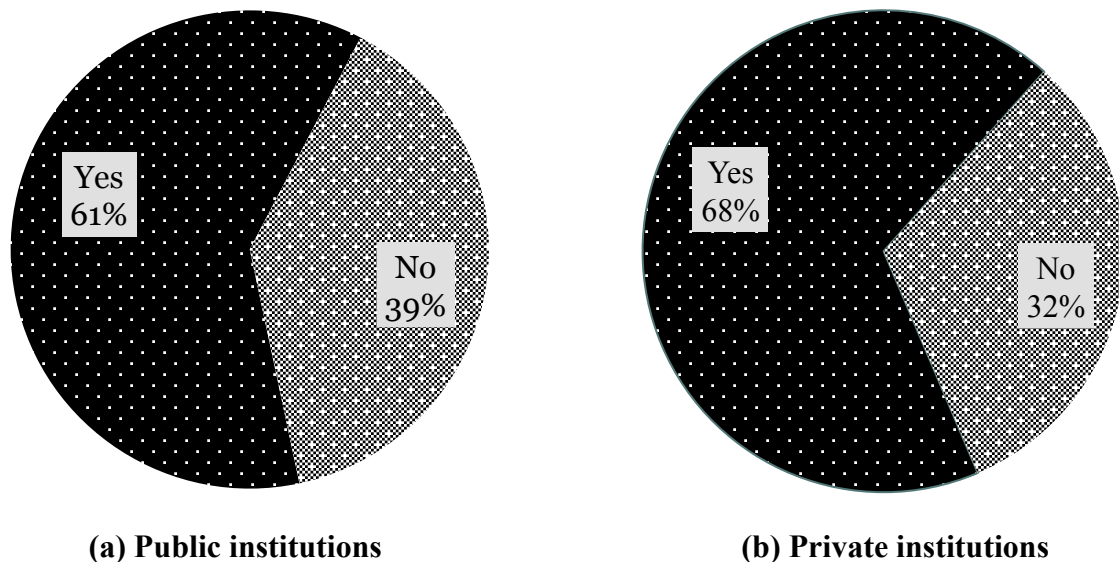


Figure 18. Previous study abroad participation by administrators.

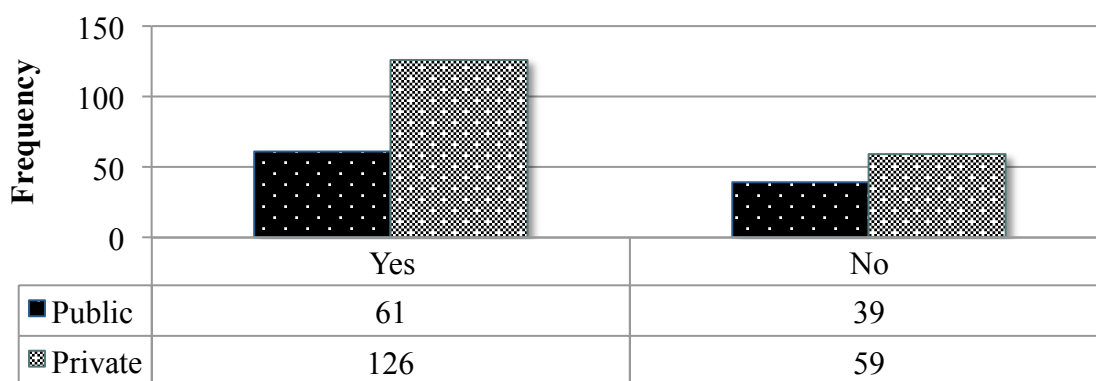
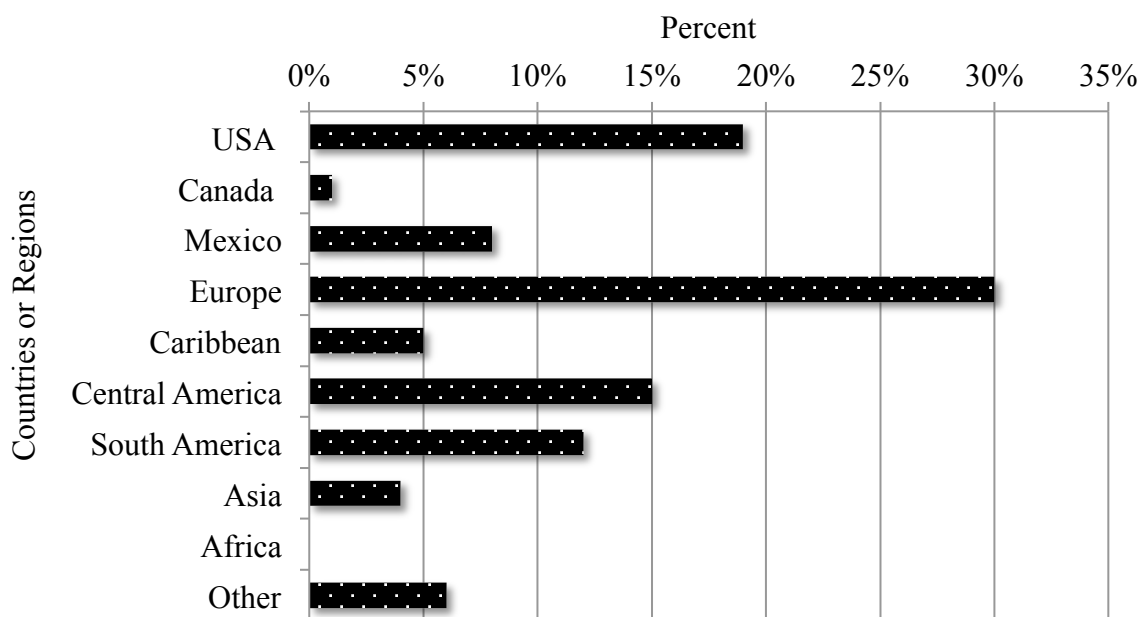


Figure 19. Frequency counts of administrators' study abroad experience.

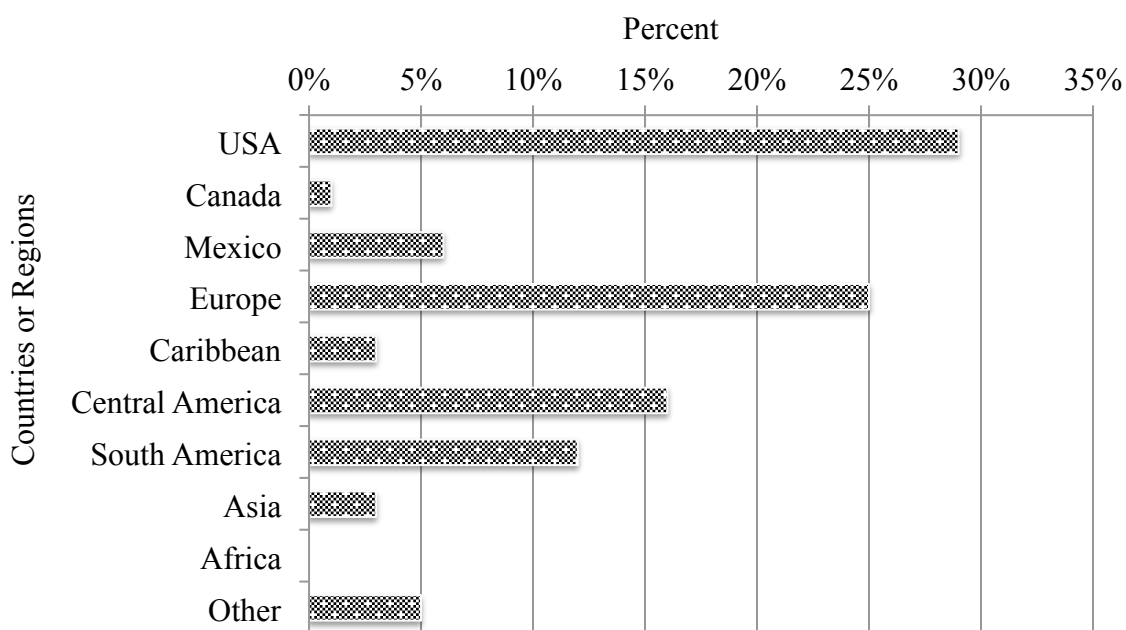
student. The study abroad experiences of the administrators were completed in the United States, Europe, Central America, and South America to obtain international experiences for academic or research reasons, as detailed next.

Study Abroad Travel Locations

To understand the previous international experiences of the executive administrators in Central America, the survey asked them to select the countries or regions where they had participated as undergraduate students in study abroad programs. The most mentioned location among public administrators where they had participated as undergraduate students in study abroad programs was Europe (see Figure 20a). The next most mentioned locale was the United States with 19%. The Central American and South American regions were also among the popular regions for the administrators with 15% and 12% rates, respectively. Mexico was selected by 8% of the participants, the Caribbean region by 5%, Asia by only 4%, and the African region by none of the public administrators. In addition, 6% of the administrators selected "other" regions or countries as their destination for study abroad



(a) Public university administrators



(b) Private university administrators

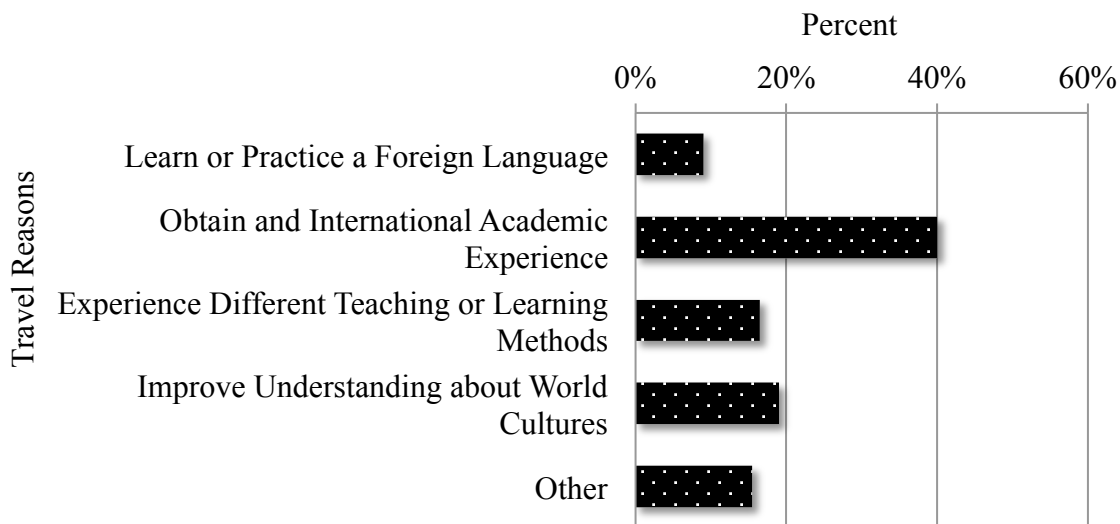
Figure 20. Locations traveled to by administrators.

experiences. In sum, the most popular countries or regions that public administrators participated as students were Europe, United States, Central America, and South America.

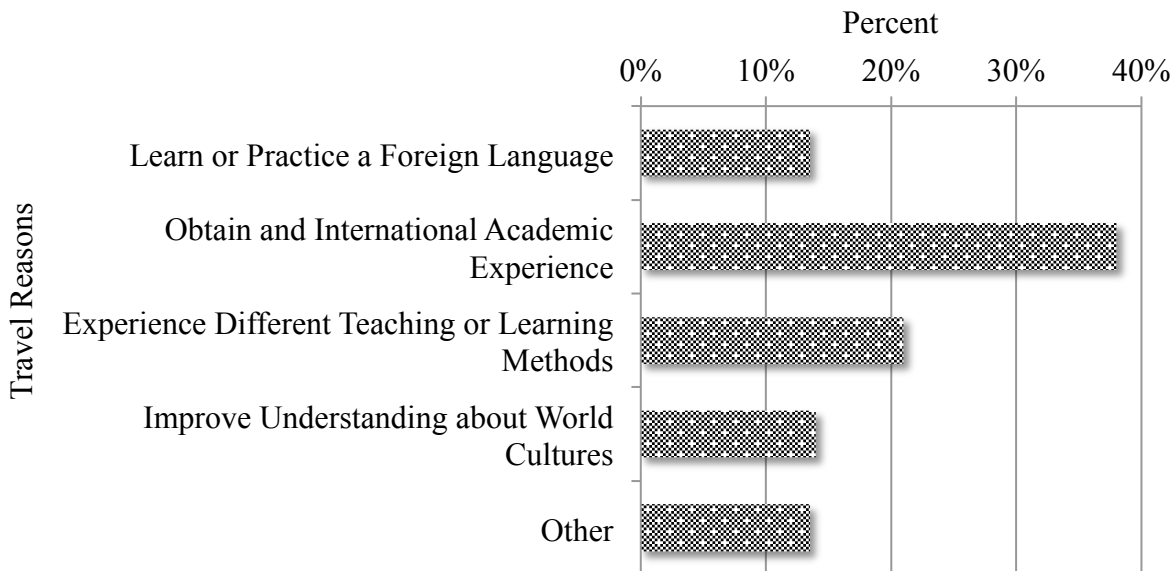
Administrators at private universities also demonstrated having obtained international experience as undergraduate students through study abroad programs. The country with the highest percentage of participation by the private administrators was the United States with 29% followed by Europe with a 25% response rate (see Figure 20b). Central America and South America also were among the regions selected by the administrators at 16 and 12%, respectively. Mexico followed with 6%, whereas the regions of the Caribbean and Asia each had a rate of 3%. Similar to their public counterparts, the region of Africa was not selected as a destination traveled to by private administrators as undergraduate students. However, 5% of the private administrators selected “other” regions and countries as their destination while participating in study abroad programs. In sum, private administrators selected the United States, Europe, Central America, and South America as their popular destinations for study abroad experiences.

Reasons for Studying Abroad

Understanding the reasons why public and private administrators traveled abroad as undergraduate students was a key objective of the survey study. The third question of the survey instrument asked the administrators to choose from a list of reasons their personal motives to study abroad as students. Public administrators demonstrated with a 40% rate that their main reason for studying abroad was to obtain an international academic experience (see Figure 21a). The second most common reason, with a 19% response rate, was to improve their understanding about other world cultures, and the third reason, with 16.5%, was to experience a different teaching or learning method during their academic careers. The



(a) Public university administrators



(b) Public university administrators

Figure 21. Reasons for studying abroad by university administrators in Central America.

least selected reason for studying abroad, with only a 9% response rate, was “to learn or practice a foreign language.” However, 15.5% of the public administrators selected “other” reasons to study abroad as undergraduate students. Overall, the main reason for public administrators for traveling abroad as students was to obtain international academic experiences.

Similar to public administrators, 38% of the private administrators demonstrated that their main reason to study abroad as students was to obtain an international academic experience (see Figure 21b). However, their second reason, with 21%, was to experience a different teaching or learning methods abroad, and only 14% traveled abroad as students to improve their understanding about other world cultures. To learn or practice a foreign language was selected by 13.5% of the private administrators as a reason to study abroad. Similarly, 13.5% of the administrators from private universities selected “other” reasons to study abroad. In general, the main reason for private university administrators in Central America to travel abroad was to obtain an international academic experience, similar to their public counterparts.

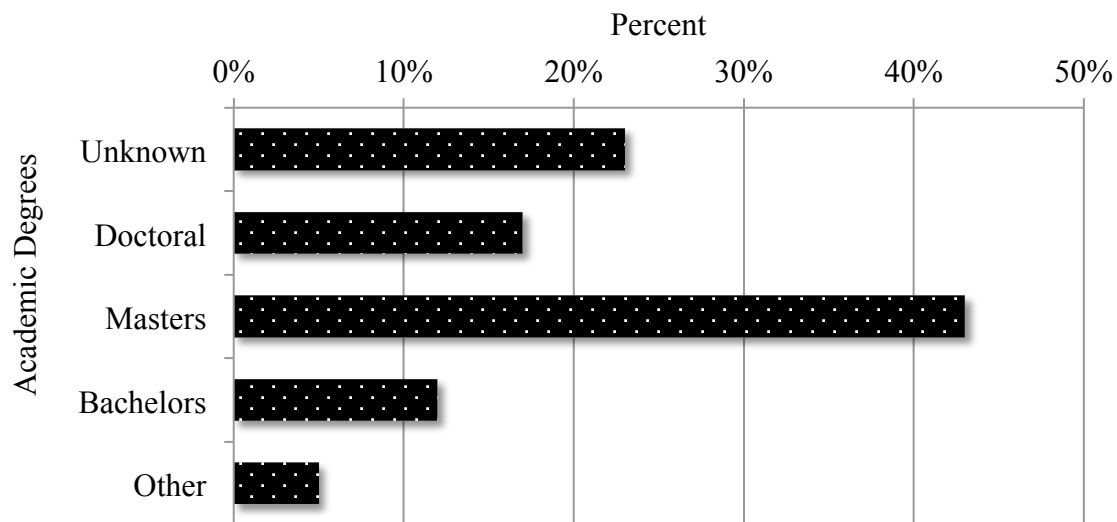
Academic Degrees Held by Administrators

The level of education among the executive administrators at public and private universities was an important characteristic measured to develop a basic understanding of their academic leadership in higher education. In public institutions, 43% of the administrators had master’s degrees, 17% possessed doctoral diplomas, and 12% had bachelor’s degrees (see Figure 22a). However, 23% did not share their educational level in the survey and 5% claimed other higher education degrees, including associate’s degrees, specialized training certificates, and high school diplomas. Overall, the most commonly held

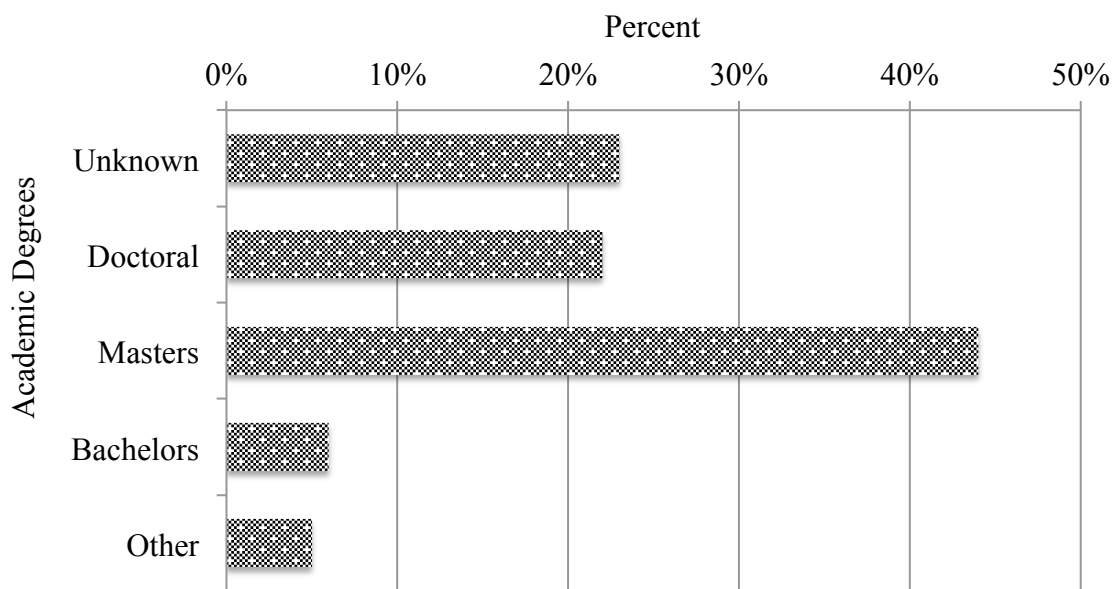
degree by administrators at public institutions in Central America possessed master's degrees as their highest form of academic degree and a smaller group had doctoral and bachelor's degrees.

At private universities, the majority of executive administrators demonstrated to have master's degrees, similar to their public colleagues. Forty-four percent claimed to possess master's degrees, 22% doctoral degrees, and 6% bachelor's diplomas (see Figure 22b). However, 23% did not share their educational level in the survey, and 5% confirmed they had other types of degrees, including associate's degrees, specialized training certificates, and high school diplomas. In general, private administrators demonstrated a larger percentage of doctoral degree holders in comparison with the executive administrators from public institutions. Again, master's degrees were the most common level of education, whereas the bachelor's degree was the least common academic degree for private institution administrators. The data for private administrators also revealed unwillingness from some of the administrators to reveal or shared their academic achievements in higher education.

The highest academic degrees of the administrators indicate that the majority of them held master's degrees with a small percentage of them holding a doctoral or bachelor's degree. Such findings informs higher education researchers about the need to establish graduate programs to not only improve the education of students but also that of the administrators in Central America. Another important aspect is that there is a great opportunity to establish graduate programs in Europe, United States, and within the Central American region. Further, given that the majority of the administrators possessed a degree in the applied sciences areas, there are opportunities to increase the number of degrees in the areas of humanities, social sciences, natural sciences, and formal sciences.



(a) Public university administrators



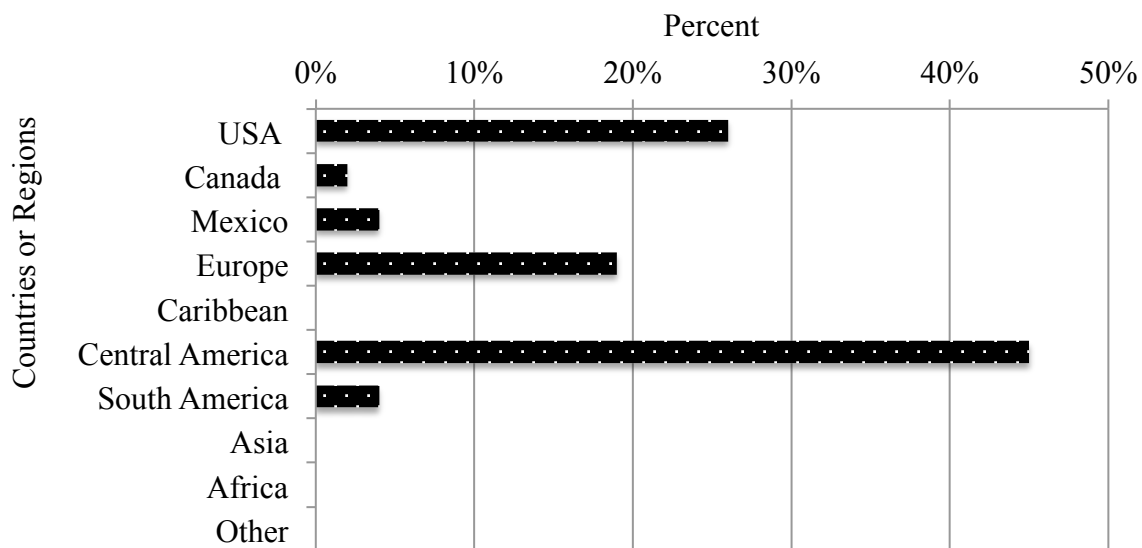
(b) Private university administrators

Figure 22. Academic degrees held by university administrators in Central America.

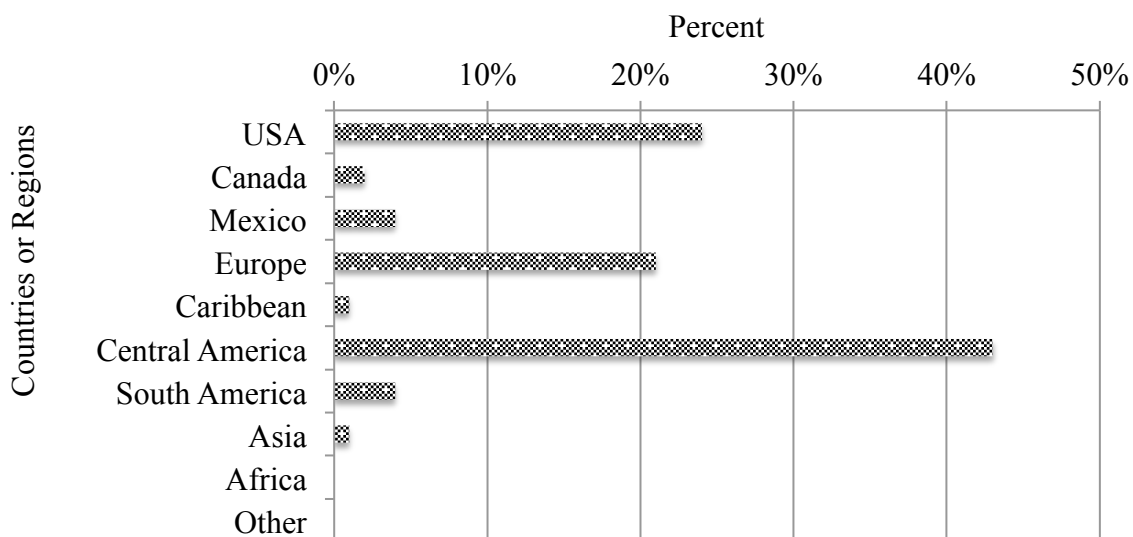
Locations Where Graduate Degrees Were Earned

The study survey asked the participants from public and private institutions to identify the country or region where they had obtained their highest educational degrees and to share some of their international experiences in higher education. Among public administrators, 45% revealed they had obtained their degrees in the Central American region, 26% received degrees in the United States, and 19% in Europe (see Figure 23a). Both the country of Mexico and the South America region were mentioned by 4% of the administrators, and Canada was mentioned by only 2%. No administrators selected the regions of the Caribbean, Asia, and Africa, nor did they provide the names of other countries for the origin of their degrees.

Private administrators' responses indicated that 43% of them graduated in the Central American region, 24% in the United States, and 21% in the European region (see Figure 23b). Both Mexico and South America were selected by 4%, and Canada by only 2% of the respondents. The regions of the Caribbean and Asia each were selected by only 1% of the respondents. Overall, private and public administrators completed their highest academic degrees mainly in Central America, the United States, or Europe. The remaining regions or countries were mentioned by only a small percentage of the administrators or, in the case of the African continent, not mentioned at all. The following section will summarize the most important findings about the academic disciplines considered by the administrators working with international programs.



(a) Public university administrators



(b) Private university administrators

Figure 23. Locations where university administrators in Central America received graduate degrees.

Academic Disciplines

The academic discipline of the executive administrators in Central America was an important subject to explore in order to describe the administrators' educational characteristics in the academia. The findings revealed that 49 public administrators shared that their professional academic disciplines were in the applied sciences area (see Figure 24). Eight administrators each were in the social and natural sciences areas, six were in the humanities and four in the formal sciences. However, 25 public administrators declined to share their academic disciplines in the survey. Overall, the most common academic discipline of the public administrators was applied sciences followed by the social and natural sciences.

Among private administrators, 86 had received degrees in the academic disciplines of applied sciences. A total of 21 declared to be in the social sciences, 16 in the natural sciences, and nine in the humanities (see Figure 24). The formal sciences was the least frequently selected academic discipline on the list, selected by only three of the administrators. However, 50 administrators declined to share their academic discipline in the survey study.

In general, there was similarity between the academic disciplines of the public and private executive administrators in that the most frequent response of both groups was that they had obtained their academic degrees in the areas of applied sciences, social sciences, and natural sciences. The least cited academic disciplines were the formal sciences and humanities. The data also revealed unwillingness from some of the administrators to reveal or share their academic disciplines in higher education.

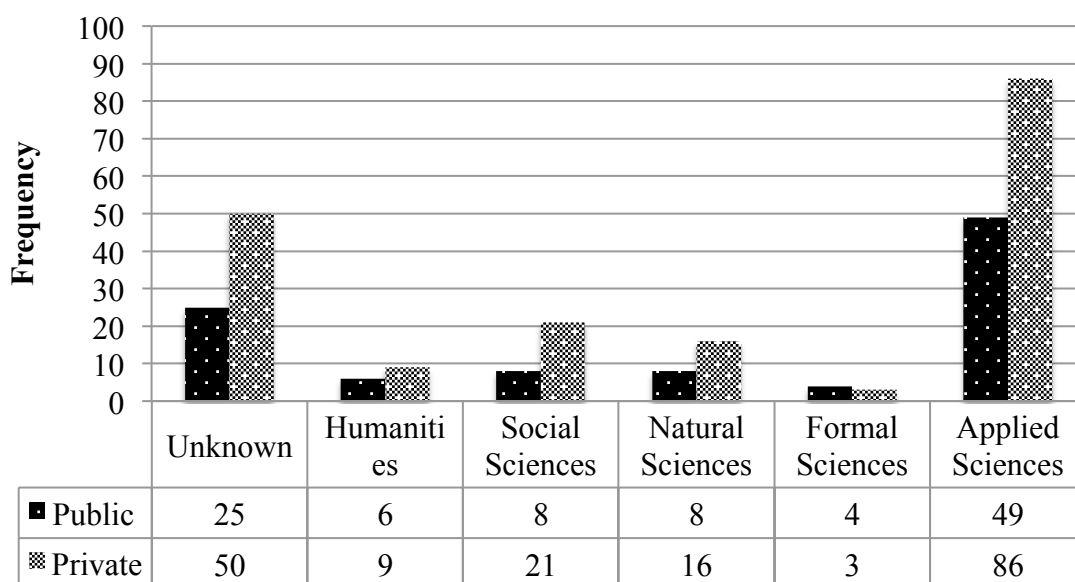


Figure 24. Comparison of administrators' academic disciplines.

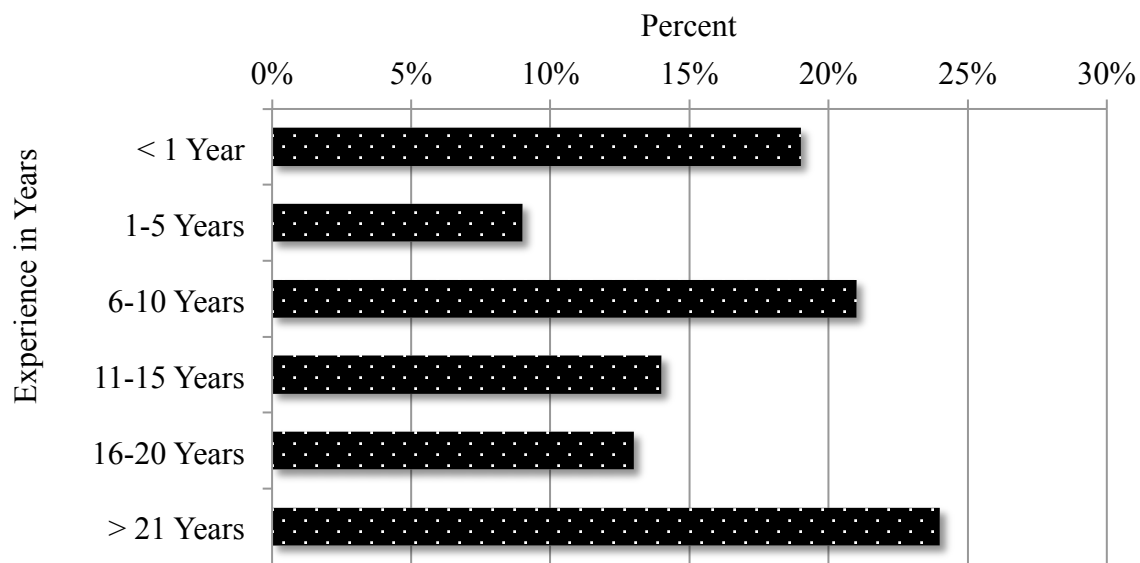
Administration Experience

The number of years of experience working in Central American public and private institutions was asked in order to complete a portrait of the professional skills of the executive administrators in higher education. Among public administrators, 24% confirmed they had over 21 years of experience working at their institutions, 21% claimed to have 6 to 10 years of experience, and 19% declared to have less than one year of academic experience in the public higher educational system (see Figure 25a). In addition, 14% declared to have 11 to 15 years of experience, 13% had 16 to 20 years, and 9% experienced 1 to 5 years working at their academic institutions. Overall, the largest group of public administrators had over 21 years of experience in the Central American system of higher education, and the second largest group had 6 to 10 years of experience followed by a young population of professionals with less than one year of experience.

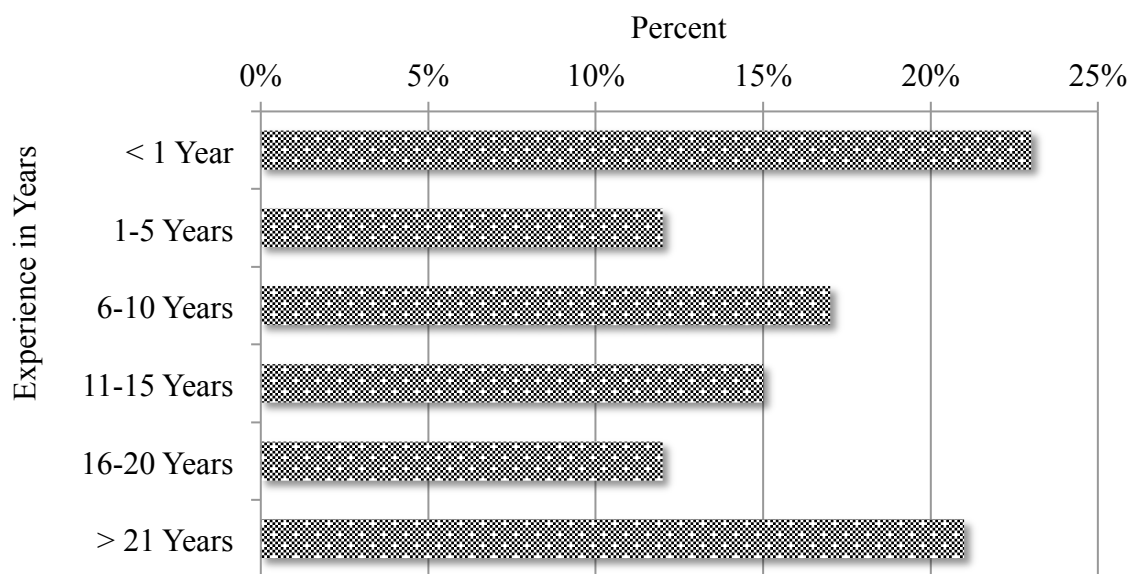
Private administrators revealed a somewhat different picture than their public counterparts regarding their years of experience. Among private administrators, 23% declared to have less than one year of experience, 21% confirmed to have over 21 years working in the academic arena, 17% declared 6 to 10 years in higher education, and 15% had 11 to 15 years (see Figure 25b). However, 12% of the administrators declared to have 1 to 5 years or 16 to 20 years of experience working in higher education. In sum, the majority of private administrators demonstrated to be a young population of professionals with less than one year of experience followed by an experienced older group with over 21 years of experience in higher education.

The data revealed that in public and private institutions there were primary-, intermediate-, and a higher-level populations of experienced professionals working in higher education. The primary population of the administrators had less than one year of experience, followed by the intermediate professionals with 6 to 10 years in academia. Then, the higher-level of professionals, with over 21 years of experience in the Central American system of higher education leads these other groups. This population of primary, intermediate, and higher level of professionals represents a group of leaders ready to lead and pursue exceptional professional goals.

The results indicate that there is a large group of administrators with professional experience exceeding 21 years or more in higher education and a young population of rising administrators with less than one year of experience. There was also an intermediate experienced group with 6 to 10 years of administrative experience working with international programs. These results are indicative of the future young generations of executive



(a) Public university administrators



(b) Private university administrators

Figure 25. Central American university administrators' professional experience by years.

administrators that are currently obtaining unique professional experiences to replace those at the top with 21 years or more in the system of higher education.

Language Abilities

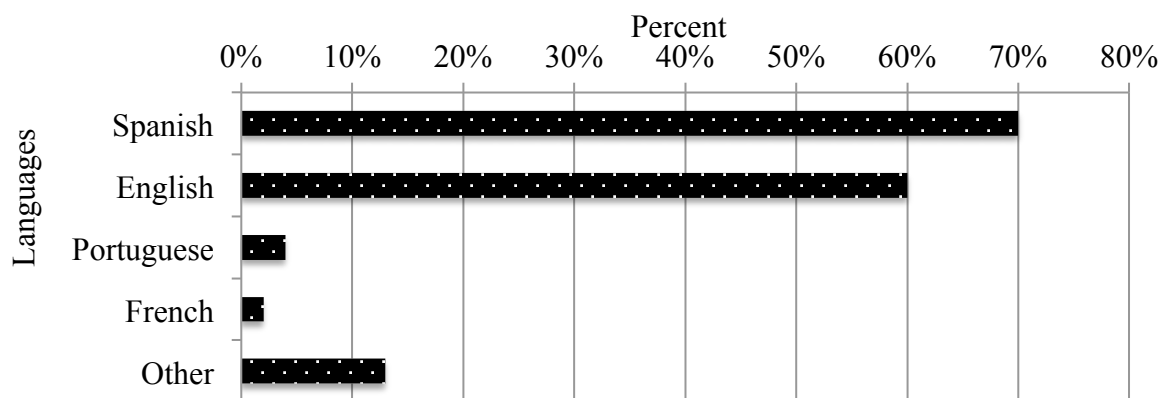
A list of Central American regional languages was provided in the survey for the administrators to respond about their speaking, reading, and writing abilities in the Spanish, English, Portuguese, and French languages.

Public administrators. The data gathered by the survey revealed that 70% of the public administrators had fluent speech in Spanish, 60% in English, 4% in Portuguese, and 2% in French (see Figure 26a). In addition to these languages, 13% of the public administrators also revealed they spoke “other” languages fluently.

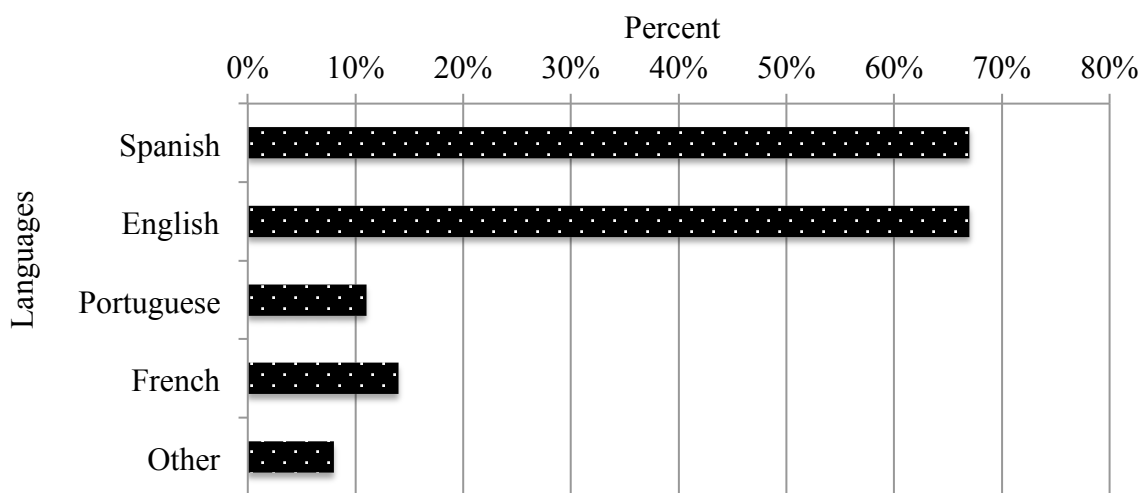
Sixty-seven percent of the public administrators demonstrated to have fluent reading skills in both Spanish and English, 11% revealed to have reading skills in Portuguese, and 14% in the French language (see Figure 26b). Only 8% of the public administrators confirmed having fluent reading skills in other languages.

Sixty-four percent of the public administrators revealed that they possessed Spanish writing skills and 54% English writing skills (see Figure 26c). However, the percentage of public administrators with writing abilities in Portuguese was 3%, French was 2%, and “other languages” was 8%.

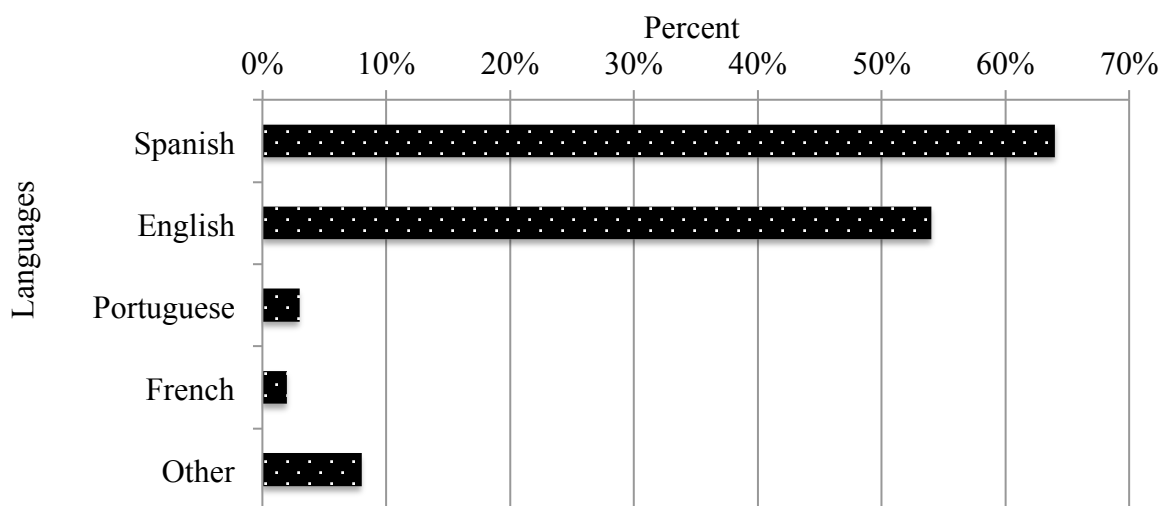
Overall, public administrators demonstrated dominant abilities in the Spanish and English languages when it comes to speaking, reading, and writing them fluently. On the other hand, public administrators in Central America were less fluent in the Portuguese, French, or other languages.



(a) Speaking abilities



(b) Reading abilities



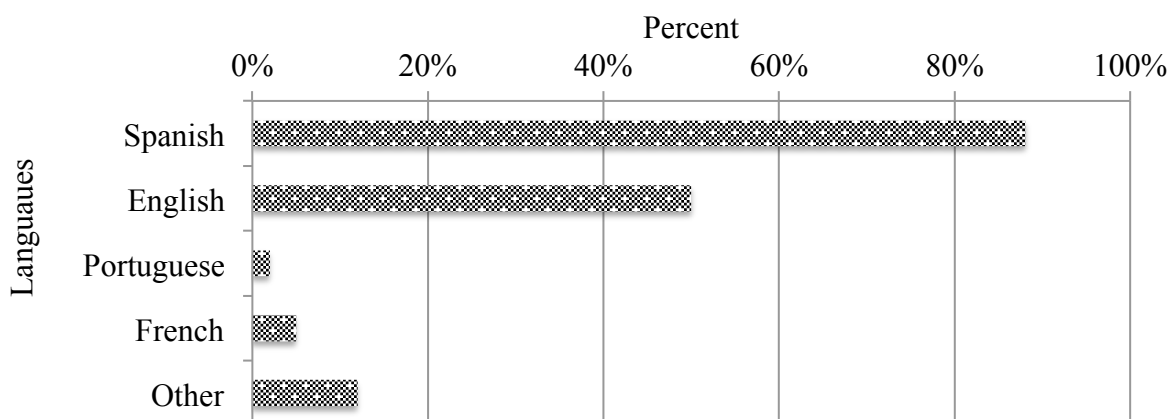
(c) Writing abilities

Figure 26. Language abilities of public university administrators in Central America.

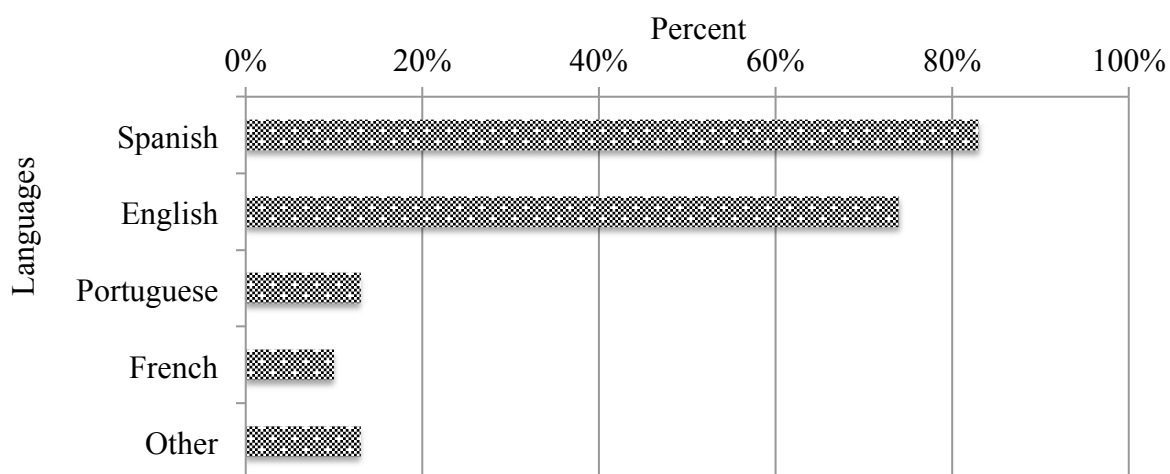
Private Administrators. Private administrators also revealed they had fluent abilities speaking, reading, and writing the Spanish and English languages. Eighty-eight percent of the private administrators verified to have fluent speaking skills in Spanish and 50% in the English language (see Figure 27a); only 2% spoke Portuguese fluently, and 9% French. Other languages spoken also were selected by 12% of the total sample of private administrators.

Professional skills in reading Spanish and English fluently were very common among private administrators. Eighty-three percent of the respondents from private institutions confirmed to have fluent skills reading in Spanish, whereas 74% felt confident in the English language (see Figure 27b). Reading abilities in the Portuguese language had a 13% response rate from the participants in private institutions, whereas the French language received a lower response rate (10%). In addition, 13% of the administrators confirmed they read “other languages” fluently as part of their professional language skills.

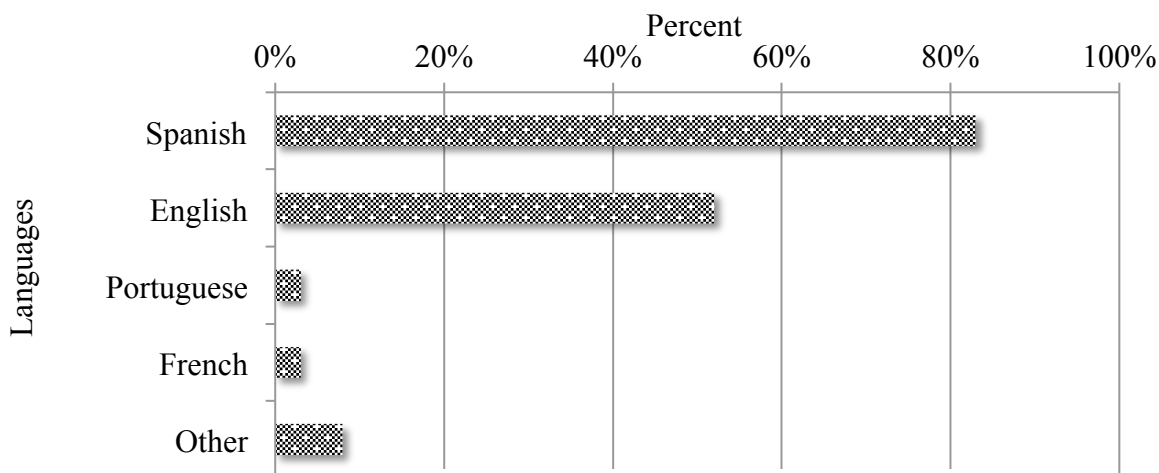
The response rate of private administrators claiming fluent writing abilities in Spanish was 83%, whereas 52% had that skill in the English language (see Figure 27c). Portuguese and French writing skills were identified by only 3% each, and “other” languages obtained a reply of 8% from the group. In general, private administrators demonstrated to be fluent speaking, reading, and writing the Spanish and English languages, similar to their public counterparts. The Portuguese and French languages were among the languages that the administrators fluently read; however, private administrators demonstrated to have less proficiency speaking or writing these two languages.



(a) Speaking abilities



(b) Reading abilities



(c) Reading abilities

Figure 27. Language abilities of private university administrators in Central America.

Analysis of language communication abilities. This findings of this study demonstrated that the majority of the executive university administrators working with international programs in public and private universities had fluent communication skills. These communication skills included abilities in speaking, reading, and writing mainly the Spanish and English languages. A minority group also were fluent communicators in the French, Portuguese, German, Italian, and indigenous languages from the region. Overall, the communication skills of the executive administrators revealed their powerful ability to communicate effectively across cultures from the southern borders of South America to the northern parts of Canada and Europe.

The communication abilities of the executive administrators are a reflection of their readiness to engage academically with other world known academic institutions in the United States, Europe, South and Central America. However, the communication abilities of the administrators were limited to the Spanish and English due to the majority of them lacking speaking, reading, or writing skills in the African, Chinese, and Middle Eastern languages. With the rising economical influence of China, the need to develop exceptional global businesses with Middle Eastern countries, and the high demand for academic partnerships with rural programs in African countries, the communication skills of executive administrators must continue to evolve in the 21st century.

Student Exchange Programs

This section provides a description of the types, location, and establishment of student exchange programs offered by Central American universities. The section also includes from the perspective of university administrators their preferred countries or regions to establish new study abroad programs. The data provided in this study was collected from 100 public

and 185 private administrators during 2012. The section provides a description of the types of programs available for undergraduate students pursuing a variety of degrees in higher education.

The types of study abroad programs for undergraduate students in Central America were examined in this executive survey study. The data from the study revealed that the majority of study abroad programs were provided merely for academic purposes. Internship programs abroad were abundant at Central American universities and included programs for students to learn a foreign language and conduct global scientific research. Other types of study abroad programs for professional development and cultural understanding also were provided but were the less popular types of programs among Central American universities. The majority of these study abroad programs were the result of partnerships with the United States, Central America, Europe, Mexico, and South America. A smaller number of programs for study abroad were available in Canada, Asia, Africa, and in other regions of the world. This data revealed the need for Central American universities to establish new study abroad programs in Canada, the African continent, and in Asia.

Campus-Based Activities

Campus based activities and cross-border research are initiatives supported by academic institutions to facilitate and promote international study abroad programs. Strategies to initiate student programs could include the establishment of international cooperation and development projects in science or technology. These programs are financially supported by institutional agreements and requested by a variety of networks in higher education. Their main purposes are to promote teaching and learning activities with diverse curriculums and research ventures. These programs include campus-based activities

for international students or faculty exchange programs with supervised hands-on experiences, sabbaticals, or consulting work. A very important factor is the recruitment of international students for the establishment of student exchange programs and joint or double degree programs and the expansion with branch campuses. This study explored the abundance of four main types of study exchange programs: (a) foreign language programs, (b) internship programs, (c) academic programs, and (d) research projects.

Types of Student Exchange Programs

To understand the characteristics of study abroad programs at Central American universities, the survey asked executive administrators to reveal some of the most common types of international programs available at their academic institutions. As shown in Figure 28, 23% of the public administrators responded in the survey that their universities had a foreign language program in place for their students. Furthermore, 26% reported internship and academic programs at their institutions. Research programs also were available, reported by 21% of the participants in public institutions. Other types of study abroad programs also were reported but by only 3% of the executive administrators. Overall, in public institutions the most common types of study abroad programs were available in the form of internship and academic programs.

Among private administrators who participated in the survey study, 15% reported to have foreign language programs at their institutions (see Figure 28). Internship programs also were available in the region and reported by 27% of the participants. The most common form of study abroad program was the academic program for undergraduate students, reported by 35% of the private university administrators. Research programs were offered to the students but in small numbers, as indicated by 19% of the participants. Other existing

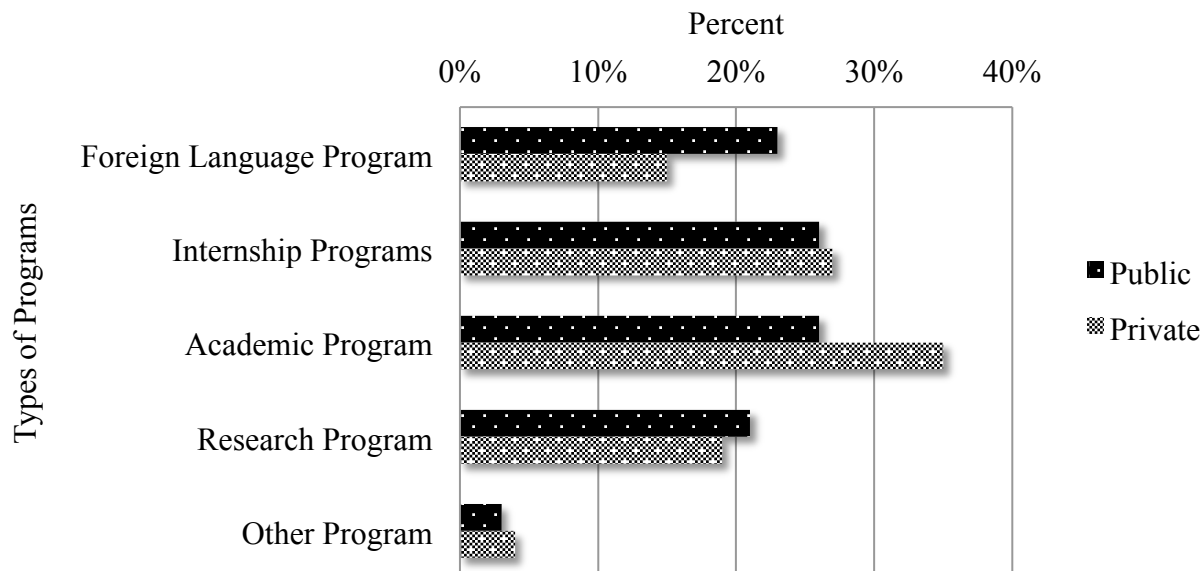


Figure 28. Study abroad programs at public and private universities in Central America.

programs were recorded in the responses but by only 4% of the private professionals. In sum, similar to their public counterparts, the most common types of study abroad programs in private institutions were the academic and internship programs.

Locations of Student Exchange Programs

An important survey question was asked about the location of study abroad programs in other countries or regions. Among the public administrators, 23% responded that their universities had study abroad programs in the United States, 19% in Central America, 18% in Europe, 13% in Mexico, and 11% in South America (see Table 22). Asia and Canada were each named by 5% of the private administrators followed by the Caribbean region by only 3%. The region of Africa was selected by none of the participants as having any type of study abroad program, and only 3% declared to have study abroad programs in “other” regions or countries. In general, the countries of United States and Mexico, and the regions

Table 22

Location of Student Exchange Programs

Country or region	Public (%)	Private (%)
United States	23	17
Canada	5	6
Mexico	13	14
Europe	18	16
Caribbean	3	5
Central America	19	21
South America	11	11
Asia	5	5
Africa	0	2
Other Country or Region	3	3

of Central America, Europe, and South America were the main areas where public administrators declared that their institutions had study abroad programs for undergraduate students.

Private executive administrators provided a different picture of where their universities had study abroad programs. Twenty-one percent of the respondents indicated that their universities had programs within the Central American region (see Table 22). The United States held second place on the list with 17% followed by Europe with 16%, Mexico with 14%, and South America with 11%. Canada was listed by 6% of the private administrators, and the Caribbean and Asian regions were each listed by 5% of the participants working in private institutions. Only 2% of private administrators indicated having study abroad programs in Africa, and 3% having them in other countries or regions of

the world. Generally speaking, private institutions had the majority of their study abroad programs within Central America, the United States, Europe, and Mexico.

Leadership in Establishing Student Exchange Programs

Public administrators demonstrated having leadership in establishing study abroad programs at their institutions. As shown in Figure 29, 39% of administrators indicated they had leadership roles in establishing academic exchange programs at their institutions. Moreover, 33% shared responsibilities establishing internship programs, 24% claimed to have established research programs as leaders, and 11% confirmed the establishment of foreign language program as well as other types of study abroad programs. Overall, the data demonstrated that the leadership of public administrators was responsible in a major way for the establishment of academic exchange programs, internships, and research programs in the region.

Private administrators also demonstrated leadership in the establishment of study abroad programs in Central American institutions. As shown in Figure 29, 38% of the administrators were responsible for the establishment of academic exchange programs, 21% for internship programs, and 20% for leading research programs. In addition, 13% confirmed to have been involved in establishing other programs, whereas only 8% were leaders in the establishment of foreign language programs. In sum, the leadership of private administrators was responsible for the establishment of academic exchange programs, internships, and research programs.

The leadership of the executive administrators in establishing study abroad programs revealed that the majority of public and private administrators were responsible for the establishment of academic programs. The administrators also were highly involved in

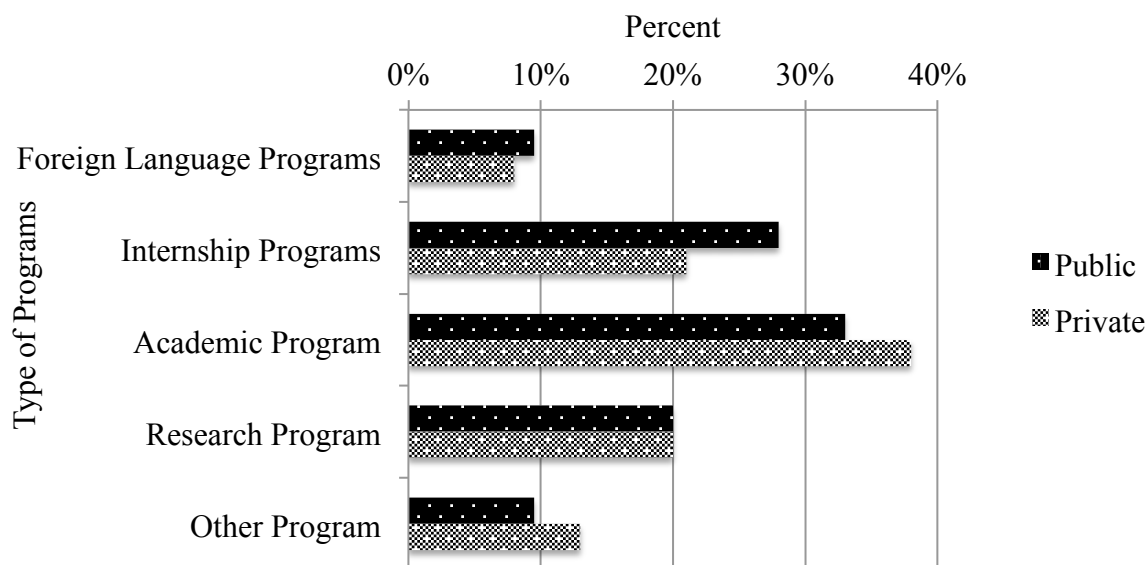


Figure 29. Administrators' leadership in establishing student exchange programs in Central American universities.

establishing study abroad programs for professional internships and research purposes. On the contrary, the establishment of foreign language programs on part of the administrators was minimal, indicating a potential need for future programs to increase the population of undergraduate students practicing a different language for study abroad.

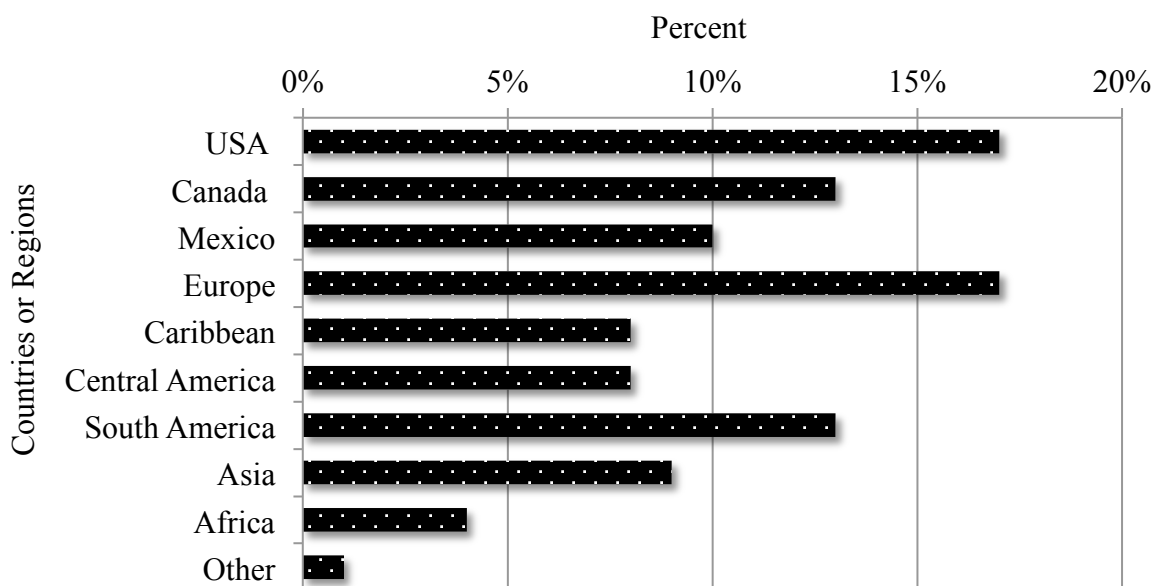
Preferred Locations for Student Exchange Programs

To understand the preferences of executive administrators in regards to locations for student exchange programs, the survey included a list of countries and regions from which to select their preferred areas for the establishment of successful programs. The results showed that the United States and Europe were each selected by 17% of the public administrators (see Figure 30a). Moreover, Canada and South America each obtained a 13% rate of response from the participants. Mexico was chosen by 10% followed by Asia with 9%.

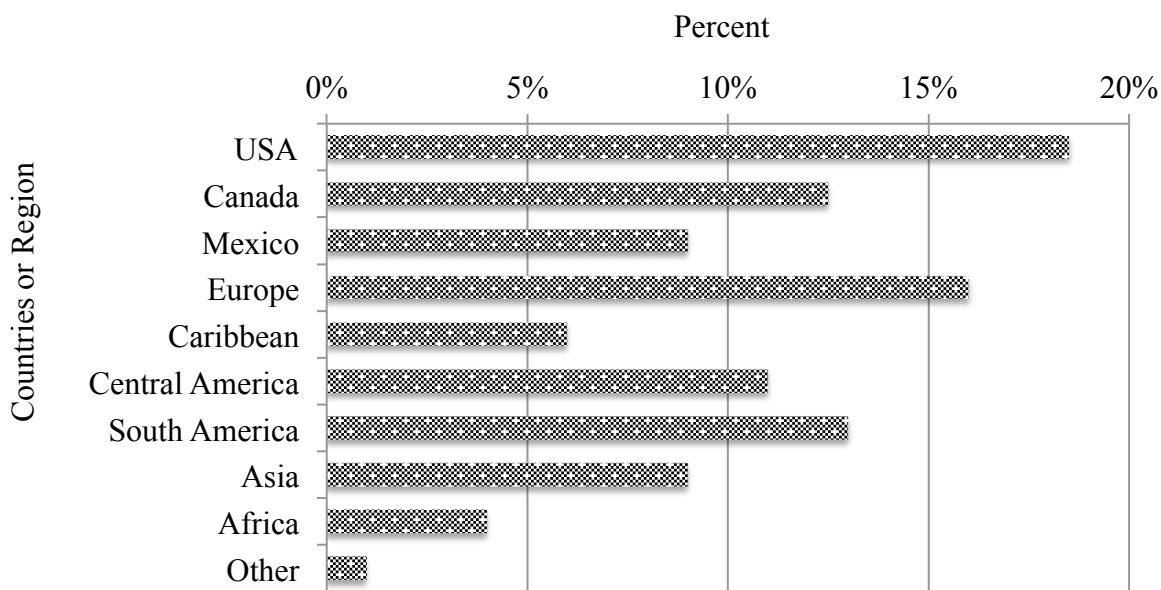
The Caribbean and Central American regions showed supported by only 8% of the public administrators as places to establish modern study abroad programs, and Africa remained once again at the bottom of the list of preferred locations for study abroad programs with only a 4% response rate. Other regions or countries also were provided as exceptional places but by only a limited 1% of the survey participants. In sum, public administrators revealed that their preferred locations in the world to establish new study abroad programs were the United States, Europe, Canada, and South America.

Private administrators had preferences similar to their public counterparts, as 18.5% selected the United States as their preferred country in which to establish study abroad programs followed by Europe at 16% (see Figure 30b). South America and Canada each were selected by 13% of the private administrators, and Central America, in the middle of the list, was chosen by 11%. Asia and Mexico followed, each chosen by 9%, then the Caribbean region with 6% and Africa at the bottom of the list with 4%. Other regions or countries were selected by only 1% of the participants. The data indicated that private administrators, similar to their public counterparts, preferred the United States, Europe, Canada, and South America as locations to establish modern study abroad programs.

The world locations preferred by administrators for new study abroad programs are among the important information revealed in this study. The majority of administrators in Central America selected Canada, the United States, and Europe as their preferred locations to establish modern study abroad programs. A great interest for modern programs also was noticeable in Mexico, Asia, the Caribbean, and Africa. Central and South America also were mentioned by a minor number of executive administrators as preferred locations to establish new study abroad programs for undergraduate students. Overall, the



(b) Public institution administrators



(b) Private institution administrators

Figure 30. Preferred locations for student exchange programs as perceived by university administrators in Central America.

United States, Europe, and Canada were their most preferred locations, but they also indicated their intentions to partner with universities within the Central and South American regions. Therefore, university administrators in Central America are continuously enhancing their leadership skills to establish effective study abroad programs in institutions located in the distant regions of the world.

Importance of Overseeing Student Exchange Programs

A key question asked of the administrators was the importance of overseeing the outcomes of study abroad programs at their respective institutions. A question with a Likert-type response scale was included in the survey to assess the perspectives of the administrators and consisted of four response alternatives ranging from 4 (*important*) to 1 (*not important*).

Administrators from public institutions, the confirmed that it was important to supervise the progress of their programs (see Table 23). Public administrators also agreed that it was imperative to evaluate the effects of studying abroad and that it was essential to report the outcomes of study abroad programs at their institutions. In terms of importance, the results showed means of 3.95 ($SD = 0.22$) to supervise, 3.98 ($SD = 0.11$) to evaluate, and 3.92 ($SD = 0.27$) to report the impact of study abroad programs.

Administrators from private institutions also revealed that it was important to supervise the success of their programs, that it was crucial to evaluate their progress, and that it was significant to report the outcomes of study abroad programs at their respective institutions. The data gathered from private administrators revealed, in terms of importance, a mean of 3.94 ($SD = 0.27$) to supervise, a mean of 3.92 ($SD = 0.25$) to evaluate, and a mean of 3.88 ($SD = 0.37$) mean to report the outcomes of study abroad programs (see Table 23).

Table 23

Importance of Supervising, Evaluating, and Reporting Student Exchange Programs

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max
Public administrators					
Supervise	100	3.950	0.220	3.000	4.000
Evaluate	78	3.987	0.113	3.000	4.000
Report	77	3.922	0.270	3.000	4.000
Private administrators					
Supervise	185	3.940	0.279	2.000	4.000
Evaluate	156	3.929	0.256	3.000	4.000
Report	154	3.883	0.378	1.000	4.000

Note. All responses given on a four-point scale ranging from 4 (*important*) to 1 (*not important*).

Thus, university administrators from both public and private institutions agreed that it was important to supervise, evaluate, and report the outcomes of study abroad programs. They also noted the importance to fulfill the international vision, mission, or strategic plans of their respective institutions.

Importance of a Global Academic Plan

The survey asked administrators at public and private universities to share their personal perspectives in regards to the importance of having an international vision, mission, or strategic plan at their institutions to promote their academic programs at a global level. The results of the survey demonstrated that administrators in public universities considered having an international vision as an important feature at their institutions. Public administrators also confirmed the importance of having an international mission and believed that it was significant to have a global strategic plan at their academic institutions. Rated on a 4-point scale Likert-type scale ranging from 4 (*important*) to 1 (*not important*), the

response means were 3.88 ($SD = 0.35$) for having an international vision, 3.77 ($SD = 0.59$) for having a mission, and 3.79 ($SD = 0.50$) for having a strategic plan at public institutions (see Table 24).

At private institutions, administrators demonstrated responses similar to their public institution counterparts. Private administrators confirmed that it was crucial to have an international vision to benefit from the global market of higher education. They also shared positive perspectives toward having an international mission and a strategic plan at their private institutions in order to participate at a global level. Rated on a 4-point scale Likert-type scale ranging from 4 (*important*) to 1 (*not important*), the response means of 3.91 to have a vision statement, 3.79 for the mission, and 3.79 for the strategic plan in private institutions (see Table 24). In accordance to the perspectives of private administrators, the standard deviations confirmed proximate degrees of 0.34 for the vision statement, 0.56 degrees for the mission, and 0.57 degrees for the strategic plan.

Table 24

Administrator Preferences for a Global Vision, Mission, or Strategic Plan

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max
Public administrators					
Supervise	80	3.887	0.355	2.000	4.000
Evaluate	79	3.772	0.598	1.000	4.000
Report	79	3.797	0.540	1.000	4.000
Private administrators					
Supervise	155	3.916	0.341	1.000	4.000
Evaluate	153	3.790	0.569	1.000	4.000
Report	154	3.798	0.575	1.000	4.000

Note. All responses given on a four-point scale ranging from 4 (*important*) to 1 (*not important*).

International Cooperative Agreements

This section provides a description about the current types of international cooperative agreements in place at Central American universities. The section includes the perspective of university administrators as they indicate the need to establish future agreements. The data provided was collected from 100 public and 185 private administrators during 2012. This section provides a description of the types of international cooperative agreement available at Central American institutions to develop unique partnerships in higher education with universities worldwide.

International cooperative agreements are contracts between two or more academic institutions to promote the cultural exchange of people, scientific information, academic programs, and technology across national or regional borders. They are a subset of higher education that can be an important element in the global development of cooperation projects, academic exchange programs, and commercial initiatives. These programs are supported by multiple institutional agreements and requested by a variety of networks in higher education. Their main purposes are to provide financial support toward agreements dedicated to improve the teaching, research, and extension services. One example is the establishment of cooperative agreements with institutions in the United States to enhance the education in science or technology. In this study five main types of international cooperative agreements were explored, including those signed by administrators to establish modern scholarship agreements, to establish branch campuses or research centers, to enhance students' education in science or technology, to improve the finances of the academic institution, and to participate in the global trade of educational services.

Nature of Cooperative Agreements

According to the administrators, the most common form of international cooperative agreement at their institutions was the agreement to enhance their science or technology academic programs. The second most frequent form of cooperative agreement available in the region was to provide undergraduate students with academic scholarships to help them complete their academic careers. The third type of agreement selected by the administrators was to establish branch campuses or research centers to expand the operations of their universities in rural areas. The fourth type of cooperative agreement, to enhance the finances of an institution through grants, loans, or financial contributions, was not very popular among Central American universities. The least common type of agreement in the region's institutions was to compete in the trade of educational services at a global level. These last statements clearly describe the need to adopt an international position to prepare undergraduate students with a global education.

A greater effort definitely was undertaken to promote, finance, and adopt cooperative agreements that promote the academic and research efforts of Central American institutions with universities worldwide. For that reason, university administrators had worked at their respective institutions to establish cooperative agreements designed to enhance the quality of education in science or technology as well as to provide scholarships to undergraduate students. Cooperative agreements at public and private institutions to enhance the finances or to compete in the trade of global educational services were the least common agreements identified by administrators at Central American universities. Cooperative agreements to establish modern-day branch campuses or research centers were founded by private administrators in larger numbers than by their public counterparts.

Overall, the administrators believed that it was important to establish each and every one of these cooperative agreements to foster a global environment for undergraduate students at their institutions. The administrators also believed that it was important to supervise, evaluate, and report the outcomes of these cooperative agreements to successfully participate in an era of continuous scientific and technological discoveries.

Public International Cooperative Agreements

To further understand the categories of international cooperative agreements available at public and private universities, the survey asked the administrators to provide information in regards to the types of agreements available at their respective institutions. Among public university administrators, 37% revealed that they had cooperative agreements at their universities to promote science or technology programs and 32% indicated having some type of international agreement to provide students with academic scholarships to complete their educational programs (see Figure 31a). In contrast, 11% of the public administrators reported limited cooperative agreements to establish branch campuses or research centers in urban or rural areas, and only 6% of the administrators indicated agreements to enhance the finances of their institutions and to promote the trade of their academic services at a global level. Other international cooperative agreements were reported by only 8% of the administrators at public institutions. Overall, the most common types of international cooperative agreements reported by executive administrators at public universities were to promote science or technology programs and to provide students with scholarships to help them achieve a tertiary education.

Private administrators provided responses similar to the administrators from public institutions. Among administrators from private universities, 33% reported that their

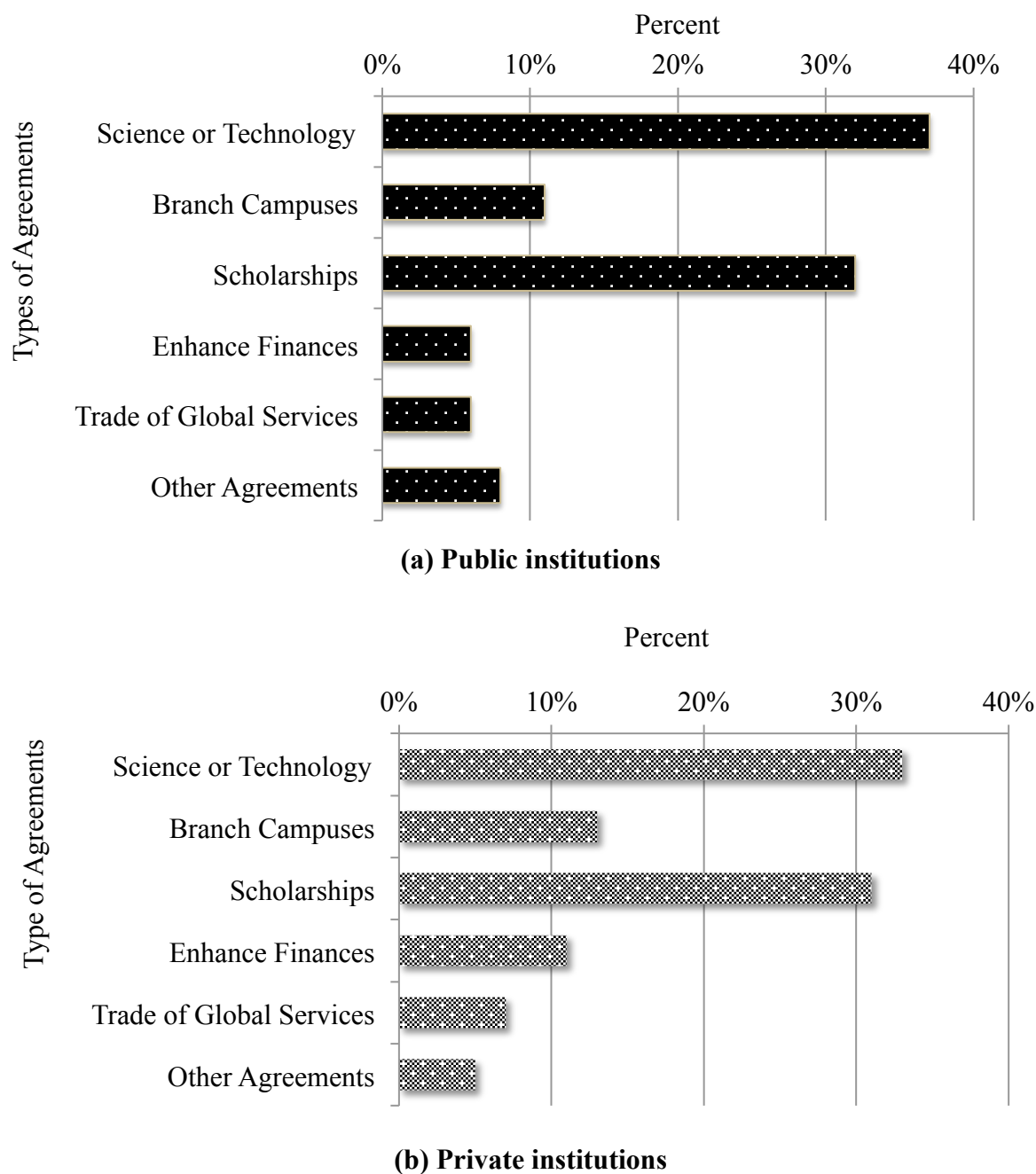


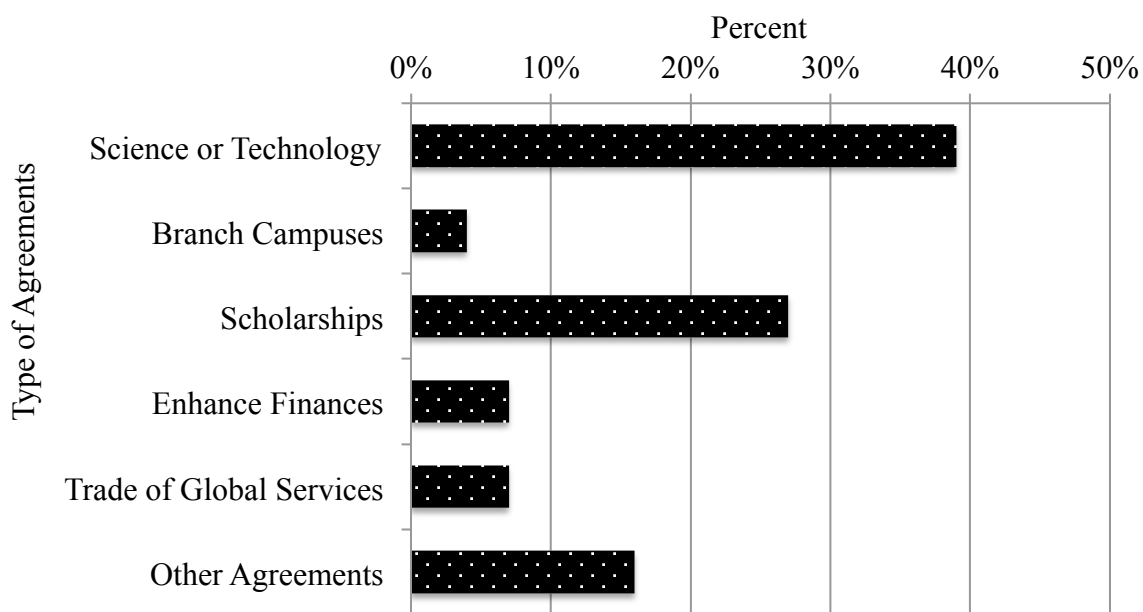
Figure 31. International cooperative agreements in public and private Central American institutions.

institutions had some type of agreements to promote science or technology programs and 31% claimed to have international cooperative agreements at their institutions to provide scholarships to their students (see Figure 31b). In contrast, agreements to establish branch campuses or research centers were reported by 13% of the executives, and 11% claimed the existence of international agreements to enhance the finances at their institutions.

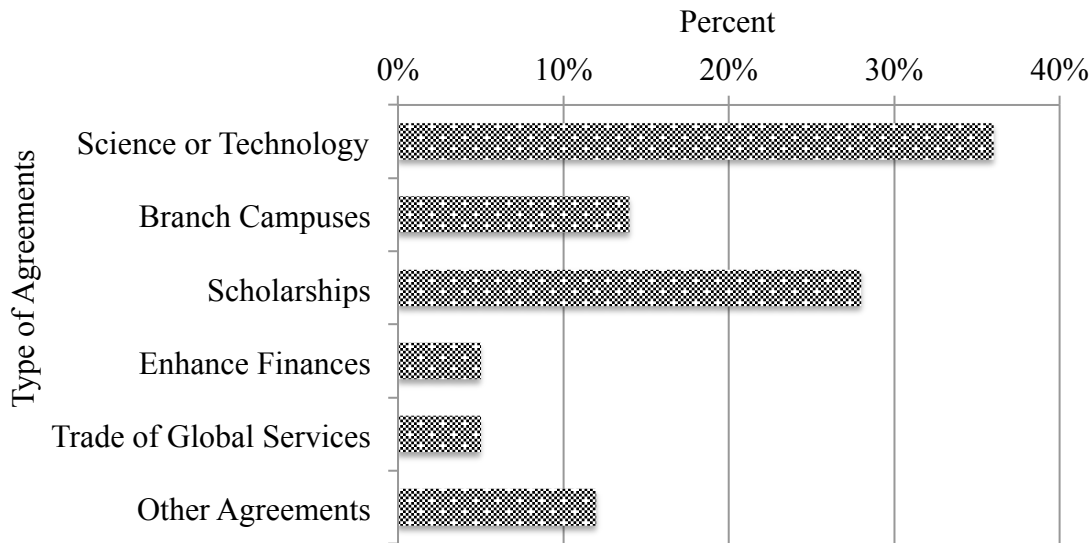
Agreements to promote the trade of academic services at a global level were reported by only 7% of the private administrators and other type of agreements by only 5%. In sum, private executive administrators revealed that their most common forms of international cooperative agreements at their institutions were to promote programs in science or technology and to provide scholarships to students pursuing higher educational degrees.

Leadership in Establishing Cooperative Agreements

The leadership of public and private administrators was examined to understand their participation in establishing international cooperative agreements at their institutions. At public institutions, 39% of the administrators confirmed that as a result of their leadership exceptional agreements to promote science and technology programs were established and 27% claimed to be responsible for the establishment of international agreements to provide scholarships for undergraduate students (see Figure 32a). In contrast, only 7% each were responsible for establishing agreements to enhance the finances of their institutions and to promote the trade of academic services at a global level. The smallest response rate of 4% indicated a lack of leadership in creating agreements for the establishment of branch campuses or research centers. The establishment of other types of international agreements as a result of the leadership of the administrators also were recorded in the survey but declared by only 16% of the participants.



(a) Public institutions



(a) Private institutions

Figure 32. Cooperative agreements established by university administrators in Central American universities.

Private administrators revealed trends similar to their public counterparts in higher education. The leadership of 36% of the private administrators was responsible for the establishment of international cooperative agreements to promote science and technology programs, and international cooperative agreements to provide scholarship to undergraduate students pursuing a tertiary education was the result of the leadership of 28% of private administrators was (see Figure 32b). The establishment of cooperative agreements to create new branch campuses or research centers was in third place, at 14%, on the list of agreements established as a result of the leadership of the private administrators. Further, the establishment of international cooperative agreements to enhance the finances and to promote the trade of academic services at a global level received the lowest rates of 5% each. Other agreements also were mentioned but by only 12% of the private administrators.

Importance of Establishing Cooperative Agreements

A question with responses on a Likert-type scale was provided in the survey to obtain the perspectives of public and private administrators toward the importance of establishing some of the most common types of international cooperative agreements at Central American institutions. The response choices ranged from 4 (*important*) to 1 (*not important*). A list of five types of agreements were provided to the participants, including: (a) to promote science or technology academic programs, (b) to establish branch campuses or research centers, (c) to provide scholarships to undergraduate students, (d) to enhance the financial status of their institutions, and (e) to promote the trade of global academic services.

The results revealed that public administrators believed that it was important to establish international cooperative agreements to promote science or technology academic programs and to provide scholarships to undergraduate students pursuing a tertiary education.

They also agreed that it was important to develop agreements to establish branch campuses or research centers and supported the importance of agreements to enhance the financial status of their institutions. On the contrary, only a small percentage of the administrators in public institutions revealed that it was important to develop agreements to promote the trade of global academic services. See Table 25.

An analysis of variance revealed a mean of 3.96 ($SD = 0.25$) for those supporting the importance of establishing agreements to promote academic programs in science or technology (see Table 25). The establishment of branch campuses or research centers received a mean of 3.54 ($SD = 0.78$). Meanwhile, agreements to provide scholarships for undergraduate students pursuing a tertiary education obtained a mean of 3.90 ($SD = 0.37$). Agreements to enhance the financial status of higher education institutions received a mean of 3.51 ($SD = 0.82$). Further, the establishment of international cooperative agreements to promote the trade of global academic services obtained a mean of 3.10 ($SD = 1.08$). These means and standard deviations confirmed the importance of establishing two main types of international cooperative agreements: (a) to create modern science or technology academic programs and (b) to provide scholarships to undergraduate students pursuing a tertiary education. According to the results, the least important types of cooperative agreements for public administrators were the establishment of branch campuses or research centers, agreements to enhance the financial status of their institutions, and the promotion of their academic services at a global level.

At private universities, administrators believed that it was important to develop unique agreements to establish science or technology academic programs at their institutions. The group confirmed the importance of cooperative agreements to provide scholarships to

undergraduate students and selected international agreements to enhance the finances of their institutions as important. Private administrators claimed that having agreements to enhance the finances at their institutions were important as well as were having agreements to establish branch campuses or research centers. The least important type of agreement among private administrators was the agreement to promote the trade of their academic services at a global level. In general, the most important types of international cooperative agreements

Table 25

Importance of Cooperative Agreements

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max
Public administrators					
To enhance the education in science or technology	75	3.960	0.256	2.000	4.000
To establish branch campuses or research centers	71	3.549	0.789	1.000	4.000
To provide academic scholarships to students	74	3.905	0.376	2.000	4.000
To enhance the finances of the institution	72	3.513	0.822	1.000	4.000
To promote the global trade of academic services	68	3.102	1.080	1.000	4.000
Private administrators					
To enhance the education in science or technology	138	3.876	0.443	1.000	4.000
To establish branch campuses or research centers	133	3.398	0.861	1.000	4.000
To provide academic scholarships to students	137	3.744	0.529	1.000	4.000
To enhance the finances of the institution	129	3.418	0.845	1.000	4.000
To promote the global trade of academic services	129	3.155	1.034	1.000	4.000

Note. All responses given on a four-point scale ranging from 4 (*important*) to 1 (*not important*).

selected by private administrators were to establish science or technology programs and to provide scholarships to undergraduate students in higher education.

An analysis of variance revealed a mean of 3.87 ($SD = 0.44$) for the importance of enhancing science or technology programs (see Table 25). The importance of agreements for modern branch campuses or research centers had a mean of 3.39 ($SD = 0.86$), and agreements for scholarships had a mean of 3.74 ($SD = 0.52$), whereas agreements to enhance the institutional finances received a mean of 3.41 ($SD = 0.84$). Finally, the mean for variable to promote the trade of global academic services was 3.15 ($SD = 1.03$).

The data obtained revealed that private administrators considered important the development of international cooperative agreements to establish science or technology programs and to provide scholarships to students pursuing a tertiary education. A summary of the data revealed that public and private administrators had similar perspectives toward the importance of developing exclusive agreements to establish science or technology programs as well as to provide scholarships to their students. The only difference between the two groups of administrators is that the private administrators considered the establishment of branch campuses or research centers more important than did their public counterparts.

Importance of Overseeing the Outcomes of Public Agreements

To understand the importance of supervising, evaluating, or reporting the outcomes of international cooperative agreements in public and private universities, a question with responses given on a Likert-type scale was included in the survey. The responses to the question ranged from 4 (*important*) to 1 (*not important*). The responses from public administrators demonstrated an overall concurrence that it was important to supervise, evaluate and report the outcomes of cooperative agreements. As shown in Table 26, an

analysis of the data revealed a mean of 3.93 ($SD = 0.25$) for the importance of supervising the outcomes. The variable to evaluate the outcomes received a mean of 4.00 ($SD = 0.0$) because there was no variance and all administrators agreed on its importance. Finally, the importance of reporting the outcomes obtained a mean of 3.93 ($SD = 0.25$). In general, the three variables in question were considered to be important procedures by the majority of public administrators who participated in the survey study.

Private institution administrators provided responses similar to their public institution colleagues. Private executives considered it important to supervise the effect of international cooperative agreements. Likewise, respondents in private institutions considered the evaluation of cooperative agreements as an important aspect of higher education at an international level. Furthermore, the importance to report the outcomes of cooperative agreements was also indicated by the majority of the administrators at private universities.

Table 26

Importance of Overseeing the Outcomes of International Agreements

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max
Public administrators					
Supervise	76	3.934	0.249	3.000	4.000
Evaluate	74	4.000	0.000	4.000	4.000
Report	74	3.932	0.252	3.000	4.000
Private administrators					
Supervise	140	3.921	0.340	1.000	4.000
Evaluate	140	3.942	0.262	2.000	4.000
Report	137	3.854	0.493	1.000	4.000

Note. All responses given on a four-point scale ranging from 4 (*important*) to 1 (*not important*).

The analysis revealed means of 3.92 ($SD = 0.34$) for the importance of supervising, 3.94 ($SD = 0.26$) for the importance of evaluating, and 3.85 ($SD = 0.49$) for the importance of reporting the outcomes of international cooperative agreements (see Table 26). Overall, the means and standard deviations reveal that private administrators considered the three actions as important features to perform in higher education.

Chapter Summary

Although not designed to completely examine all international issues or outcomes in higher education, this study uncovered compelling findings related to global professional leadership, student exchange programs, and international cooperative agreements at public and private universities. Findings from the study help identify the professional global and academic preferences of university administrators working with international programs. Meanwhile, the reality remains that there is a need for additional information about the global leadership in Central America to benefit professionals working with study abroad programs and cooperative agreements in higher education. Therefore, the following chapter will shed some light about the conclusions of this study and provide a series of recommendations to Central American university administrators.

CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

Introduction

Executive university administrators in Central American countries play an important role promoting the professional advancement and academic potential of their students. Their leadership skills are essential for the establishment of modern study abroad programs and cooperative agreements with institutions worldwide. This chapter provides a description of the leadership skills of public and private administrators who volunteered for this study. In addition, the chapter reveals the types of global study abroad programs and cooperative agreements that were established by the university administrators. The information herein will answer the following research questions:

1. What are the leadership characteristics of executive university administrators working with international programs in Central America?
2. What types of global study abroad programs are available for undergraduate students, faculty, and staff in Central America?
3. What types of international cooperative agreements are preferred by university administrators to establish modern global academic programs in Central America?

The Executive Survey for University Administrators in Central America (see Appendix A and B) was used to gather data about how executive administrators at public and private universities that offered a plethora of international programs during 2012. The following sections describe in detail the conclusions of this study and provide a series of recommendations to promote innovative global teaching, research, and extension programs in Central America.

Instructive Discoveries

The instructive discoveries of this study will help stakeholders in higher education to understand the abundance of international leadership skills among executive university administrators in Central America. The results indicate that the international programs available in public and private universities are being managed by a capable group of professionals with previous international experiences, language abilities, and higher academic degrees. The study led to the discovery of the personal global preferences of university leaders with over 20 years of academic experiences. Nonetheless, the study revealed that a gender gap exists between public and private administrators. The data showed that modern initiatives are necessary to promote the participation of females working with international programs.

The responses of the administrators revealed personal preferences for the establishment of internships and scholarship agreements to benefit their students. They also preferred the formation of modern cooperative agreements with universities in the United States, Europe, and Mexico. Additional instructive discoveries in this study included the types of student exchange programs managed by the administrators and their leadership in establishing modern programs. However, further studies are needed to understand the management skills of university administrators in Central America. These studies should attempt to enhance the understanding of how public and private universities train their personnel to work with international programs. Clearly, the application of a diverse group of contractual paradigms or theoretical frameworks should be implemented to address hypotheses centered on how universities function within a global system of governance.

Contribution to the Body of Knowledge

The study contributed to the body of knowledge with up-to-date information about the leadership skills of university administrators in Central America. The primary aim of the study was to view the concepts of global leadership, programs, and agreements from a different perspective in order to shift the focus to the academic resources needed for universities in Central America to compete at an international level. The information herein provides a useful basis for community colleges and universities around the world to develop study abroad programs and establish cooperative agreements in the Central American region. However, one of the greatest challenges facing academic institutions today is the need for global policies to promote international programs in higher education.

This study helped in describing the abundance of study abroad programs and cooperative agreements available for undergraduate students in public and private universities. The study demonstrated that executive university administrators in Central America possessed outstanding global management and communication skills to lead unique academic partnership programs with universities worldwide. The professional leadership of university administrators is a fundamental element necessary to enable global academic competencies in higher education. To be effective administrators, professionals must have a wide array of global academic experiences and know how to manage cooperative agreements with institutions worldwide. Thus, international academic experiences of executive administrators should accentuate the strong set of student exchange programs and cooperative agreements available in Central American institutions. However, studies about the leadership contributions of university administrators should continue and expand to discover their leadership roles, particularly in urban versus rural areas.

Conceptual Framework Effects

The theory of internationalization in higher education dictates that, in order for academic institutions to compete at a global level, university administrators must adopt global leadership programs to offer scientific and technical research experiences to faculty, students, and staff. These research experiences can be provided through study abroad programs and financed by cooperative agreements between academic institutions. The results of the study demonstrated that executive administrators in Central America were establishing successful international programs at their universities in accordance with the global academic needs of their students. The data also revealed that public and private administrators had global leadership skills and were adopting international academic policies at their respective institutions. Furthermore, administrators agreed with the importance of using research evaluation strategies for research, teaching, and extension service opportunities.

The relationship between the study and the theoretical framework was used to describe the abundance of global leadership, programs, and agreements in Central American universities. In accordance with the theory of internationalization, administrators in Central America were adopting modern cultural and financial initiatives that were desirable to compete in the market of higher education at an international level. The study also revealed that private executive administrators were preparing their undergraduate students with global academic skills through programs in Mexico, the United States, and within the Central American region. In summary, the theoretical framework helped guide the methodology of this study and yielded multiple findings about an unfamiliar area of higher education in the Americas.

Future Expectations

This study serves as a reference for further study regarding the internationalization of higher education at Central American universities. This period of transition for university administrators may provide them insight into this area of higher education as they obtain additional global experiences and make decisions about the future of international academic programs in the region. University administrators can use this study as a point of inquiry to develop unique global policies at their respective institutions. The information presented from this study can be integrated into the academic curriculum of public and private universities to develop future international programs in science or technology. The results of this study also can be used to train university administrators about the leadership skills necessary to operate international academic programs. University personnel can improve their methods of teaching using an international curriculum to benefit undergraduate students. Disseminating this information to university administrators would guarantee that international programs are addressed successfully in Central America through the use of effective global academic policies.

Future expectations for administrators in higher education include the establishment of modern global academic policies designed to address the global needs of undergraduate students. Executive administrators also are expected to employ a program coordinator to assist them with the application process, predeparture training, scholarship distribution, overseas experience, and postprogram experiences. Administrators are expected to take ownership of the exchange programs and help students make the most out of their experiences. Through the use of research and evaluation practices, the leadership efforts of university administrators can be measured to benefit the global education of their students.

Persuasive recommendations to establish groundbreaking academic policies are needed in the region. Therefore, the next section will provide a series of recommendations for administrators to diversify, effectively manage, and work to enhance the global academic experiences of undergraduate students in higher education. It will also instruct education stakeholders about the importance of international cooperative agreements in science and technology.

Recommendations

This section provides a variety of professional recommendations based on the findings of the study to increase the number of global study abroad programs at Central American universities. The information also offers a unique perspective on how higher education can be transformed by executive administrators to fulfill the global academic needs of undergraduate students. Furthermore, the professional leadership skills of the executive administrators working with international programs in public and private universities are highly appreciated. The study leads to the recommendation of community colleges and universities worldwide to establish international teaching, research, and extension programs with institutions in Central America to benefit undergraduate students from a variety of global academic opportunities. The following recommendations, presented in three main sections—international leadership, study abroad programs, and cooperative agreements—are proposed so that executive administrators and universities working or initiating international academic programs may be better served.

Perhaps one of the most important recommendations of the study concerns the proliferation of science and technology programs to benefit students' long-term academic achievements. International programs were abundant as a result of the cooperative efforts of

university administrators. For example, administrators were able to improve their knowledge of other world cultures by working cooperatively with institutions in the United States, Europe, and Mexico. The outcomes of their efforts allowed undergraduate students to obtain academic experiences and diversified the number of study abroad programs in the region. Still, there exists great opportunities to establish unique partnerships with public and private institutions worldwide. The global leadership, programs, and agreements sponsored by university administrators may not be completely mapped out in this study, but countless starting points for unique research projects about higher education in Central American countries are obvious.

Global Academic Policies

The findings of the study lead to recommendations concerning global academic policies, partnerships, research projects, and extension service programs with academic institutions located in Central America. Global policies to provide internship opportunities, interactive academic activities, and research experiences for undergraduate students should be established in colleges and universities. One example is the establishment of global leadership programs in the African continent to train students how to enhance the condition of people living in rural areas. Another recommendation is to institute policies for the continuous supervision, evaluation, and reporting of the outcomes of study abroad programs at Central American universities.

Diversity and Equity Policies

International leadership opportunities for females are needed in the public sector administration of higher education. Current male university administrators should adopt unique gender equity and diversity practices at their institutions to increase the participation

of female professionals working with global academic programs. Some of these practices should include the employment of female professionals with international backgrounds, higher academic degrees, and professional experiences working with diverse cultures.

The age ratio of public and private administrators represents a young population of professionals available to cooperate in establishing international programs in higher education. In order to promote the advancement and potential of females working with international programs, a series of policies should be adopted in public and private universities. To attract experienced personnel, incentives ought to include competitive salaries with professional development opportunities supported by tuition reimbursement grants. Additional incentives, such as childcare services, housing, and flexible working schedules, also are highly recommended to retain female professionals with master's and doctoral degrees.

Mentorship Programs

To prepare future generations of professional workers with international experiences, it is essential for Central American administrators to establish mentorship or shadowing programs so that those with greater global experiences can train future professional administrators. Furthermore, the mentorship program should be designed to encourage executive administrators to participate at an international level and obtain supplementary academic experiences in higher education.

Future Student Exchange Programs

There is a plethora of opportunities in Central America to establish modern study abroad programs in science and technology. The majority of the universities explored in this study had some type of study abroad program recognized by universities located in the

United States, Europe, and Canada. The study revealed a need for the establishment of modern study abroad programs as a strategy needed for universities to compete in the global trade of academic services. It is recommended that institutions worldwide establish novel study abroad programs in Central American countries to provide undergraduate students with academic services, internship programs, communication skills, and scientific research opportunities.

Study abroad programs typically have been located in United States, Europe, and within Central America. However, a greater effort should be made to establish advanced programs in Asia, Africa, South America, and the Caribbean region. The type of curriculum promoted for undergraduate students should have academic, scientific, and experiential components. Furthermore, the outcomes of global programs should be continuously supervised, evaluated, and reported by the administration to confirm the benefits of an international curriculum.

Exchange programs in the humanities, social sciences, natural sciences, and formal sciences disciplines definitely need additional representation. Furthermore, university administrators should improve their communication skills in languages other than English and Spanish. With the increasing role of countries such as China in the global economy, it is essential to have administrative personnel prepared with effective communications skills to compete at a global level.

Future International Cooperative Agreements

It is highly recommended that modern international cooperative agreements with Central American universities be established. University administrators worldwide are highly encouraged to take advantage of implementing innovative cooperative agreements

with Central American universities and establish teaching, research, and extension programs in science and technology. Furthermore, the integration of multicultural curriculums to provide undergraduate students with a variety of professional research opportunities is endorsed.

The findings of the Executive Survey for Central American University Administrators (Appendix A and B), leads to the endorsement of continuous supervision, evaluation, and reporting of international cooperative agreements. Additionally, it is also recommended that progressive evaluations be conducted to measure the effects of cooperative agreements on the education of students, faculty, and staff.

Cooperative agreements need to be endorsed by university administrators to enhance the quality of education in science or technology in Central America. These agreements should provide short- and long-term scholarships, research internships, and volunteer experiences in the areas of agriculture, science, technology, engineering, and mathematics. For example, agreements designed to increase the understanding of students about other world cultures are needed in today's globalized society. Furthermore, global agreements to enhance the communication skills of university administrators in languages other than English or Spanish are highly recommended. The increasing role of countries such as China and Brazil in the global economy also points to the necessity of having administrative personnel prepared with effective communications skills to compete at a global level.

Student Exchange Programs Office

The findings of this study also leads to the strong recommendation for the establishment of unique international cooperative agreements in Central America to improve the education of students in science and technology. These agreements must be managed

from a central campus administrative office unit designed to promote collaborative agreements for global teaching, research, and extension programs. Therefore, an office to manage study abroad programs should be established to provide the necessary supervision, evaluation, and reporting of international programs to the regent authorities. The personnel working for the global office must possess a deep understanding of other world cultures as well as the ability to communicate fluently in other languages. The office must help identify a variety of grants to increase the number of teaching, research, and extension programs with universities worldwide.

The mission of the global programs office should be designed to prepare professional leaders who are culturally informed and technologically adept in a globalized society. The international outreach activities should engage students in scientific research and academic development activities. The American Council on Education believes that the preparation of globally competent citizens is a crucial responsibility of the American society (Siaya & Hayward, 2003). Nowadays, strategic partnerships are needed to promote student exchange programs, scientific research activities, and academic programs. Therefore, it is recommended that an international office be established to collaborate with other Central American countries as a strategy to increase the level of scientific projects; develop partnerships with higher education institutions; and support faculty, staff, and students participating in the region.

International Accreditation

It is recommended that international accreditation of Central American institutions be adopted as a practice to establish effective academic guidelines as a strategy to stimulate the continuous improvement and establishment of cooperative agreements in science and

technology. The accreditation of international programs in public and private universities must follow high standards of academic excellence. A diverse group of national and international accrediting associations are responsible for granting membership to community colleges and universities in Belize, Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua, and Panama.

The process of accreditation at an international level should pave the way for universities, colleges, and all other academic programs to demonstrate the quality of their institution's teaching, research, and extension services for the public. To compete in the global trade of academic services, the underlying philosophies of the accrediting bodies should be based on the principles of quality management with the continuous integration of academic indicators and research standards in higher education. Accreditation of the academic services assures that universities have the required leadership to fulfill the international standards and requirements to compete at a global level. Therefore, it is crucial for public and private academic institutions in Central America to become accredited, not only for the general benefits mentioned here, but also because it confirms that the leadership, student exchange programs, and agreements are trustworthy. In the long run, this process will greatly enhance the collaboration and financial support from providers, organizations, academic institutions, and professional associations in higher education.

Databases and Websites

Funding is badly needed to develop an electronic database to secure information about the academic programs and degrees offered by higher education institutions in Central America. The creation of an electronic database will serve as an informational tool for students worldwide who are eager to experience different teaching methods, conduct

research, and participate as an intern. The database also will help academic institutions promote their academic programs at an international level and advertise experiential learning programs in science or technology. The central database should include information about the enrollment of students per institution, the percentage of students participating abroad, and basic demographic data about the participants.

Modern Internet websites need to be created or enhanced to market the availability of global academic opportunities, research centers, and professional internships at Central American universities. The websites should contain a list of the type of programs available for undergraduate students including the length of the programs, their costs, and accurate contact information. The sites must provide information about the research opportunities available for faculties and detail the procedures required to establish scientific research projects, sabbatical programs, or faculty diversity training programs. The ultimate goal of creating modern databases and websites is to expand the operations of Central American universities at the global level. Furthermore, databases with contact information can be used to distribute online surveys designed to determine how the quality of student exchange programs can be improved. The availability of informational websites will enable information to be easily accessible and dramatically reduce the costs of marketing.

Further Research

Researchers should consider looking at international partnerships for teaching, research, and extension programs at universities or community colleges located in the Caribbean and South American countries. For example, Argentina, Brazil, Colombia, Chile, and Venezuela are countries with tremendous tourism potential, and they have some of the highest educational levels in the world. Cuba, Puerto Rico, and Santo Domingo are

Caribbean countries with some of the oldest systems of higher education in the history of the Americas; yet, little is known about their institutional status, finances, academic agreements, research capabilities, and scientific knowledge in higher education. A comprehensive study also is needed to study the global experiences of university administrators and to develop revolutionary methods to train future professionals working with international programs.

Substantial advancement has been achieved by studying the international leadership, programs, and agreements at Central American public and private universities. Future research should consider which global academic policies are the most effective, manageable, and economically feasible for executive administrators in community colleges and universities to promote exceptional student exchange programs. One can imagine the global academic programs of tomorrow: multicultural programs in which leadership, scientific, and technical skills are the goals of the academic curriculum in higher education. The pursuit of these goals will require equal participation of male and female professionals to produce skilled personnel. University administrators should consider studying the use of gender equity practices in the workplace to promote a comfortable environment in accordance with the advantages of gender equity practices in the Central American higher education system.

Implications for Higher Education Stakeholders

The research methods used in this descriptive study were completely unique and organized to provide a more detailed explanation of the abundance of international programs in Central American universities. The findings imply that Central American universities are increasing the availability of scientific and technical programs to compete for undergraduate students worldwide. Student exchange programs currently are an essential part of the academic curriculums at public and private institutions. These programs are being managed

by a talented group of executive administrators and established to provide students, faculty, and staff with global professional experiences. This is important because it indicates the existence of university administrators in Central American Universities who are capable of managing a diverse workforce with a set of global professional skills.

For stakeholders in higher education, this information confirms the leadership of university administrators at public and private universities and their commitment to provide lifelong learning experiences to their students. The study's findings suggest that executive administrators are meeting the demands of their students as the education market rapidly expands globally. In summary, by developing an understanding about the abundance of international leadership, programs, and agreements at Central American universities, one can better address the professional preferences of executive administrators. Further, as the establishment of optimum global student exchange programs continues to grow in the region, the importance of developing modern information channels cannot be overemphasized. Ultimately, knowledge about the current global academic programs in Central America is important to optimize the international academe policies already established by university stakeholders.

Chapter Summary

This study led to advocating a professional approach to the abundance of international leadership, programs, and agreements at Central American universities. In this study, both public and private administrators working in universities with branch campuses or research centers located in urban and rural areas were examined. The conclusions of the study answered the three main questions of this study. The first question asked about the international leadership skills of the university administrators working with international

programs in public and private institutions. The study's findings established that administrators possessed the required leadership skills, academic backgrounds, and administrative experience to manage a variety of international programs in higher education.

In summary, the study succeeded in providing a variety of information to student exchange program administrators. No other research has brought together so many topics and resourceful references in one document as well as this study did. Nevertheless, all student exchange program administrators should know what is best for his or her respective academic institution. What stands out from this study is that this was a multifaceted distance study exploring a myriad of global academic programs and cooperative agreements in a region facing poverty levels, low literacy rates, and economic burdens.

Also in this chapter, substantial recommendations were put forth, but the main contribution to the development of effective global policies in Central America bear the leadership of executive administrators to manage student exchange programs and cooperative agreements. Some of this leadership exists in Central American administrators who need continuous reinforcement with global academic policies to compete in the global market of higher education. Once Central American universities provide administrators and students with the opportunity to explore science and technology at a global level, they will develop a broader perspective, gain a greater understanding about the world, and develop partnerships with universities worldwide.

The results of this research project provide strong descriptive information about the abundance of leadership, student exchange programs, and cooperative agreements in Central America with the goal to expand education, diversify the administration of student services, and promote democratic practices in the region. It is now abundantly clear that Central

American universities play a critical role in the establishment of international academic policies. To be effective, university administrators must develop regional and national plans of actions to ensure the external support of agencies and organizations. Most importantly, governments in Central America should work with scientific and technical institutions to improve the global experiences of undergraduate students. A final concluding recommendation—perhaps a very powerful one—is the endorsement for the implementation of international strategic plans to evaluate the outcomes of cooperative agreements with future research methodologies designed to corroborate the quality of student exchange programs.

APPENDIX A. SURVEY INSTRUMENT—ENGLISH

Executive Survey for University Administrators in Central America

Section I. Study Abroad Programs

Definition: Short or long term partnership programs between academic institutions to provide students with teaching, learning, or research opportunities in different parts of the world.

Please tell us about your global experiences and the types of Study Abroad Programs available at your academic institution.

Q1. Did you participate in a study abroad program as a student?

- Si
- No

Q2. If yes, where did you study abroad? Check all that apply.

- United States
- Canada
- Mexico
- Europe
- Caribbean
- Central America
- South America
- Asia
- Africa
- Other Country or Region

Q3. What were your personal reasons for studying abroad?
Check all that apply.

- Learn or practice a foreign language
- Obtain an international academic experience
- Experience different teaching or learning methods
- Improve my understanding about other world cultures
- Other Reason

Q4. What languages do you speak, read, or write fluently? Check all that apply.

	Speak (1)	Read (2)	Write (3)
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portuguese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
French	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5. Which of the following types of study abroad programs are available at your academic institution?

Check all that apply.

- Foreign Language Program
- Internship Program
- Academic Program
- Research Program
- Other Program _____

Q6. Which of the following types of study abroad programs were established at your academic institution as a result of your leadership? Check all that apply.

- Foreign Language Program
- Internship Program
- Academic Program
- Research Program
- Other Program _____

Q7. In what country or region does your academic institution currently have study abroad programs? Check all that apply.

- United States
- Canada
- Mexico
- Europe
- Caribbean
- Central America
- South America
- Asia
- Africa
- Other Country or Region _____

Q8. Which of the following countries or regions would you select to establish modern study abroad programs? Check all that apply.

- United States
- Canada
- Mexico
- Europe
- Caribbean
- Central America
- South America
- Asia
- Africa
- Other Country or Region _____

Q9. How important do you think it is to supervise, evaluate, or report the outcomes of study abroad programs? Use the scale to rate your choices from Important to Not Important.

	Important (4)	(3)	(2)	Not Important (1)
Supervise the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Report the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10. How important do you think it is for your academic institution to have an international vision, mission, or strategic plan? Use the scale to rate your choices from Important to Not Important.

	Important (4)	(3)	(2)	Not Important (1)
International Vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Mission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Strategic Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section II. International Cooperative Agreements

Definition: International agreements between two or more academic institutions to cooperatively work on an agreed scientific, academic, or financial project.

Please answer the following questions about the types of international cooperative agreements available at your academic institution.

Q11. Which of the following types of international cooperative agreements are available at your academic institution? Check all that apply.

- Agreement to enhance the education in science or technology
- Agreement to establish branch campuses or research centers
- Agreement to provide academic scholarships to students
- Agreement to improve the finances of the academic institution
- Agreement to promote the global trade of academic services
- Other Agreement _____

Q12. Which of the following types of international cooperative agreements were established at your academic institution as a result of your leadership? Check all that apply.

- Agreement to enhance the education in science or technology
- Agreement to establish branch campuses or research centers
- Agreement to provide academic scholarships to students
- Agreement to improve the finances of the academic institution
- Agreement to promote the global trade of academic services
- Other Agreement _____

Q13. How important do you think it is to establish any of the following types of international cooperative agreements at your academic institution?
Use the scale to rate your choices from Important to Not Important.

	Important (4)	(3)	(2)	Not Important (1)
Agreement to enhance the education in science or technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agreement to establish branch campuses or research centers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agreement to provide academic scholarships to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agreement to improve the finances of the academic institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agreement to promote the trade of global academic services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14. How important do you think it is to monitor, evaluate, or report the outcomes of international cooperative agreements? Use the scale to rate your choices from Important to Not Important.

	Important (4)	(3)	(2)	Not Important (1)
Supervise the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluate the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Report the Outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section III: Demographics

The next questions are for classification purposes only. They will only be used to group your answers with others like yourself.

Please answer all questions to the best of your ability.

Q15. What is the highest academic degree that you have completed?

Please select from the following options.

- Doctorate
- Master's
- Bachelor's
- Other Degree _____

Q16. In what country or region did you complete your highest academic degree?

Please select from the following options.

- United States
- Canada
- Mexico
- Europe
- Caribbean
- Central America
- South America
- Asia
- Africa
- Other Country or Region _____

Q17. What is your academic discipline in higher education?

Please type your answer. _____

Q18. How many years of experience do you have working at your academic institution?
Please select from the following options.

- Less than 1 Year
- 1 - 5 Years
- 6 - 10 Years
- 11- 15 Years
- 16 - 20 Years
- Over 21 Years

Q19. In what year were you born? Please type your answer. _____

Q20. Finally, are there any other comments you would like to share about your experiences as an administrator working with international programs in higher education?
Please type your answer. _____

APPENDIX B. SURVEY INSTRUMENT—SPANISH

Encuesta Ejecutiva para Administradores de Universidad en Centro América

Sección I. Programas de Estudios en el Extranjero

Definición: Programas de colaboración a corto o largo plazo entre instituciones académicas para ofrecer a los estudiantes oportunidades de enseñanza, aprendizaje, o investigación en diferentes partes del mundo.

Por favor conteste las siguientes preguntas sobre sus experiencias internacionales y los tipos de Programas de Estudios en el Extranjero disponibles en su institución académica.

Q1. ¿Alguna vez ha participado en un programa de estudios en el extranjero?

- Si
 No

Si no ha participado en el extranjero, entonces continúe a la pregunta Q5.

Q2. ¿Dónde has estudiado en el extranjero? Marque las que correspondan.

- Estados Unidos
 Canadá
 México
 Europa
 El Caribe
 América Central
 América del Sur
 Asia
 África
 Otro País o Región

Q3. ¿Cuáles fueron sus razones personales para estudiar en el extranjero? Marque las que correspondan.

- Aprender o practicar un idioma extranjero
 Obtener una experiencia académica internacional
 Experimentar diferentes métodos de aprendizaje o enseñanza
 Mejorar mi entendimiento sobre otras culturas del mundo
 Otra Razón _____

Q4. ¿Qué idiomas usted habla, lee, o escribe con fluidez? Marque las que correspondan.

	Hablar (1)	Leer (2)	Escribir (3)
Español	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inglés	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portugués	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Francés	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Otro Idioma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5. ¿Cuál de los siguientes programas de estudios en el extranjero están disponibles en su institución académica? Marque las que correspondan.

- Programa de Idioma Extranjero
- Programa de Pasantía
- Programa Académico
- Programa de Investigación
- Otro Programa _____

Q6. ¿Cuál de los siguientes programas de estudios en el extranjero se establecieron en su institución académica como resultado de su liderazgo? Marque las que correspondan.

- Programa de Idioma Extranjero
- Programa de Pasantía
- Programa Académico
- Programa de Investigación
- Otro Programa _____

Q7. ¿En que país o región geográfica su institución académica tiene actualmente programas de estudios en el extranjero? Marque las que correspondan.

- Estados Unidos
- Canadá
- México
- Europa
- El Caribe
- América Central
- América del Sur
- Asia
- África
- Otro País o Región _____

Q8. ¿Cuál de los siguientes países o regiones geográficas usted seleccionaría para establecer nuevos programas de estudios en el extranjero? Marque las que correspondan.

- Estados Unidos
- Canadá
- México
- Europa
- El Caribe
- América Central
- América del Sur
- Asia
- África
- Otro País o Región _____

Q9. ¿Qué tan importante cree usted que es supervisar, evaluar, o informar sobre los resultados de los programas de estudios en el extranjero? Utiliza la escala para clasificar su opinión de Importante a No Importante.

	Importante (4)	(3)	(2)	No Importante (1)
Supervisar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reportar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10. ¿Qué tan importante cree usted que es para su institución académica el tener una visión, misión, o plan estratégico internacional? Utiliza la escala para clasificar a su opinión de Importante a No Importante.

	Importante (4)	(3)	(2)	No Importante (1)
Visión Internacional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misión Internacional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plan Estratégico Internacional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección II. Acuerdos de Cooperación Internacional

Definición: Acuerdos internacionales entre dos o más instituciones académicas para trabajar cooperativamente en un proyecto de acuerdo científico, académico, o financiero.

Por favor conteste las siguientes preguntas sobre los tipos de acuerdos de cooperación internacional disponibles en su institución académica.

Q11. ¿Cuál de los siguientes acuerdos de cooperación internacional están disponibles en su institución académica? Marque las que correspondan.

- Acuerdo para mejorar la educación en la ciencia o la tecnología
- Acuerdo para establecer sucursales o centros de investigación
- Acuerdo para otorgar becas académicas a los estudiantes
- Acuerdo para mejorar las finanzas de la institución académica
- Acuerdo para promover el comercio mundial de servicios académicos
- Otro Acuerdo _____

Q12. ¿Cuál de los siguientes acuerdos de cooperación internacional se han establecido en su institución académica como resultado de su liderazgo? Marque las que correspondan.

- Acuerdo para mejorar la educación en la ciencia o la tecnología
- Acuerdo para establecer sucursales o centros de investigación
- Acuerdo para otorgar becas académicas a los estudiantes
- Acuerdo para mejorar las finanzas de la institución académica
- Acuerdo para promover el comercio mundial de servicios académicos
- Otro Acuerdo _____

Q13. ¿Qué tan importante cree usted que es para su institución académica el establecer alguno de los siguientes tipos de acuerdos de cooperación internacional? Utiliza la escala para clasificar a su opinión de Importante a No Importante.

	Importante (4)	(3)	(2)	No Importante (1)
Acuerdo para mejorar la educación en la ciencia o la tecnología.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acuerdo para establecer sucursales o centros de investigación	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acuerdo para otorgar becas académicas a los estudiantes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acuerdo para mejorar las finanzas de la institución académica	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acuerdo para promover el comercio mundial de servicios académicos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14. ¿Qué tan importante cree usted que es supervisar, evaluar, o informar sobre los resultados de los acuerdos de cooperación internacional? Utiliza la escala para clasificar su selección de Importante a No Importante.

	Importante (4)	(3)	(2)	No Importante (1)
Supervisar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reportar los Resultados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sección III: Demografía

Las siguientes preguntas son para fines de clasificación. Sólo se utilizarán para agrupar sus respuestas con otras personas como usted.

Por favor, conteste las siguientes preguntas lo mejor que pueda.

Q15. ¿Cuál es el grado académico más alto que usted ha completado? Por favor, seleccione entre las siguientes opciones.

- Doctorado
- Maestría
- Licenciatura
- Otro Grado _____

Q16. ¿En qué país o región geográfica usted completo su grado académico más alto? Por favor, seleccione entre las siguientes opciones.

- Estados Unidos
- Canadá
- México
- Europa
- El Caribe
- América Central
- América del Sur
- Asia
- África
- Otro País o Región _____

Q17. ¿Cuál es su disciplina académica en la educación superior? Por favor, escriba su respuesta.

Q18. ¿Cuántos años de experiencia tiene usted trabajando en su institución académica? Por favor, seleccione entre las siguientes opciones.

- Menos de 1 Año
- 1 - 5 Años
- 6 - 10 Años
- 11- 15 Años
- 16 - 20 Años
- Más de 21 Años

Q19. ¿En qué año naciste? Por favor escriba su respuesta. _____

Q20. Por último, ¿Hay algún otro comentario que le gustaría compartir sobre sus experiencias trabajando con programas internacionales de la educación superior?

Por favor, escriba su respuesta. _____

**APPENDIX C. IOWA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD APPROVAL**

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 12/2/2011

To: Aurelio Curbelo
2901 Wessex Dr #131
Ames, IA 50014

CC: Dr. Frankie Santos Laanan
N225A Lagomarcino
Dr. Larry Ebbers
N256 Lagomarcino Hall

From: Office for Responsible Research

Title: The Internationalization of Public and Private Academic Institutions in Central America: An Exploratory Analysis about the Availability of Study Abroad Programs, International Cooperative Agreements, and the Global Leadership among Executive University Administrators

IRB ID: 10-555

Study Review Date: 12/1/2011

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Modification Form for Exempt Research

Assigned IRB ID: 10-555

INSTITUTIONAL REVIEW BOARD (IRB) Modification Form for Exempt Research

RECEIVED
NOV 28 2011
(28) BY IRB

Title of Project: The internationalization of public and private academic institutions in Central America: An exploratory study about the availability of study abroad programs, international cooperative agreements, and the global leadership among executive university administrators.

Principal Investigator (PI): Aurelio Curbelo		Degrees: doctoral
University ID: 716051982	Phone: 515-451-6059	Email Address: acurbelo@iastate.edu
Department: Educational Leadership and Policy Studies		

FOR STUDENT PROJECTS *(Required when the principal investigator is a student)*

Name of Major Professor/Supervising Faculty: Larry Ebbers		
University ID:	Phone: 515-294-8067	Email Address: lebbbers@iastate.edu

Alternate Contact Person: Dr. Frankie Laanan	Email Address: laanan@iastate.edu
Correspondence Address: : N225 Lagomarcino	Phone: 515-294-7292

Please notify the IRB Office if your contact information has changed since the last review.

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
- I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
- I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
- I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
- I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.


 Signature of Principal Investigator _____ Date 11-22-2011


 Signature of Major Professor/Supervising Faculty _____ Date _____
(Required when the principal investigator is a student)

For IRB Use Only	Full Committee Review: <input type="checkbox"/>	Review Date: <u>12/11/2011</u>
	Approval Not Required: <input type="checkbox"/>	Approval/Determination Date: <u>12/11/2011</u>
EXEMPT per 45 CFR 46.101(b): <u>2</u>	Not Research: <input type="checkbox"/>	Approval Expiration Date: <u>N/A</u>
EXPEDITED per 45 CFR 46.110(b): Category Letter	No Human Subjects: <input type="checkbox"/>	
	Not Approved: <input type="checkbox"/>	Risk: Minimal <input checked="" type="checkbox"/> More than Minimal <input type="checkbox"/>
IRB Reviewer's Signature <u>mpackwood</u>		



APPENDIX D. INFORMED CONSENT DOCUMENT—ENGLISH

Re: Consent Document Executive Survey for Academic Administrators

Dear Academic Administrator:

Researchers at Iowa State University are inviting you to participate in a brief executive survey designed to collect information about your professional experiences working with international programs in higher education.

Your participation is very important to produce innovative information about the administration of Study Abroad Programs and the management of International Cooperative Agreements at universities in Central America. The survey should take approximately 5-10 minutes of your time. All information you provide will be kept confidential and will only be used for this research.

To access the survey, click on the link below:

[\\$ {1://SurveyLink?d = Take the Survey}](#)

Your participation in this research is voluntary. Your identity will be kept confidential. No identifying information will be used in any report or published information. There are no known risks associated with this project and there is no penalty associated with non-participation or non-response to any questions. For further information about this research study please contact Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, or Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

If you have any questions about the rights of research subjects or research-related injury, please contact the Iowa State University IRB Administrator, (515) 294-4566, IRB@iastate.edu.

Thank you for your valuable time and input.

Sincerely,

Aurelio Curbelo

Doctoral Student

Iowa State University

Department of Educational Leadership and
Policy Studies

223A Curtiss Hall

Ames, Iowa 50011

Email: acurbelo@iastate.edu

Tel: 515-451-6059

Fax: 515- 294-2844

Dr. Larry Ebbers

University Professor

Iowa State University

Department of Educational Leadership and
Policy Studies

N221A Lagomarcino

Ames, IA 50011

Email: lebbers@iastate.edu

Tel: 515-294-8067

Fax: 515-294-4942

APPENDIX E. INFORMED CONSENT DOCUMENT—SPANISH

RE: Documento de Consentimiento para Administradores

Estimado Administrador Universitario:

Investigadores de la Universidad del Estado de Iowa le invitan a participar en una breve encuesta ejecutiva diseñada para obtener información acerca de sus experiencias profesionales trabajando con programas internacionales en la educación superior.

Su participación es muy importante para proporcionar información completa sobre la disponibilidad de Programas de Estudios en el Extranjero y los Acuerdos de Cooperación Internacional para la Educación en universidades de la región Centroamericana. La encuesta tomará aproximadamente 5-10 minutos de su tiempo. Toda la información que proporcione será confidencial y sólo será utilizada para esta investigación.

Para acceder a la encuesta, haga clic en el siguiente enlace:

[\\${1://SurveyLink?d = Take the Survey}](#)

Su participación en esta investigación es voluntaria. Su identidad se mantendrá confidencial. Ninguna información personal será utilizada en informes o en publicaciones. No existen riesgos conocidos o asociados con este proyecto y no hay penalidad asociada si decide no participar, o si decide no responder a cualquier pregunta. Para más información sobre este estudio de investigación póngase en contacto con Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, o con el Dr. Larry Ebbers (515) 294-8067, lebbbers@iastate.edu.

Si usted tiene alguna pregunta acerca de los derechos de los sujetos de investigación o una lesión relacionada con la investigación, póngase en contacto con la Universidad Estatal de Iowa IRB Administrador, (515) 294-4566, IRB@iastate.edu.

Gracias por su valioso tiempo.

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX F. FIRST SURVEY REMINDER LETTER—ENGLISH

Re: Reminder: Executive Survey for Academic Administrators

Dear Academic Administrator:

Recently you received an invitation from researchers at Iowa State University to participate in a brief executive survey designed to collect information about your professional experiences working with International Programs in higher education. As of today, we have not received any information from you.

Your participation as a University Administrator is necessary to gain more knowledge about the administration Study Abroad Programs and the management of Cooperative Education Agreements at universities in Central America. The survey should take approximately 5-10 minutes of your time. All information you provide will be kept confidential and will only be used for this research.

To access the survey, click on the link below:

[Take the Survey](#)

Your participation in this research is voluntary. Your identity will be kept confidential. No identifying information will be used in any report or published information. There are no known risks associated with this project and there is no penalty associated with non-participation or non-response to any questions. For further information about this research study please contact Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, or Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

If you have any questions about the rights of research subjects or research-related injury, please contact the ISU IRB Administrator, (515) 294-4566, IRB@iastate.edu.

Thank you for your valuable time and input.

Sincerely,

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX G. FIRST SURVEY REMINDER LETTER—SPANISH

RE: Primer Recordatorio de Encuesta Ejecutiva para Administradores Académicos

Estimado Administrador Académico:

Investigadores de la Universidad Estatal de Iowa recientemente le enviaron una invitación para participar en una breve encuesta ejecutiva diseñada para obtener información acerca de sus experiencias profesionales trabajando con programas internacionales en la educación superior. A partir de hoy, no hemos recibido ninguna información de usted.

Su participación como administrador es necesaria para obtener más conocimiento sobre la administración de Programas de Estudios en el Extranjero y los Acuerdos de Cooperación para la Educación en universidades de la región Centroamericana. La encuesta tomará aproximadamente 5-10 minutos de su tiempo. Toda la información que proporcione será confidencial y sólo será utilizada para esta investigación

Para acceder a la encuesta, haga clic en el siguiente enlace:

\$ {!:// SurveyLink d = Tome la Encuesta}

Su participación en esta investigación es voluntaria. Su identidad se mantendrá confidencial. Ninguna información personal será utilizada en informes o en publicaciones. No existen riesgos conocidos o asociados con este proyecto y no hay penalidad asociada si decide no participar, o si decide no responder a cualquier pregunta. Para más información sobre este estudio de investigación póngase en contacto con Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, o con el Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

Si usted tiene alguna pregunta acerca de los derechos de los sujetos de investigación o una lesión relacionada con la investigación, póngase en contacto con la Universidad Estatal de Iowa IRB Administrador, (515) 294-4566, IRB@iastate.edu.

Gracias por su valioso tiempo.

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX H. SECOND SURVEY REMINDER LETTER—ENGLISH

RE: Final Reminder of Executive Survey for Academic Administrators

Dear Academic Administrator:

Iowa State University researchers recently sent you an invitation to participate in a brief executive survey designed to collect information about your professional experiences working with International Programs in higher education.

Although your participation is voluntary, your input is very important to provide complete information about the administration of Study Abroad Programs and Cooperative Education Agreements at universities in the Central American region. The survey should take approximately 5-10 minutes of your time. All information you provide will be kept confidential and will only be used for this research.

To access the survey, click on the link below:

[Take the Survey](#)

Your participation in this research is voluntary. Your identity will be kept confidential. No identifying information will be used in any report or published information. There are no known risks associated with this project and there is no penalty associated with non-participation or non-response to any questions. For further information about this research study please contact Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, or Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

If you have any questions about the rights of research subjects or research-related injury, please contact the Iowa State University IRB Administrator, (515) 294-4566, IRB@iastate.edu.

Thank you for your valuable time and input.

Sincerely,

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX I. SECOND SURVEY REMINDER LETTER—SPANISH

RE: Recordatorio Final Encuesta Ejecutiva para Administradores Académicos

Estimado Administrador:

Investigadores de la Universidad Estatal de Iowa recientemente le enviaron una invitación para participar en una breve encuesta ejecutiva diseñada para obtener información acerca de sus experiencias profesionales trabajando con programas internacionales en la educación superior. Aunque su participación es voluntaria, su opinión es muy importante para proporcionar información completa sobre la administración de Programas de Estudios en el Extranjero y los Acuerdos de Cooperación para la Educación en universidades de la región Centroamericana. La encuesta tomará aproximadamente 5-10 minutos de su tiempo. Toda la información que proporcione será confidencial y sólo será utilizada para esta investigación.

Para acceder a la encuesta, haga clic en el siguiente enlace:

\$ {!:// SurveyLink d = Tome la Encuesta}

Su participación en esta investigación es voluntaria. Su identidad se mantendrá confidencial. Ninguna información personal será utilizada en informes o en publicaciones. No existen riesgos conocidos o asociados con este proyecto y no hay penalidad asociada si decide no participar, o si decide no responder a cualquier pregunta. Para más información sobre este estudio de investigación póngase en contacto con Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, o con el Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu. Si usted tiene alguna pregunta acerca de los derechos de los sujetos de investigación o una lesión relacionada con la investigación, póngase en contacto con la Universidad Estatal de Iowa IRB Administrador, (515) 294-4566, IRB@iastate.edu. Gracias por su valioso tiempo.

Atentamente,

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX J. THANK YOU LETTER—ENGLISH

RE: Thank You Letter

Dear Academic Administrator:

Thank you for your participation. Your feedback will be used to describe the abundance of international leadership, programs, and agreements in Central American universities.

The researchers of this study perform these global-scale surveys because they are necessary to provide stakeholders in higher education with modern research information. For the first time, the executive survey is asking for feedback from university administrators working in public and private academic institutions. These people are engaged in areas relevant to the administration of student exchange programs and cooperative agreements.

Therefore, your opinion as an administrator was very valuable for us and we would like to thank you for taking the time to complete the survey. Your feedback is invaluable to us as we continue striving to provide university administrators with the highest quality of research information.

For further information about this research study please contact Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, or Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

If you have any questions about the rights of research subjects or research-related injury, please contact the Iowa State University IRB Administrator, (515) 294-4566, IRB@iastate.edu.

Thank you for your valuable time and input.

Sincerely,

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

APPENDIX K. THANK YOU LETTER—SPANISH

RE: Thank You Letter

Estimado Administrador Académico:

Gracias por su participación. Sus comentarios se utilizan para describir la abundancia de liderazgo internacional, programas y acuerdos en las universidades centroamericanas.

Los investigadores de este estudio realizar estas encuestas a escala mundial, ya que son necesarias para proporcionar a los interesados en la educación superior con la información de la investigación moderna. Por primera vez, la encuesta ejecutiva está pidiendo la opinión de los administradores universitarios que trabajan en instituciones académicas públicas y privadas. Estas personas trabajan en áreas relacionadas con la administración de los programas de intercambio de estudiantes y acuerdos de cooperación.

Por lo tanto, su opinión como administrador era muy valiosa para nosotros y nos gustaría darle las gracias por tomarse el tiempo para completar la encuesta. Su opinión es muy importante para nosotros ya que seguir luchando para que los administradores universitarios con la más alta calidad de información de la investigación.

Para obtener más información sobre este estudio de investigación, por favor póngase en contacto con Aurelio Curbelo (515) 451-6059, acurbelo@iastate.edu, o el Dr. Larry Ebbers (515) 294-8067, lebbers@iastate.edu.

Si usted tiene alguna pregunta acerca de los derechos de los sujetos de investigación o lesión relacionada con la investigación, por favor póngase en contacto con el administrador del IRB Iowa State University, (515) 294-4566, IRB@iastate.edu.

Gracias por su valioso tiempo y de entrada.

Atentamente,

Aurelio Curbelo
 Doctoral Student
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 223A Curtiss Hall
 Ames, Iowa 50011
 Email: acurbelo@iastate.edu
 Tel: 515-451-6059
 Fax: 515- 294-2844

Dr. Larry Ebbers
 University Professor
 Iowa State University
 Department of Educational Leadership and
 Policy Studies
 N221A Lagomarcino
 Ames, IA 50011
 Email: lebbers@iastate.edu
 Tel: 515-294-8067
 Fax: 515-294-4942

REFERENCES CITED

- Agosin M., Bloom D., & Gitli, E. (2000). *Globalization, liberalization, and sustainable human development: Progress and challenges in Central American countries*. Geneva, Switzerland: United Nations Conference on Trade and Development, United Nations Development Programme.
- Altbach, P. G. (2002). Knowledge and education as international commodities. *International Higher Education*, 28(Summer): 2–5.
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. Paris, France: United Nations Educational, Scientific and Cultural Organization. Retrieved from <http://unesdoc.unesco.org/images/0018/001831/183168e.pdf>
- Asociación de Universidades Privadas de Panamá. (2010). *Universidades miembros*. Retrieved from <http://www.auppa.org.pa/UniversidadesMiembro.html>
- Barros, R., Freije, S., Molinas, J., & Saavedra, J. (2008). *Inequality of opportunity for children in urban Latin America and the Caribbean*. Washington, DC: The World Bank. Retrieved from the World Bank website: www.worldbank.org/lacopportunity
- Bashir, S. (2007). *Trends in international trade in higher education; Implications and options for developing countries* (The World Bank working paper series). Washington, DC: The World Bank. Retrieved from http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079956815/WPS6_Intl_trade_higherEdu.pdf
- Betts, J. R., & Roemer, J. E. (1999). *Equalizing educational opportunity through educational finance reform* (Department of Economics paper no. 99-8). Davis: Department of Economics, University of California, Davis.
- Birenbaum, H., & Kornblum, W. (1999). *Attacking urban poverty: How universities can help*. Paris, France: International Institute for Education Planning. Retrieved from <http://unesdoc.unesco.org/images/0011/001175/117531e.pdf>
- Bruno, R. (2005). *Prioridades en ciencia y tecnología en países de la región II*. Washington, DC: Inter-American Development Bank. Retrieved from http://www.sica.int/busqueda/busqueda_archivo.aspx?Archivo=info_13255_1_26022007.pdf
- Busso, M., Cicowicz, M., & Gasparini, L. (2005). *Ethnicity and the millennium development goals*. Centro de Estudios Distributivos, Laborales y Sociales, Universidad Nacional de la Plata. Retrieved from <http://www.undp.org/latinamerica/docs/EMDG%20.pdf>
- Castaneda, C. E. (1930). The oldest university in America, *Hispania*, 13(May), 247–249.

Catalogo de Universidades del Mundo. (2010). *Paises de America*. Retrieved from http://www.webometrics.info/university_by_country_select_es.asp?cont=america

Central American Bank for Economic Integration. (2010a). *Country briefing on regional cooperation programmes: Costa Rica*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/costarica.pdf>

Central American Bank for Economic Integration. (2010b). *Country briefing on regional cooperation programmes: El Salvador*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/elsalvador.pdf>

Central American Bank for Economic Integration. (2010c). *Country briefing on regional cooperation programmes: Guatemala*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/guatemala.pdf>

Central American Bank for Economic Integration. (2010d). *Country briefing on regional cooperation programmes: Honduras*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/honduras.pdf>

Central American Bank for Economic Integration. (2010e). *Country briefing on regional cooperation programmes: Nicaragua*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/nicaragua.pdf>

Central American Bank for Economic Integration. (2010f). *Country briefing on regional cooperation programmes: Panama*. Brussels, Belgium: European Commission EuropeAid, Co-operation Office, Centralised Operations for Latin America. Retrieved from <http://ec.europa.eu/europeaid/where/latin-america/regional-cooperation/documents/panama.pdf>

Cetto, A. M., Freyvogel, T. A., Touré, M., & Thulstrup, E. W. (2001). *Mobilizing scientists for development: A precious mission in a changing context* (IFS external evaluation 2000–2001). Stockholm, Sweden: International Foundation for Science. Retrieved from <http://www.ifs.se/Publications/IFS%20External%20Evaluation%202001.pdf>

- Chan, W., & Dimmock, C. (2008). The internationalization of universities: Globalist, internationalist and translocalist models. *Journal of Research in International Education*, 7, 184–204.
- Central America. (2010). In *Merriam-Webster online dictionary*. Retrieved from [http://www.merriam-webster.com/dictionary/central america](http://www.merriam-webster.com/dictionary/central%20america)
- Central Intelligence Agency. (2010a). Belize. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/bh.html>
- Central Intelligence Agency. (2010b). Costa Rica. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/cs.html>
- Central Intelligence Agency. (2010c). Definitions and notes. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/docs/notesanddefs.html#P>
- Central Intelligence Agency. (2010d). El Salvador. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/es.html>
- Central Intelligence Agency. (2010e). Guatemala. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/gt.html>
- Central Intelligence Agency. (2010f). Honduras. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/ho.html>
- Central Intelligence Agency. (2010g). Nicaragua. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/nu.html>
- Central Intelligence Agency. (2010h). Panama. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/pm.html>
- Central Intelligence Agency. (2010i). United States. *The world fact book*. Washington, DC: Author. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/us.html>
- Cogneau, D., & Gignoux, J. (2009). Forthcoming earnings inequalities and educational mobility in Brazil over two decades. In S. Klasen & F. Nowak-Lehmann, *Poverty*,

- inequality and policy in Latin America* (CESIFO seminar series, pp. 47–84). Cambridge, MA: Massachusetts Institute of Technology Press. Retrieved from http://www.dial.prd.fr/dial_publications/PDF/Doc_travail/2005-03.pdf
- Consejo de Enseñanza Privada Superior de Guatemala. (2010). *Universidades*. Retrieved from <http://www.ceps.edu.gt/ceps/>
- Consejo de Rectores de Panamá. (2010). *Universidades*. Retrieved from <http://www.pa/consejo/universidades.htm>
- Consejo Nacional de Rectores de Costa Rica. (2010). *Enlaces de interés*. Retrieved from <http://www.conare.ac.cr/index.php/enlaces-de-interes.html>
- Cowgill, G. L. (1979). *Teotihuacan, internal militaristic competition, and the fall of the classic Maya*. In N. Hammond & G. R. Willey, *Maya archaeology and ethnohistory* (pp. 51–62). Austin: University of Texas Press.
- Cowgill, U. M. (1962). An agricultural study of the southern Maya lowlands. *American Anthropologist*, 64, 273–286.
- Creswell, J. W. (2009). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- De Ferranti, D., Perry, G., Ferreira, F., & Walton, M. (2004). *Inequality in Latin America and the Caribbean: Breaking with history?* Washington, DC: The World Bank. Retrieved from http://www.eclac.cl/ilpes/noticias/paginas/7/29107/Inequality_Latin_America_complete.pdf
- De Wit, H. (2002). *Internationalization of higher education in the United States of America and Europe: A historical, comparative, and conceptual analysis*. Westport, CT: Greenwood Press.
- Denzin, N. K., & Lincoln, Y. S. (1994). Introduction: Entering the field of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 1–17). Thousand Oaks, CA: Sage.
- Edelman, M. (1992). The Central American countries since independence: Shared history, different histories. In *Latinos in the making of the United States of America* (Ibero-American Heritage Curriculum Project, pp. 705–724). Albany: State University of New York, New York State Education Department. Retrieved from: <http://www.p12.nysed.gov/ciai/socst/ghgonline/units/5/documents/Edelman.pdf>
- Enders, J., & Fulton, O. (Eds.). (2002). *Higher education in a globalizing world: International trends and mutual observations*. Dordrecht, the Netherlands: Kluwer.

- Ferreira, F., & Gignoux, J. (2008). *Toward an understanding of socially inherited inequalities in educational achievement: Evidence from Latin America and the OECD*. Washington, DC: The World Bank. Retrieved from www.worldbank.org/lacopportunity.
- Florida, R. (1999). The role of the university: Leveraging talent, not technology. *Issues on Science and Technology*, 15(4), 67–73. Retrieved from <http://www.aaas.org/spp/yearbook/2000/ch31.pdf>
- Fonthal, G. (2010). *Accreditation, certification, and internationalization of higher education: A global perspective for Latin America*. Laguna Hills, CA: International Education Consulting. Retrieved from http://www.intedco.org/documents/pdf/Accred_Internat.pdf
- Gacel-Ávila, J., Jaramillo, I. C., Knight, J., & de Wit, H. (2005). The Latin American way: Trends, issues, and directions. In H. De Wit, I. C. Jaramillo, J. Gacel-Ávila, & J. Knight (Eds.), *Higher education in Latin America: The international dimension* (pp. 341–368). Washington, DC: The World Bank. Retrieved from http://siteresources.worldbank.org/EXTLACREGTOPEducation/Resources/Higher_Ed_in_LAC_International_Dimension.pdf
- Gadernann, A. M., Guhn, M., & Zumbo, B. D. (2012). Estimating ordinal reliability for Likert-type and ordinal item response data: A conceptual, empirical, and practical guide. *Practical Assessment, Research, & Evaluation*, 17(3), 1–13.
- Garrett, R. (2004). *Observatory on borderless higher education* (Global education index, 2004 report). London, UK: Association of Commonwealth Universities.
- Goree, C. T., & Marszalek, J. F., III. (1995). Electronic surveys: Ethical issues for researchers. *College Student Affairs Journal*, 15(1), 75–79.
- Guzmán, C. A. (2000). Equity in education in El Salvador. *CEPAL Review*, 70, 165–79. Retrieved from http://www.eclac.org/publicaciones/xml/1/19971/lcg2095i_Carrasco.pdf
- Hawkins, J. N., Haro, M., Kazanjian, M., Merx, G., & Wiley, D. (1998). *International education in the new global era*. Los Angeles: International Studies and Overseas Program, University of California Los Angeles. Retrieved from <http://www.international.ucla.edu/pacrim/title6/UCLA%20Education.pdf>
- Henson, J. B., Noel, J. C., Gillard-Byers, T. E., & Ingle, M. D. (1991). *Internationalizing U.S. universities: A preliminary summary of a national study* (Occasional paper #7). Pullman: International Program Development Office, Washington State University.

- Hispanic Association of Colleges and Universities. (2010). *International member institutions*. Retrieved from http://www.hacu.net/assnfe/CompanyDirectory.asp?STYLE=2&COMPANY_TYPE=4,16&SEARCH_TYPE=0
- Holzner, B., & Harmon, M. (1998). Intellectual and organizational challenges for international education in the United States: A knowledge system perspective. In J. N. Hawkins, M. Haro, M. Kazanjian, G. Merckx, & D. Wiley (Eds.), *International education in the new global era* (pp. 30–64). Los Angeles: International Studies and Overseas Program, University of California Los Angeles. Retrieved from <http://www.international.ucla.edu/pacrim/title6/Plen1-Holzner%20Harmon.pdf>
- Huisman, J., & Wende, M. (Eds.). (2005). *On cooperation and competition II: Institutional responses to internationalization, Europeanization, and globalization*. Bonn, Germany: Lemmens Verlag.
- Institute of Education Sciences, National Center for Education Statistics. (2011). Number of U.S. students studying abroad and percentage distribution, by sex, race/ethnicity, academic level, host region, and duration of stay: Selected years, 1996–97 through 2008–09. In *Digest of Education Statistics* (Table 35). Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_235.asp
- Institute of International Education. (2010a). *Open doors: Report on international educational exchange, 1948–2008* [CD-ROM]. Sewickley, PA: Author.
- Institute of International Education. (2010b). *Sponsors and partners*. Retrieved from <http://www.iie.org/en/Sponsors-and-Partners>
- Inter-American Development Bank. (2008). *Outsiders? The changing patterns of exclusion in Latin America and the Caribbean*. Washington, DC: Author. Retrieved from <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=1154386>
- International Association of Universities. (n.d.). *List of universities of the world*. Retrieved from <http://www.iau-aiu.net/content/list-heis>
- International Association of Universities. (1998). *Towards a century of cooperation: Internationalization of higher education*. Retrieved from http://www.iau-aiu.net/p_statements/i_statement.html
- International Association of Universities. (2003). GATS (WTO) and higher education commodification: The shape of things to come? Retrieved from <http://www.unesco.org/iau/globalization/wto-gats.html>
- International Association of Universities (2011). *World list of universities and other institutions of higher education*. New York, NY: Stockton Press.

- Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm: A model of knowledge development and increasing foreign market commitment. *Journal of International Business Studies*, 8(1), 23–32.
- Johanson, J., & Vahlne, J. E. (1990). The mechanism of internationalization. *International Marketing Review*, 7(4), 11–24.
- Johanson, J., & Vahlne, J. E. (2003). Building a model of firm internationalization. In A. Blomstermo & D. D. Sharma (Eds.), *Learning in the internationalization process of firms*. Cheltenham, UK: Edward Elgar.
- Knight, J. (1994). *Internationalization elements and checkpoints* (Research monograph no. 7). Ottawa, Canada: Canadian Bureau for International Education.
- Knight, J. (1999a). Internationalization of higher education. In J. Knight & H. de Wit (Eds.), *Quality and internationalization in higher education* (pp. 13–28). Paris, France: Organization for Economic Co-operation and Development.
- Knight, J. (1999b). Issues and trends in internationalization: A comparative perspective. In S. Bond & J. P. Lemasson (Eds.), *A new world of knowledge: Canadian universities and globalization* (pp. 201–239). Ottawa, Canada: International Development Research Centre.
- Knight, J. (1999c). *A time of turbulence and transformation for internationalization* (Research monograph No. 14). Ottawa, Canada: Canadian Bureau for International Education.
- Knight, J. (2002). *Trade in higher education services: The implications of GATS*. London, UK: The Observatory on Borderless Higher Education. Retrieved from http://portal.unesco.org/education/en/files/22452/10630139801jk_trade_he_gats_implications.pdf/jk_trade_he_gats_implications.pdf
- Knight, J. (2003). Higher education and trade agreement: What are the policy implications? In G. Breton & M. Lambert (Eds.), *Universities and globalization, private linkages, public trust* (pp. 81–106). Paris, France: UNESCO/Université Laval/Economica.
- Knight, J. (2004a). Crossborder education: The complexities of globalization, internationalization and trade. In *Internationalization and Quality Assurance* (Chapter 5). Pretoria, South Africa: SAUVCA.
- Knight, J. (2004b). Internationalization remodeled: Definition, approaches, and rationales. *Journal of Studies in International Education*, 8(1), 5–31.

- Knight, J. (2005a). Crossborder education: An analytical framework for program and provider mobility. In J. Smart & W. Tierney (Eds.), *Higher education: Handbook of theory and practice* (pp. 345–395). Dordrecht, the Netherlands: Springer.
- Knight, J. (2005b). An internationalization model: Responding to new realities and challenges. In H. de Wit, I. C. Jaramillo, J. Gacel-Avila, & J. Knight (Eds.), *Higher education in Latin America: The international dimension*. Washington, DC: The World Bank. Retrieved from http://siteresources.worldbank.org/EXTLACREGTOPEUCATION/Resources/Higher_Ed_in_LAC_Intnal_Dimension.pdf
- Knight, J. (2006a). *Higher education crossing borders: A guide to the implications of the general agreement on trade in services for cross-border education*. Paris, France: United Nations Educational, Scientific, and Cultural Organization. Retrieved from <http://unesdoc.unesco.org/images/0014/001473/147363e.pdf>
- Knight, J. (2006b). *Internationalization of higher education: New directions, new challenges. The 2005 IAU global survey report*. Paris, France: International Association of Universities.
- Knight, J., & de Wit, H. (1995). Strategies for internationalization of higher education: Historical and conceptual perspectives. In H. de Wit (Ed.) *Strategies for internationalization of higher education* (pp. 5–32). Amsterdam, the Netherlands: European Association for International Education.
- Knight, J., & de Wit, H. (1997). *Internationalization of higher education in Asia Pacific countries*. Amsterdam, the Netherlands: European Association for International Education.
- Knight, J., & de Wit, H. (Eds.). (1999). *Quality and internationalization in higher education*. Paris, France: Organization for Economic Co-operation and Development.
- León-Portilla, M. (1969). *Pre-Columbian literatures of Mexico*. Norman: University of Oklahoma Press.
- Millon, R. (1992). Teotihuacan studies: From 1950 to 1990 and beyond. In J. C. Berlo (Ed.), *Art, ideology, and the city of Teotihuacan* (pp. 339–419). Washington, DC: Dumbarton Oaks.
- Multicultural. (2010). In *Merriam-Webster online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/multicultural>
- National Education Association. (2004). *Higher education and international trade agreements: An examination of the threats and promises of globalization*. Washington, DC: Author.

- Odin, J. K., & Mancias, P. T. (Eds.). (2004). *Globalization and higher education*. Honolulu: University of Hawaii Press. Retrieved from http://www.libstudy.hawaii.edu/manicas/pdf_files/books/GlobalizationAndHigherEducation.pdf
- Organization for Economic Cooperation and Development. (2004a). *Internationalization and trade in higher education: Opportunities and challenges*. Paris: Author. Retrieved from http://www.bc.edu/bc_org/avp/soe/cihe/ihec/global/OECD_CrossBorderMobility.pdf
- Organization for Economic Cooperation and Development. (2004b). *Quality and recognition in higher education: The cross border challenge*. Paris, France: Author.
- Organization for Economic Cooperation and Development. (2005). *E-learning in tertiary education: Where do we stand?* Paris, France: Author.
- Organización Universitaria Interamericana. (2010). *Miembros*. Retrieved from <http://www.oui-iohe.org/table/paises/>
- Perkinson, R. (2006, December). *International higher education: Seizing the opportunity for innovation and international responsibility*. Presented at the Global 2 Education Conference, Edinburgh, Scotland. Retrieved from http://www.whitneyintl.com/por/documents/Innovation_and_International_Responsibility.pdf
- Population reference bureau database. (2012). Retrieved from www.prb.org
- Robinson, J. P., Rusk, J. G., & Head, K. B. (1973). *Measures of political attitudes*. Ann Arbor, MI: Institute for Social Research.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). *Measures of personality and social psychological attitudes*. San Diego, CA: Academic Press.
- Rodrik, D. (1997a). *Where did all the growth go? External shocks, social conflict, and growth collapses*. Harvard University. Retrieved from http://www.hks.harvard.edu/m-rcbg/research/d.rodrik_jeg_where.did.all.the.growth.go.pdf
- Rodrik, D. (1997b). *Has globalization gone too far?* Washington, DC: Institute for International Economics.
- Rodrik, D. (1998). Globalization, social conflict, and economic growth (Prebisch lecture). *The World Economy*, 21(2). Retrieved from [http://atecex.uexternado.edu.co/eco2fin/Lecturas/\(Rodrik\)%20Globalizacion%20conflicto%20social%](http://atecex.uexternado.edu.co/eco2fin/Lecturas/(Rodrik)%20Globalizacion%20conflicto%20social%)
- SAS Institute, Inc. (2011). *Statistical analysis for social sciences*. Cary, NC: Author.

- Schwartzman, S. (1993). Policies for higher education in Latin America: The context. *Higher Education*, 25, 9–20. Retrieved from <http://www.jstor.org.proxy.lib.iastate.edu:2048/stable/pdfplus/3447727.pdf>
- Schwartzman, S. (1999). Latin America: National responses to world challenges in higher education. In P. Altbach & P. M. Peterson (Eds.), *Higher education in the twenty-first century: Global challenges and national responses* (IIE research report no. 29, pp. 47–58). New York, NY: Institute of International Education. Retrieved from http://www.bc.edu/bc_org/avp/soe/cihe/pga/pdf/IIE%20Altbach-Peterson%20Book.pdf
- Schwartzman, S. (2002). *Higher education and the demands of the new economy in Latin America* (Background paper for the LAC flagship report). Washington, DC: The World Bank. Retrieved from <http://www.schwartzman.org.br/simon/flagship.pdf>
- Shaw, M. E., & Wright, J. M. (1967). *Scales for the measurement of attitudes*. New York, NY: McGraw Hill.
- Siaya, L., & Hayward, F. M. (2003). *Mapping internationalization on U.S. campuses*. Washington, DC: American Council on Education. Retrieved from <http://www.acenet.edu/bookstore/pdf/mapping.pdf>
- Stier, J. (2006). Internationalization, intercultural communication and intercultural competence. *Journal of Intercultural Communication*, 11. Retrieved from <http://www.immi.se/intercultural/nr11/stier.pdf>
- Task Force on Higher Education and Society. (2000). *Higher education in developing countries: Peril and promise*. Washington, DC: The International Bank for Reconstruction and Development, The World Bank. Retrieved from http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079956815/peril_promise_en.pdf
- Teichler, U. (2004). The changing debate on internationalization of higher education. *Higher Education*, 48(1), 5–26. Retrieved from <http://www.springerlink.com/content/w62716g2q2v5u384/fulltext.pdf>
- Thulstrup, E. W. (1999a). How can research capacity be created and used in developing countries? In J. G. Simonsen, J. P. Myklebust, & H. Karlsen (Eds.), *North–South co-operation in higher education and research: Nordic goals, strategies, issues and experiences: Proceedings from the Bergen NUAS-NUS conference* (pp. 21–38). Bergen, Norway: University of Bergen.
- Thulstrup, E. W. (1999b). Secondary school–university interface: Science and engineering. *Global Journal of Engineering Education*, 3, 9–20.

- Thulstrup, E. W. (2001). Strengthening higher education and research in the third world through university–industry co-operation. In A. Kornhauser, & E. W. Thulstrup (Eds.), *University, industry, government cooperation: How to make it work?* (pp. 52–66). Ljubljana, Slovenia: University of Ljubljana.
- Thulstrup, E. W. (2002). The use of science and technology in developing countries: Potential benefits from regional cooperation. In B. L. M. Mwamila & E. W. Thulstrup (Eds.), *Engineering and technology for sustainable development: Research, education and development* (pp. 4–18). Stockholm, Sweden: Sida-SAREC.
- Thulstrup, E. W., Muñoz, M., & Decoster, J. (2006). *Building research capacity in Bolivian universities* (pp. 1–80). Stockholm, Sweden: Sida-SAREC. Retrieved from <http://www.oecd.org/dataoecd/22/3/37310349.pdf>
- Unidad de Rectores de Costa Rica. (2010). *Universidades afiliadas*. Retrieved from <http://www.unire.or.cr/universidades.htm>
- Unión de Universidades de América Latina. (2010). *Afiliación; Instituciones por país*. Retrieved from <http://www.udual.org/Afiliacion/lista.htm>
- United Nations Educational, Scientific and Cultural Organization). (1974). *Regional convention on the recognition of studies, diplomas, and degrees in higher education in Latin America and the Caribbean*. Paris, France: Author. Retrieved from <http://unesdoc.unesco.org/images/0012/001224/122457mo.pdf#page=18>
- United Nations Educational, Scientific and Cultural Organization. (1993). *Recommendation on the recognition of studies and qualifications in higher education*. Paris, France: Author. Retrieved from http://portal.unesco.org/en/ev.php-URL_ID=13142&URL_DO=DO_TOPIC&URL_SECTION=201.html
- United Nations Educational, Scientific and Cultural Organization. (1998). *World declaration on higher education for the twenty-first century: Vision and action and framework for priority action for change and development in higher education* Paris, France: Author. Retrieved from http://www.biceinternational.org/e_upload/pdf/unesco_world_declaration_on_higher_education_for_the_twenty_first_century_vision_and_action.pdf
- United Nations Educational, Scientific and Cultural Organization. (2004). *Higher education in a globalized society* (UNESCO education position paper). Paris, France: Author. Retrieved from <http://unesdoc.unesco.org/images/0013/001362/136247e.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2005a). *Guidelines for quality provision in cross-border higher education*. Paris, France: Author. Retrieved from <http://www.oecd.org/dataoecd/27/51/35779480.pdf>

- United Nations Educational, Scientific and Cultural Organization. (2005b). *Internationalizing U.S. universities: A preliminary summary of a national study*. Paris, France: Author. Retrieved from <http://www.acenet.edu/bookstore/pdf/2000-intl-report.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2005c). *Second global forum on international quality assurance, accreditation and the recognition of qualifications*. Paris, France: Author. Retrieved from <http://unesdoc.unesco.org/images/0014/001417/141768e.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2007). *Learners and new higher education spaces: Challenges for quality assurance and the recognition of qualifications*. Paris, France: Author. Retrieved from <http://unesdoc.unesco.org/images/0015/001559/155919e.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2009a). *The new dynamics of higher education and research for societal change and development*. Paris, France: Author. Retrieved from http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/WCHE_2009/FINAL%20COMMNEW%20WCHE%202009.pdf
- United Nations Educational, Scientific and Cultural Organization. (2009). *Regional overview: Latin America and the Caribbean*. Paris, France: Author. Retrieved from <http://unesdoc.unesco.org/images/0017/001784/178428e.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2010). *Measuring educational participation: Analysis of data quality and methodology based on ten studies* (Technical paper no. 4). Montreal, QU, Canada: UNESCO Institute for Statistics. Retrieved from <http://unesdoc.unesco.org/images/0018/001875/187548e.pdf>
- Uvalic-Trumbic, S. (Ed.) (2002). *Globalization and the market in higher education: Quality, accreditation, and qualifications*. Paris: UNESCO Publishing.
- Vaira, M. (2004). Globalization and higher education organizational change: A framework for analysis, *Higher Education*, 48(4), 483–510. Retrieved from http://www.acui.org/uploadedFiles/Programs/Professional_Development/Vera.pdf
- Vogt, W. P. (2007). *Quantitative research methods for professionals*. Boston, MA: Pearson.
- Waltenberg, F. D., & Vandenberghe, V. (2007). What does it take to achieve equality of opportunity in education? An empirical investigation based on Brazilian data. *Economics of Education Review*, 26(6), 709–23. Retrieved from <http://sites.uclouvain.be/econ/DP/IRES/2005-55.pdf>

- The World Bank. (2006). *World development report 2006: Equity and development*. Washington, DC: Author. Retrieved from http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000112742_20050920110826
- The World Bank. (2010a). Belize. *Data*. Retrieved from <http://data.worldbank.org/country/belize>
- The World Bank. (2010e). Costa Rica. *Data*. Retrieved from <http://data.worldbank.org/country/costarica>
- The World Bank. (2010c). El Salvador. *Data*. Retrieved from <http://data.worldbank.org/country/elsalvador>
- The World Bank. (2010d). Guatemala. *Data*. Retrieved from <http://data.worldbank.org/country/guatemala>
- The World Bank. (2010e). Honduras. *Data*. Retrieved from <http://data.worldbank.org/country/honduras>
- The World Bank. (2010f). Nicaragua. *Data*. Retrieved from <http://data.worldbank.org/country/nicaragua>
- The World Bank. (2010g). Panama. *Data*. Retrieved from <http://data.worldbank.org/country/panama>
- Zubatsky, D. (1979). *The history of the American colleges and their libraries in the seventeenth and eighteenth centuries: A bibliographic essay*. Urbana, IL: University of Illinois.

ACKNOWLEDGMENTS

I dedicate this work to my beautiful families in Puerto Rico and Costa Rica because they provided encouragement, love, and faith during difficult and happy times. To my family in Puerto Rico starting with my hero/father Aurelio Curbelo Sr., mother Maria L. Ruiz, sister Aury M. Curbelo, and grandma Virginia Rodriguez whom I love dearly for giving me so much love. To my family in Costa Rica, for loving me and accepting me as their new son in the Valverde-Salazar family. Los quiero mucho! To my beautiful, talented, loving, and devoted wife Marlen A. Valverde, whom I love with all my heart, soul, and mind. Gracias por darme tanto amor, cariño, y por enseñarme lo bonito que es amar indefinidamente. Te amo linda y le agradezco al todopoderoso por ponerte en mi camino cuando mas te necesitaba.

To my committee mentors, Larry Ebbers, Mack Shelley, Sharon Drake, Robert Martin, Clinton Stephens, and Sharon Drake for a constructive and prosperous academic experience at Iowa State University. To my family in the College of Agriculture and Life Sciences starting with Lynn Jones, Harold Crawford, Mary deBaca, David Acker, Wendy Wintersteen, and Joe Colletti. Thanks for teaching me how to be a global leader in the agricultural sciences. Finally, I want to thank my Iowa State University family, friends, and colleagues because you gave me the support I needed to become a better academic leader and a great professional administrator in higher education.