ASSESSING CHANGES IN INTERCULTURAL SENSITIVITY IN STUDENTS EXPOSED TO INTERCULTURAL EXPERIENCES SUPPORTED BY THE COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES AT OKLAHOMA STATE UNIVERSITY USING THE INTERCULTURAL DEVELOPMENT INVENTORY

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CHAPTER I

Introduction

Background and Setting

Globalization encourages higher education institutions to prepare students for emerging challenges facing them as global citizens (Bok, 2006; Zhai & Scheer, 2004). American Universities understand that professionals are competing for jobs not only with college graduates living in the same country, but also with professionals from around the world. International corporations are seeking professionals capable of working in diverse environments, with ability to recognize, respect, and adapt their behavior to different cultures (Berthoin & . Friedman, 2008; Haeger, 2007; Zhu, 2001). Research shows that between 10% and 40% of personnel engaged in international assignments from United States based companies had to be recalled or dismissed because of poor performance (Bhawuk & Brislin, 1992). These high rates suggest that the people selected for assignments were not properly prepared to face intercultural challenges. Being trained to become interculturally sensitive and competent could open numerous professional opportunities for university graduates in the job market (Bray, 2004). A job applicant's intercultural competence is used in selection and placement decisions, leading universities to look more closely at this attribute as a core competency for graduation (Bhawuk & Brislin, 1992).

In order to prepare students to face global competency , American higher education institutions have implemented various actions to meet the demands of globalization, such as, encouraging students to have international experiences, and/or implementing international or diversity courses as a mandatory part of the curriculum. However, they have focused mainly on

becoming multicultural institutions, attracting more minorities and nontraditional students to their campuses (Oklahoma State University, 2007). These are efforts support multiculturalism, and a multicultural institution but do not support a diversity community (Caleb, 1998). Reaching diversity in higher education institutions is possible when the community is interested in learning how to relate with people from different cultures (Iowa State University. College of Liberal Arts). Higher education institutions need to promote not only multiculturalism but diversity, encouraging students, faculty and staff members to participate in experiences that enhance their understanding of cultural sensitivity.

There are few activities within higher education institutions that are specifically designed to motivate students, faculty, and staff members to explore, understand, accept, and interact within multicultural environments as part as their daily lives. Higher education institutions, in general, promote diversity minimally via cultural awareness activities, such as cultural nights featuring various costumes, dances and foods of targeted international students' groups (Bennett, 1986). This activities should aim to develop intercultural sensitivity in professionals so they can develop abilities to operate effectively in intercultural environments and become inter culturally competent (Hammer, et al., 2003).

Oklahoma State University (OSU), College of Agricultural Sciences and Natural Resources (CASNR), understanding the importance of educate their students to live in a global society has created and supported a variety of academic programs which could foster intercultural experiences for their students. Initiatives that promote intercultural experiences within CASNR include conferences, courses, international field trips, study abroad, and language training.

These OSU-CASNR initiatives are intended to expose American students to different cultures to increase their understanding of cultural differences (intercultural sensitivity), in order to

prepare them to appropriately interact with people of different cultures: a skill defined as intercultural competence. Intercultural competence is fundamental to improving business and personal relationships across cultures (Hammer, et al., 2003). CASNR faculty and staff understand that professionals with high levels of intercultural competence develop strong, long lasting, and productive relationships with people of many cultures, and that this attribute could create more opportunities for students over their life time (Hammer, et al., 2003).

This study examined the effect of participating in CASNR supported international (I designated) courses and in faculty-led short study abroad programs on students' level of intercultural sensitivity using the Intercultural Development Inventory (IDI) (Hammer, et al., 2003), which can be used as predictor of intercultural competence (Bhawuk & Brislin, 1992). These results could be used to evaluate the effectiveness of institutional efforts to encourage intercultural sensitivity within the CASNR at OSU.

Statement of the Problem

CASNR invests resources to develop and support international awareness, multiculturalism and diversity among their students, with different "I" courses and faculty-led short term study abroad programs. However, little is known about the effectiveness of such efforts regarding changing students' knowledge, attitudes and behaviors toward multiculturalism. This study evaluated the impact of these efforts on students' intercultural sensitivity.

The results could be used to evaluate the efficacy of the institutional efforts to encourage intercultural sensitivity within the CASNR at OSU. The information collected in this study documented the effects of cultural and intercultural training on intercultural sensitivity among participants in courses and/or in short study abroad programs.

Purpose

The purpose of this study was to assess intercultural sensitivity among students who participated in "I" designated courses and faculty-led short study abroad programs supported by CASNR. Further, this study sought to determine the impact of these experiences upon the development of intercultural sensitivity among participants.

Research Questions

This study answers the following questions:

- Are there changes in intercultural sensitivity among Oklahoma State University students exposed to intercultural experiences ("I" courses and faculty-led short study abroad programs) sponsored by the CASNR at OSU as measured by the Intercultural Development Inventory (IDI)?
- Are there differences in degrees of change in cultural sensitivity among Oklahoma State University students exposed to different types of intercultural experiences ("I" Courses, faculty-led short study abroad programs) sponsored by the CASNR at OSU, according to the Intercultural Development Inventory (IDI)?

Definitions of Terms

The following definitions were offered to provide clarity and consistency throughout the study:

Multiculturalism is defined "as a system of beliefs and behaviors that recognizes and represents the presence of all diverse groups in an organization or society" (Caleb, 1978, ¶ 7).

Diversity is defined as "knowing how to relate to those qualities and conditions that are different from our own and outside the groups to which we belong" (Iowa State University. College of Liberal Arts, ¶ 7).

Intercultural Sensitivity is an understanding of the importance of cultural differences and different points of view of people from other cultures (Ministries, 2008); "the ability to discriminate and experience relevant cultural differences" (Hammer, et al., 2003, p. 422).

Intercultural Competence is the ability of individuals to operate effectively and appropriately in more than one language or culture or both (Hammer, et al., 2003).

Developmental Model of Intercultural Sensitivity (DMIS) is a progression of worldview orientations toward cultural difference (Hammer, et al., 2003).

Intercultural Development Inventory (IDI) is an instrument constructed to measure cultural sensitivity, "the orientations toward cultural differences described in the DMIS" (Hammer, et al., 2003, p. 421).

Cultural Worldview is a "set of distinctions that [are] appropriate to a particular culture. Individuals who have received largely mono cultural socialization normally have access only to their own cultural worldview, so they are unable to construe…the differences between their own perception and that of people who are culturally different" (Hammer, et al., 2003, p. 422).

Cultural Marginality refers to an "individual dealing with two or more internal cultures" (Bennett, 1993a as cited by Straffon, 2003, p. 490).

Constructive Marginality is a "function at a higher level of effectiveness and competence. [A person with constructive marginality] maintains control of her/his choices and is able to construct and maintain boundaries" between different cultures (Straffon, 2003, p. 490).

Basic Assumptions of the Study

In order to facilitate this study, the following assumptions were identified:

- Cultural sensitivity is a value held by CASNR-OSU personnel and the reason "I" designated courses are required in the curriculum.

- CASNR-OSU students, professors, and staff members are always looking to increase their levels of intercultural sensitivity.
- CASNR-OSU offers a variety of activities, like classes, short field trips, and language training, which could increase the intercultural sensitivity of students, professors and staff members.
- CASNR-OSU participants in this study provided complete and honest information.

Significance of the Study

This study contributes to the literature about higher education's efforts to assess college initiatives to increase intercultural sensitivity among students. This study will add to the institutional database and to CASNR's efforts to assess changes in intercultural sensitivity in students exposed to intercultural experiences (courses and faculty-led short study abroad programs) supported by the CASNR-OSU, using the Intercultural Development Inventory as conceptualized in Bennett's Developmental Model of Intercultural Sensitivity (DMIS) (Bennett & Hammer, 2002; Hammer, et al., 2003). This study emphasis the importance of the evaluation of the institutional efforts to increase their students' intercultural sensitivity, determining the effectiveness of the programs offered.

CHAPTER II

Review of Literature

Introduction and Importance

Higher education institutions around the world are concerned about preparing students to face the challenges of a global economy. Professionals who have been educated in universities are competing for jobs not only with college graduates living in the same country, but also with professionals from around the world. Professionals are needed to work in intercultural teams and to initiate and maintain business relationships with people from other countries. International corporations are seeking professionals capable of working in diverse environments, with the ability to recognize, respect, and adapt their behavior to different cultures (Berthoin & . Friedman, 2008; Haeger, 2007; Zhu, 2001). Recognizing and respecting cultural factors influencing international behavior is an important factor that could make the difference between a successful and an unsuccessful business relationships (Planken, Van, & Korzilius, 2004).

Higher education institutions in the United States are taking responsibility by educating students to face emerging international challenges. However, the United States has a geographical disadvantage for intercultural interactions with other countries in the world. The United States is geographically isolated, and this makes many Americans think that being interculturally competent is unnecessary (Peterson, 2004). Nevertheless, higher education institutions in the United States understand that developing cultural competence in their students should be a priority. Higher education institutions need to prepare culturally competent

professionals who are in high demand. In order to do so, some authors suggest that higher education institutions have to incorporate formal classes, and/or activities in their curriculum that help their students to develop the five key global cultural competencies: cultural self-awareness; cultural consciousness; the ability to lead multicultural teams; the ability to negotiate across cultures; and global mindsets (Ashwill, 2004; Cant, 2004; Fantini, 2009). At the same time, higher education institutions also have to "remain … intellectually and culturally viable . . . [while] preparing students to [become] competitive … in a global marketplace, and staying abreast of the electronic deluge of information and globalized knowledge" (Deardorff, 2004, p. 13).

To develop global cultural competencies, the majority of American higher education institutions are promoting a variety of multicultural activities. However, these initiatives are isolated, and they focus on recruiting campaigns to attract minority and international students, offering courses in diversity and international issues as well as on promoting and sponsoring faculty-led short study abroad programs. The impact of these initiatives on college students' knowledge, attitudes and behaviors toward multiculturalism is unknown, as there is a lack of research regarding how these efforts are improving the cultural competency of undergraduate or graduate students. Are higher education intercultural initiatives preparing students to face the intercultural challenges in the twenty first century? Are students changing attitudes as well as behaviors when they participate in intercultural experiences? Are there different degrees of change among students exposed to different types of intercultural experiences? These questions are the focus of the literature review and the study presented in this dissertation.

This literature review examines the importance of cultural and intercultural education and internationalization of higher education institutions; it explains terms, such as intercultural

competence and sensitivity, and the relationship between both terms. It discusses different tools used to assess intercultural sensitivity and competence and reviews successful alternatives of training to improve intercultural competence in higher education institutions. Finally, this literature review discusses the theoretical framework selected for this study. The Developmental Model of Intercultural Sensitivity (DMIS) is the theoretical framework being used to develop the Intercultural Development Inventory (IDI). IDI is a tool that measures the worldview orientations toward cultural sensitivity (Bennett, 1986, 1993a, 1993b; Bennett & Hammer, 2002; Hammer Consulting L.L.C., 2007; Hammer, 2008; Hammer, et al., 2003). DMIS and IDI will be explained later in this chapter.

Culture and Intercultural Education

Culture

The concept of culture includes much more than geographic location. The definition of culture includes concepts from history, geographical location, language, religion, and race, to hunting practices, music, and agriculture (Peterson, 2004). Culture has been defined as a system where people from the same culture share values, points of views, and meanings (Keesing, 1974). Culture is also "the relatively stable set of inner values and beliefs generally held by groups of people in countries of religions and the noticeable impact those values and beliefs have on the people's outward behaviors and environment" (Peterson, 2004, p. 17). Culture defines values and beliefs. People from the same culture share meanings, points of views and ways to handle certain situations (Cant, 2004; Peterson, 2004; Rathje, 2007). The role of culture among nations is so powerful that it can determine the prosperity, stability, and freedom of nations (Harrison & Huntington, 2000).

Intercultural Education

The use of the term intercultural education in the United States is older than the use of the term, multicultural education. The term intercultural education was used in the United States in the early twentieth century because of the influence of European and Latin-American immigrants. Immigrants to the United States did not want to just live in a society with other cultures; they also wanted to interact with the rest of the population and to become fully integrated members in the society of their new country. Multicultural education, in the United States, on the other hand, started during the Civil Rights Movement of the 1960s. These initiatives forbade discrimination on account of race, color, age, creed or national origin. However, even when multicultural initiatives were welcome among minority groups, their only provision was to allow minorities to attend the same schools as the Anglo-Saxon students, through the process known as integration. These initiatives did not include in the curriculum Black or Latino heritage studies, or foster effective interactions between different cultural groups (Kahn, 2008).

Intercultural education is different from multicultural education because intercultural education suggests "interactions among individuals" (Kahn, 2008, p. 529), rather than simply co-mixing individuals from different races with-in the same school, neighborhood, state or country. Education could be multicultural without being intercultural, but could not be intercultural without being multicultural. People from different cultures can get together but cannot necessarily show interest in each other. Nevertheless, even though the meaning of the terms is different, these terms are used synonymously throughout the literature.

Intercultural education is one of the most important educational initiatives and potentially could address the problem of educational inequality in the world. Learning to deal with intercultural differences has to be a formal and informal process and a life-long commitment.

Intercultural education engages concepts, such as equality, justice and human dignity (Gundara & Portera, 2008; Kahn, 2008). To address this initiative, the American government has proposed various actions. The most recent being the No Child Left Behind Act of 2002. This initiative expresses one of the most recent government desires to educate every child, from every background, in every part of America (Kahn, 2008), a clear concept of inclusion (multicultural) but not intercultural education.

Intercultural Sensitivity and Intercultural Competence

Definitions

Intercultural sensitivity is a personal skill that allows people to successfully interact in intercultural environments (Bhawuk & Brislin, 1992). Intercultural sensitivity is an understanding of the importance of cultural differences and different points of view of people from other cultures (Ministries, 2008). A culturally sensitive person is able to differentiate and observe relevant cultural differences (Bhawuk & Brislin, 1992), and is also able to show respect, appreciation, and understanding for people from different cultures. People that are effective working with other cultures are "willing to modify their behavior as an indication of respect for the people of other cultures" (Bhawuk & Brislin, 1992, p. 416). People who are culturally sensitive are eager to learn the differences between cultures, and most importantly, respect those differences and the different cultures, including the values and beliefs therefore, even when they may not approve of or agree with the way that a particular culture deals with specific issues. Companies around the world seek culturally sensitive personnel who can be successful in accomplishing goals of foreign assignments.

Intercultural sensitivity is related to intercultural effectiveness and intercultural competence. Intercultural sensitivity is a predictor of intercultural effectiveness and it is

associated with the potential to exercise intercultural competence. An interculturally effective person,

1) Feels good about interacting with people from other cultures.

2) Makes people from other cultures feels good about interacting with them.

3) Is capable of working effectively as a team with people from another culture, and

4) Does not suffer from stress when living in another culture (Bhawuk & Brislin, 1992).

However, the terminology used to describe cultural competence sometimes is confusing and produces many synonyms, such as global competence, cross-cultural competence, international competence, intercultural effectiveness, and intercultural communication, global citizenship competence, intercultural sensitivity (Deardorff, 2004; Fantini, 2005, 2006, 2009). Fantini (2005, 2006), uses indistinctively intercultural communicative competence (ICC), intercultural competence, global competence, international competence, and multicultural competence, but his definition of ICC includes a linguistic concept that is not included by other researchers.

For the purpose of this research, the readers should understand that intercultural competence can potentially be achieved when people increase their intercultural sensitivity. The "greater intercultural sensitivity is associated with greater potential for exercising intercultural competence" (Hammer, et al., 2003, p. 422). Intercultural competence does not necessarily include the knowledge of another language. Intercultural competence is the ability to interact with people from different cultures in a way that avoids misunderstandings and creates opportunities (Hammer, et al., 2003; Rathje, 2007).

Intercultural sensitivity is trainable. It is a complex cognitive, attitudinal, and behavioral phenomenon (Altshuler, Sussman, & Kachur, 2003), and because of its complexity, there are no

simple solutions for training professionals to become interculturally sensitive and competent. Designing training for intercultural sensitivity to potentially achieve intercultural competence requires a comprehensive analysis of the factors that might influence intercultural sensitivity, including demographic, language, and cultural differences. The objective of intercultural training should be to develop intercultural sensitivity in professionals so they can develop abilities to operate effectively in intercultural environments and become interculturally competent (Hammer, et al., 2003).

People can learn to become interculturally sensitive and, therefore, potentially become interculturally competent in many ways. One of these ways is to expose themselves to intercultural environments, by attending intercultural trainings, or by having the opportunity to travel or live abroad. However, "multicultural sensitivity cannot readily be gained through academic instruction alone" (Ashwill, 2004, p. 18), as discussed in previous sections of this literature review.

In summation, people who are aware of cultural differences and are capable of thinking and acting in appropriate ways in multicultural environments are culturally sensitive. People who are culturally sensitive, and willing to modify their behavior to operate effectively and appropriately in other cultures, are becoming potentially interculturally competent (Bhawuk & Brislin, 1992; Hammer, et al., 2003).

Assessing Intercultural Sensitivity and Intercultural Competence

Traditionally, higher education institutions' assessment of intercultural competency efforts mostly relies on numbers of student participation to show achievement in internationalization (Deardorff, 2004). These assessments normally report how many diverse or international courses the institutions are offering, how many faculty-led short study abroad

courses exist, or how many international or non-traditional students are living on campus. Those numbers provide valuable information but do not provide information about students' learning skills or attitudes nor do they measure the impact of efforts (Engberg & Geen, 2002). Higher education institutions have to take a step forward to find ways to assess the impact of these efforts on their campus. Research efforts should answer the following questions: Are these efforts providing students with the intercultural knowledge and skills to be successful in a global society? Are these efforts giving students the knowledge, skills, attitudes, and awareness that enable them to interact effectively with those from other cultures? Are the students potentially interculturally competent?

To answer these questions researchers at higher education institutions and companies around the world need trustworthy instruments to measure the intercultural competence of their undergraduate and graduate students, as well as their professionals, with possible overseas assignments or multicultural responsibilities. These measurements will support their effective intercultural training efforts and will help them to complement, redesign or cancel ineffective intercultural trainings. Conducting an assessment process, such as collecting, reviewing and using information about certain programs should be a priority (California State University. Long Beach, 2009). After conducting an effective interculturally sensitive assessment, trainers will receive enough information to design effective trainings, including topics like place, content, and length of training needed to move their students and executives from being naive, ignorant, or ethnocentric to being culturally sensitive (Bhawuk & Brislin, 1992).

Assessing institutional efforts is not easy because these evaluations normally bring attention to sensitive issues, such as race, gender, age, class, sexual orientation, disabilities, religion, etc. (Krishnamurthi, 2003). Assessing intercultural sensitivity and/or competence

should consider the adequate selection of a predictor as well as the inclusion of all the constituencies. This predictor allows evaluators to offer an objective measure of the institutional efforts to assess intercultural sensitivity. Intercultural sensitivity can be used as a predictor of what? and is useful to determine whether people can modify their behavior appropriately and successfully when moving from one culture to another (Bhawuk & Brislin, 1992).

The assessment process must be justified to include how the instrument: 1) clarifies initiatives, goals and objectives; 2) determines the impact of the multicultural initiatives; 3) communicates benefits, probably raising awareness of different issues; 4) addresses expectations with higher education constituencies; 5) identifies opportunities for corrections/improvements based on the findings; 6) contributes to shaping institutional policies, such as admissions, courses, and study abroad courses; 7) verifies continued support; 8) provides context for the initiatives, evaluates the relationship between the multicultural initiatives and the institutional goals and objectives; 9) promotes accountability for those in charge of the multicultural initiatives, and 10) results in documentation, useful for reporting and dissemination purposes (Krishnamurthi, 2003).

Therefore, higher education institutions should not be satisfied by relying on numbers alone to evaluate internationalization efforts. There are numerous ways to assess intercultural sensitivity and intercultural competence. Quantitative and qualitative approaches, observations, interviews, and judgments by peers as well as specific design instruments are now available to measure intercultural competency (Deardorff, 2006; Fernandez, 2006).

Tools to Assess Intercultural Sensitivity and Intercultural Competence

Assessing the impact of intercultural initiatives inside higher education institutions generally requires designing comprehensive intercultural competence assessment plans. These

comprehensive plans have evaluated the impact of institutional intercultural initiatives in students, faculty and staff members.

Institutional intercultural assessment normally requires the use of a specific instrument that can examine the change, if any, in intercultural competence among participants in intercultural institutional initiatives before and after an intervention. Fantini (2006, 2009), compiled more than eighty tools that can be used to assess intercultural initiatives. Some of these tools are:

1) Assessment of Intercultural Competence (AIC). This instrument is a self-assessment tool that charts the development of intercultural sojourners over time (Fantini, 2009).
2) Behavioral Assessment Scale for Intercultural Communication (BASIC). This instrument explores the cross-cultural equivalence of the Behavioral Assessment Scale for Intercultural communication (Fantini, 2009; Olebe & Koester, 1989).
3) Beliefs, Events and Values Inventory (BEVI). This is an instrument designed to identify and predict a variety of developmental, affective and attribution processes and outcomes that are integral to Equilintegration Theory (ET) (Shealy, 2009)
4) Counseling Inventory: A self-report measure of multicultural competencies, this instrument emphasizes behaviors using large samples (Fantini, 2009).
5) Cross-Cultural Adaptability Inventory (CCAI). This instrument was designed to help participants to understand the qualities that enhance cross-cultural effectiveness -whether or not to work in a culturally diverse company, whether or not to live abroad, and how to prepare to enter another culture (Fantini, 2009).
6) The Cross-Cultural Assessor. This multimedia program measures, builds and manages cross-cultural skills and characteristics through the use of exercises and questionnaires.

7) Cross-Cultural Counseling Inventory. This instrument assesses the development and factor structure of the cross-culture (Fantini, 2009; LaFromboise, Coleman, & Hernandez, 1991).
8) Cross Cultural Sensitivity Scale (CCSS). This instrument is used in Canada to evaluate undergraduate college students (Fantini, 2009; Pruegger & Rogers, 1993).
9) Cultural Competence Self-Assessment Instrument. This instrument helps identify, improve and enhance cultural competence in staff relations and clients' service delivery (Fantini, 2009).
10) Cultural Competence Self-Assessment Questionnaire (CCAQ). This instrument was designed to assist service agencies working with children with disabilities and their families. It helps them in self-evaluate their cross-culture competence (Fantini, 2009).
11) The Cultural Orientations Indicator (COI). This tool allows individuals to assess their personal cultural preferences and compare them with generalized profiles of other cultures (Connect Cultures. Maximize Performance, 2009).
12) The Culture in the Workplace Questionnaire. This instrument is derived from the work of G. Hofstede, and enables a person to learn his or her cultural profile and how that might compare to others (ITAP. International, 2009).
13) Development Communication Index. This instrument has been used to assess the quality of communication and the accuracy of perception between Canadian advisors and their national counterparts working on a development project (Fantini, 2009).
14) European Language Portfolio. This tool was developed by the Council of Europe in collaboration with the European Union (Fantini, 2009).

15) Expatriate Profile (EP). It is a computer based cross-cultural competence self-assessment instrument for international professionals (Fantini, 2009).

16) Foreign Assignment Success Test (FAST).This instrument assesses the transition of the work role of expatriate managers (Black, 1988; Fantini, 2009).

17) Fuld & Company, Inc. Designed by the CI Learning Center. This test measures competitive intelligence (Fantini, 2009).

18) GAP Test: Global Awareness Profile. GAP measures how much world knowledge a person has concerning selected items about international politics, economics, geography, culture, etc (Fantini, 2009).

19) Global Interface. It administers and interprets the following assessment tools: Overseas Assignment, Trompenaar's seven dimensions of culture and corporate culture profiles, and Objective Job Quotient System (OJQ) (Global Interface 2009).

20) The Global Team Process Questionnaire (GTPQ). This instrument helps global teams improve their effectiveness and productivity (Fantini, 2009).

21) Cross Cultural Adaptability Inventory (CCAI). This is a self-assessment questionnaire that measures an individual's adaptability in four dimensions that may affect his or her ability to have a successful experience in another culture (Fantini, 2009; Grovewell. Global Leadership Solutions, 2009).

22) Hogan Assessment System. It is a personality inventory that analyzes personalities (Fantini, 2009; Hogan Assessments, 2009).

23) Insights Discovery System. This instrument uses 72 types, positioned on an Insights Wheel. This wheel is divided into four quadrants of how different personalities can interact with each other (Fantini, 2009).

24) The Intercultural Competence Assessment (INCA) project. It assesses intercultural competence linked to language competence and subject knowledge competence (Fantini, 2009).

25) Intercultural Competence Questionnaire. This questionnaire tests personal intercultural competence (Fantini, 2009; Trompenaars Hampden-Turner, 2009).

26) Intercultural Orientation Resources. It analyzes predictive index, personality, and includes a voluntary checklist (Fantini, 2009; Global Performance Consulting, 2009).

27) Intercultural Living and Working Inventory. This instrument is indented as a professional development tool to help individuals identify the intercultural skills that need improvement prior to undertaking an international assignment (Fantini, 2009).

28) The Intercultural Project. This instrument aims to map the obstacles which hinder students' intercultural competence while in the United Kingdom and to define how they might best be prepared and supported their experience (Fantini, 2009; The Intercultural Project, 2009).

29) Intercultural Readiness Check (IRC). The IRC is a tool to assess participants' intercultural skills in areas of intercultural sensitivity, communication, leadership and management of uncertainty (Fantini, 2009; IBI - Intercultural Business Improvement, 2009).

30) Intercultural Specialist's ranking. A table ranks self-understanding, understanding others, interacting with others and general skills (Fantini, 2009).

31) ITIM: Culture and Management Consultants. It is a living and working overseas pre-departure questionnaire. It explains and predicts cross-cultural adjustment and effectiveness (Fantini, 2009; ITIM International, 2009).

32) Meridian Resources Associates. It is a web-based tool that provides detailed knowledge on how to conduct business with people from around the world (Fantini, 2009).
33) Model of Intercultural Communication Competence. This model uses the relationship between empathy and intercultural communication competence (Fantini, 2009).
34) Niporica Associates. This tool uses models, skills, and simulation to develop individuals' abilities to make decisions and solve problems using the expertise and insight of all concerned with the issue at hand (Fantini, 2009; Nipporica Associates, 2009).
35) Overseas Assignment Inventory (OAI). It is a self-response questionnaire that examines fourteen attitudes and attributes correlated with successful cross-cultural adjustment and performance (Fantini, 2009; Performance Programs, 2009).
36) Objective Job Quotient System. This is a computer-assisted tool that provides cross culturally appropriate 360 degree feedback to evaluate and rank employee performance (Fantini, 2009).
37) PARTNERS Program. It is a model which builds on the elements of both contact theory and intercultural competence theory. This model helps students to engage in positive cross-cultural experiences with same age peers across city-suburban, racial and cultural boundaries (Fantini, 2009).
38) Personal Orientation Inventory (POI). This instrument is a predictor of success in Peace Corps training (Fantini, 2009; Uhes & Shybut, 1971).
39) PCAT Peterson Cultural Awareness Test and PCSI Peterson Cultural Style Indicator. These instruments are highly reliable and valid for measuring cross-cultural effectiveness and awareness of cultural differences (Fantini, 2009).

40) Prospector. This tool is used within universities for early identifying the potential international executives (Fantini, 2009; Spreitzer, McCall, & Mahoney, 1997).

41) Questions, comments, concerns (QCC's). This student's tool monitors and evaluates progress over a specific day or for a current task (Fantini, 2009).

42) Schwartz Value Survey (SVS). This survey provides information concerning the compatibility of a job candidate's cultural orientations. It also provides information about the potential dominant cultural orientation of the target region or country of assignment (IMO, 2009).

43) School for International Training (SIT). This is a self-assessment tool that aids students in charting their own development. It was developed by Alvino Fantini (Fantini, 2009).

44) Selection Research International. This tool analyzes situational readiness (Fantini, 2009).

45) Socio-cultural Checklist. This instrument was developed as an initial screening tool for educators in American public schools who are concerned about the learning and behavior of a specific student from a culturally or linguistically diverse background (Fantini, 2009).

46) Success Factors Chart. This chart can be a valuable tool in the selection process when evaluating candidates for intercultural assignments (Fantini, 2009).

47) Survey of Opinions of International Competencies. It was designed to elicit opinions from senior persons about international competencies in selected Canadian private and public sector corporations and institutions (Fantini, 2009).

48) Team Management Systems –TCO International. This tool lists a set of ten international competencies which describe in a clear professional context what is required by highly effective operators to transfer skills from a domestic and to an international context:

openness, flexibility, personal autonomy, emotional resilience, perceptiveness, listening, orientation, transparency, cultural knowledge, and influencing synergy (Fantini, 2009).

49) Tucker International. It includes the International candidate evaluation (ICE), the Overseas Assignment Inventory (OAI), the International Mobility Assessment (IMA), the Evaluation of Expatriate Development (EED) and the Supervisory Evaluation of Expatriate Development (SEED) (Fantini, 2009).

50) Case Study. The goal of this assessment is to analyze the impact of multicultural activities. The case study develops a diagram where multicultural initiatives are related to development and curricular programs, awareness celebrations, diversity study center, academic departments, support units, committees/policy-making bodies and grant programs, for faculty, staff, students/alumni and administrators (Krishnamurthi, 2003).

51) Intercultural Sensitivity Inventory (ICSI). It is a self-report instrument that can be used to measure the effectiveness of intercultural trainings. People give their responses to a set of items on a Likert-type seven-point scale: very strongly agree, strongly agree, agree, not decided, disagree, strongly disagree, and very strongly disagree. This scale captures behaviors rather than attitudes or tendencies, and measures the ability of people to modify their behavior while moving from one culture to another (Bhawuk & Brislin, 1992).

52) Intercultural Development Inventory (IDI). Developed by Bennett & Hammer (Employers Association, 2007; Hammer Consulting L.L.C., 2007; Hammer, 2008; Hammer, et al., 2003). This instrument is a standardized 50-items instrument. This questionnaire measure intercultural sensitivity and it will be thoroughly discussed in Chapter III.

Some other instruments listed by Fantini (2009) are: Culture-Free Scale, Cultural Self Awareness Test, Global behavior Checklist, Global Literacy Survey, National Geographic Survey, Global Mindedness Scale Intercultural Competency Scale, The Intercultural CONFLICT Style Inventor, Intercultural Perspective Taking Instrument, Intercultural Sensitivity Index, Intercultural Sensitivity Survey, International Assignment Profile, Internationalism Scale, Multicultural Counseling Awareness Scale (MCAS), Multicultural Counseling Inventory (MCI), New Left Scale, Perceptions of US Scale, Perceptions of Host Country Scale, Prudential Intercultural Social Distance Scale, Social Interaction Scales, Test of Intercultural Sensitivity (TICS). Teaching tolerance (Teaching Tolerance, 2009), Windham International. It is a cultural model self-assessment tool, Window on the World, Expatriate profile inventory (EPS), Work style Patterns (WSP) Inventory and World mindedness Scale.

These instruments were developed by college professors in higher education institutions, such as James Madison University, Duke University, University of San Thomas, University of Minnesota, Michigan State University, and School for International Training in Vermont as well as by companies specialized in intercultural and/or language trainings, such as Performance Programs, Inc., Nipporica Associates, Grovewell, LLC, Global Services, and ITIM International. Many of these instruments have been statistically validated and published in academic journals, such as Canadian Journal of Behavioral Sciences, International Journal of Intercultural Relations, and Professional Psychology: Research and Practice, and Journal of Applied Psychology.

The Intercultural Development Inventory (IDI) developed by Bennett and Hammer (2003) is one of the most reliable and valid instruments. IDI is a theory based instrument developed using the Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 1986) as the theoretical framework. This instrument allows the trainers to conduct evaluations and

design specific intercultural trainings according to the developmental stage of intercultural sensitivity of each participant or group of participants. IDI can also be used to evaluate the effectiveness of intercultural trainings and to assess changes in intercultural sensitivity before and after any intercultural interventions. The DMIS is discussed at the end of this chapter, and the IDI is discussed in Chapter III.

American Higher Education Institutions and Intercultural Trainings

Importance and Objectives of Intercultural Trainings

Students attending higher education institutions in the United States have many opportunities to receive intercultural education, from taking classes within multicultural environments, attending cultural nights, taking international diversity courses, receiving language training, traveling abroad with a faculty-led short study abroad course, to semester abroad exchange programs, are all opportunities available to students. All these opportunities benefit students, and encourage them to participate in more intercultural activities (Martin, 1987). Nevertheless, these experiences *per se* will not transform students into interculturally competent professionals. These opportunities help expose students to intercultural environments, but meeting people from other cultures or traveling abroad is not enough to improve students' intercultural competence. Higher education institutions understand the responsibility of educating students to become intercultural competent and not only exposing them to multicultural environments, but also help them to become intercultural competent professionals able to interact in global environments mainly because in the job market, interculturally competent professionals are needed and appreciated.

Training interculturally competent skills is not an easy task. Intercultural relations are unnatural, because historically, cross-cultural contact has been linked to political intervention,

invasions, oppression, intolerance, and misunderstanding (Bennett, 1993; Hammer & Rogan, 2002). However, even when intercultural training represents a challenge, especially in the United States where students' knowledge about foreign countries is inadequate and their appreciation for other cultures is limited (Cant, 2004). Higher education institutions represent an opportunity for intercultural training. They are the best place to expose students to different cultures and introduce them to multicultural realities and issues (Smith, Gammonley, & Gamble, 2006).

Many higher education institutions in the United States have responded to the need for intercultural training, designing and offering a variety of intercultural and international trainings opportunities to their students (Altshuler, et al., 2003). These trainings range from interactions within and inside cultures, international theoretical courses, language trainings, to short and long study abroad trips. However, in the majority of these trainings are isolate efforts and their focus is to achieve specific learning objectives related to certain specific academic areas of expertise and not improve students' intercultural competence. Students normally are not evaluated in their change, if any of intercultural sensitivity before and after the intercultural experience (cultural nights, courses, faculty-led study abroad, language programs or semester long experiences). However, even with these limitations, trainings proposed by higher education institutions frequently have a positive impact in interpersonal relationships, job performance, self-development, perception by others, open mindedness, respect for other cultures, intercultural sensitivity, attribution making, and cognitive categories (Altshuler, et al., 2003; Hunter, White, & Godbey, 2006).

Designing Intercultural Trainings

As has been discussed, there are many alternatives for intercultural training in higher education institutions. However, not many of these trainings are specifically designed to develop

intercultural skills to become interculturally sensible and potentially interculturally competent. These opportunities rarely include the objective of improving students' intercultural competence. They are designed to expose students to multicultural environments, but not to support the development of students' intercultural personal skills. Skills that will allow them in the long run to better interact with people from other cultures. The objective of the intercultural trainings should be to motivate people to increase their intercultural sensitivity by changing and adapting their behaviors as a sign of respect to people from other cultures.

Some authors discuss intercultural training options, like Adams (1995) who recommends a four-dimensional model of multicultural teaching and learning that focuses primarily on curricular initiatives. Adams' proposal included a combined effort including pedagogy techniques, subject content, and the intervention of faculty and students. Another type of training is the confrontational training proposed by Busby (1993) in Europe, where the trainees are exposed to challenge their habitual modes of thinking and behavior. With this training the trainees realize that their way to accomplish certain task to do certain things is not the only or the best way to do so. Iles (1995) proposed that training to work in intercultural environments is a complex process and requires the development of models focused in working with difference. This training includes the considerations of the differences not only between individuals, but also between types of diversity and tasks phases, and expected teams' outcomes.

Another proposed model includes the development of skills needed to become global, culturally competent professionals. Cant (2004) suggests the development of the following skills:

1. Cultural self-awareness. The understanding of the influence of the students' own culture.

2. Cultural consciousness. It includes the ability to recognize other people's culture and the ability to adapt and manage cultural diversity.
3. Leading multicultural teams. It includes the ability to work collaboratively with people from different cultures.
4. Negotiation across cultures. It includes the ability to negotiate with people from other cultures.
5. Global mindset. It includes the appreciation of global perspectives (Cant, 2004).

Banks (1993) points out a different set of skills. He included: content integration, knowledge construction, prejudice reduction, equity pedagogy, empowering school culture, historical perspective and ethnic studies. Matwveev and Milter's (2004) model included personality orientation in addition to cultural knowledge and skills. Other models proposed the improvement of awareness, knowledge, and skills development (Ashwill, 2004; Banks, 1993; Cant, 2004; Deardorff, 2004; Fantini, 2009). All these models worked toward the development of specific skills, and the authors have to hopes that people that achieve those skills will become interculturally competent. All these training proposals consist of the acquisition of specific intercultural skills by including intercultural training in the formal college curricula or by exposing students to intercultural environments. Only Iles (1995) mentions that these trainings are complex and should include developmental models and not just isolated sessions to improve personal intercultural skills.

However, the model proposed by Bennett, goes beyond the isolate development of intercultural skills. Bennett (1986, 1993a, 1993b) proposed a Developmental Model of Intercultural Sensitivity (DMIS). This model shows more than a list of skills needed to become interculturally competent. Bennett suggested that intercultural experiences should be defined in

terms of stages of personal growth, and the design of intercultural trainings should be a process where learners' aims are to ascend through stages to become interculturally sensitive. Bennett (1986, 1993a, 1993b) proposed that intercultural trainings have to be comprehensive, and do not have to be limited to transmitting culture-specific knowledge. Cross cultural training should not include just the acquisition of certain skills, but it should include changing attitudes and behaviors. Bennett proposed the Developmental Model of Intercultural Sensitivity (DMIS), which will be discussed in detail at the end of this chapter.

To sum up, according to the literature, there are different models to train people to become interculturally sensitive. The participants who attend intercultural activities may be able to become intercultural competent and able to work with people from other cultures. A second alternative is the Developmental Model of Intercultural Sensitivity, proposed by Bennett (1986, 1993a, 1993b). This model proposed participants' attendance to different activities according to a personal or group stage of intercultural development. These two opposite models can be related to different types of intercultural training, basic and comprehensive training. The basic intercultural training includes selecting and offering intercultural activities, mainly with voluntary attendance that may or may not develop participants' intercultural competence. On the other hand, comprehensive intercultural training proposes a strong institutional commitment to intercultural education including the diagnosis and follow-up of the level of intercultural sensitivity during the comprehensive trainings and the design of a series of different activities according to the level of intercultural sensitivity of the participants.

Basic intercultural training.

A popular option of intercultural training includes selecting and offering a variety of activities to college students. These activities could contribute to increasing their cultural

competence. Some examples of these activities are: international courses, semester long or short international study abroad experiences, international schools, teaching abroad, transnational education, and Fulbright experiences (Anderson, Lawton, Rexeisen, & Hubbard, 2005; Busby, 1993; Carter, 2006; Emert, 2008; Fretheim, 2007). One characteristic of these intercultural experiences is that students are not enrolled or following any plan specifically designed to achieve intercultural competence. However, these efforts are valuable because they expose American students to intercultural environments and they may contribute to improving their intercultural competence indirectly.

Semester long and short study abroad experiences, for example are the most popular intercultural experiences in higher education. This experience sometimes increases students' cultural effectiveness, mostly because intercultural sensitivity is positively affected while students spend time in another country interacting with people from another culture (Bhawuk & Brislin, 1992). Studies measuring intercultural sensitivity in study abroad courses show that study abroad could improve the understanding of international education. A study by Anderson, Lawton, Rexwisen & Hubbard (2005) showed preliminary evidence that short-term, non-language-based study abroad programs can have a positive impact on intercultural sensitivity, as measured by the Intercultural Development Inventory developed by Bennett and Hammer (Hammer, et al., 2003).

Another example of the impact of study abroad comes from the research conducted by Godkin & Savageau (2001) and Ayas (2006), where medical students, who experienced cultural immersion, changed their worldviews and increased their cultural sensitivity, social awareness, public health awareness, and communication skills. However, opposite results are showed by Keefe (2008). He examined five short-term study abroad course impacts in an art college in the

northeast of the United States. The author concluded that the results did not indicate significant growth in intercultural sensitivity measured with the Intercultural Development Inventory (IDI), however, the qualitative analysis did identify growth in students' self-awareness, interest in and openness to other cultures, and development as artists (Keefe, 2008). These research findings show the need to conduct more evaluations of the impact of study abroad programs in the students' intercultural competence.

Transnational education could be another way to encourage professors and students to develop their intercultural competence. Translational education is teaching or taking classes from non-familiar cultural environments, while they are in their original institution. Students participating in transnational courses receive invaluable experiences and normally are very satisfied with the courses. Professors and students, teaching and taking these courses, need an extra effort to raise their intercultural awareness and adaptation, which will improve their intercultural competence (Haeger, 2007). Another way to train people to become interculturally competent is providing the experience of teaching and researching abroad, for example, with Fulbright opportunities. A study conducted by Emert (2008) showed the positive impact of these experiences. Teachers who increased their awareness of themselves and others as cultural beings heightened their abilities to interact effectively and appropriately with culturally diverse individuals, enhanced their understanding of similarities and differences in educational systems, and underwent positive impacts on their professional and personal lives. As well, years of experience working with multicultural groups affect intercultural sensitivity. Bayles (2009) found that there was a significant difference between the mean Developmental Score between the variables years teaching in schools and years teaching ethnically diverse students. For both of these variables, the group of teachers with over ten years of experience had a higher mean

Developmental Score than the group of teachers with fewer years experience (Bayles, 2009). Curricular initiatives in higher education institutions focus on multicultural course requirements, course and curricular transformations, recognitions of diverse teaching and learning styles, and the pursuit of multicultural research and scholarship (Krishnamurthi, 2003). Nevertheless, these multicultural efforts only train people to become aware of multiculturalism not develop cultural sensitivity.

In summary, basic intercultural trainings are popular among higher education institutions, long and short study abroad experiences are the most popular (Bhawuk & Brislin, 1992). These experiences could have a positive impact in students, increasing students' awareness of themselves and others and might increase students' abilities to interact effectively and appropriately with culturally diverse individuals.

These opportunities represent just a few alternatives to promote intercultural education and competency. Educators are encouraged to be creative and design low cost intercultural experiences inside their campuses because the rising cost of international experiences could make them impossible for students to have. Oklahoma State University College of Agricultural Sciences and Natural Resources (CASNR), in addition to their international short and long term international experiences, has implemented two International Courses, International Agriculture (AGED 4713) and Animals of the World (ANSI 3903). CASNR is also offering a Master in Agriculture, specializing in International Agriculture (CASNR. Oklahoma State University, 2009; Oklahoma State University, 2008).

Comprehensive intercultural training.

There are few examples of higher education institutions' comprehensive intercultural training efforts to improve students', faculty and staff members' cultural competence.

Comprehensive trainings need strong institutional commitment to develop, illustrate, and give opportunity to the learners to improve in their abilities to comprehend and experience difference. Higher education institutions are employing strategies that will aid such experiences. One of these strategies could be using the Developmental Model of Intercultural Sensitivity (DMIS) to diagnose the level of intercultural sensitivity in students, professors, and staff members. After this diagnosis, the institution's specialized trainer should develop comprehensive developmental training activities to move people from one stage to another in the Developmental Model of Intercultural Sensitivity (Bennett, 1986, 1993a, 1993b); Bennett & Hammer, 2002; Hammer, 2008; Hammer, et al., 2003; Hammer & Rogan, 2002; Intercultural Communication Institute, 2007). These comprehensive plans include activities, such as: attending international events, designing multicultural curricula and training, promoting short and long overseas experiences, or developing personal intercultural values. However, intercultural education brings to the table many issues and debates and is not easily implemented.

Many successful comprehensive intercultural trainings in higher education institutions are not developmental and do not evaluate their students, but they are comprehensive in nature and could be a good starting point to prepare students in cultural competence. These trainings range from trainings designed to acquire or improve certain skills to trainings where the concept of stages of personal growth is included (Bennett, 1986, 1993a, 1993b). Training to develop potential cultural competence can be done in many different ways. However, the bottom line is to train people for a better understanding of other people from around the world and to prepare them to be able to work in other countries and in teams with people from other cultures. Europe after the constitution of the European Union has emphasized the importance of working with

diversity, fostering company employees not only to achieve traditional working skills but also to be able to perceive and accept the differences among cultures (Busby, 1993; Conway, 2008).

As was mentioned before, a large number of universities in the United States support intercultural and diverse initiatives to enable students to achieve intercultural competence. The Association of International Educators (NAFSA) Strategic Task force on Education Abroad, mentioned that,

> "The challenge of international educators is to find ways to enable students, faculty, staff, fellow educators, and others to make progress on the journey from *ethnocentrism* to *ethnorelativism*. Intercultural competence in its myriad forms is a useful and practical skill not only in cross cultural settings but also in interactions with people from co-cultures within societies as diverse as the United States" (Ashwill, 2004, p. 11).

Defined, *ethnocentrism* is the worldview that one's culture is the center of one's reality, where *ethnorelativism* is the worldview that understands that behaviors can only be understood within a cultural context (Altshuler, et al., 2003; Bennett, 1986, 1993a, 1993b; Bennett & Hammer, 2002; Bhawuk & Brislin, 1992; Intercultural Communication Institute, 2007). Intercultural activities and comprehensive intercultural training could move people from ethnocentrism to ethnorelativism and prepare them to work in multicultural globalized environments.

Some examples of the institutional commitment to intercultural training are presented in this section. Boston College has a program called Global Proficiency; it has three requirements:

- An international experience, a study abroad program, an internship overseas or a long term cultural immersion.

- An academic component, language courses, or international focused related to social sciences, education or business.
- A co-curricular component in which students must participate in four activities that are multicultural or international in nature, one of which is a service project" (Ashwill, 2004, p. 22).

Similarity, California State Universality offers a Certificate of Language and Cultural Competence. In order to receive the certificate, the students have to:

- Show their oral, reading, and writing skills in certain language other than the maternal language.
- Demonstrate their knowledge about history, current affairs, and culture of the world areas where the language they were tested is spoken.
- Write some essays to demonstrate their understanding of certain global issue. (Ashwill, 2004).

These two examples have a lot in common, both universities requires languages courses and knowledge of geography and history to fulfill the requirement of intercultural training.

One more example of a successful best practice to increase intercultural competence is at the University of Central Oklahoma (UCO), Center of Global Competency. This center helps students to become globally competent. The University of Central Oklahoma offers a voluntary Center for Global Competency certification to their students. This certification includes academic achievements, global experience and a capstone project (personal reflection). (Center for Global Competency, 2009).The academic achievement portion consists of nine hours of curriculum designed by the students' advisors from the Center and students' faculty advisors. The Global Experience portion consists of co-curricular experiences on and off campus. OCU

offers a variety of opportunities to accomplish this experience and connect with different cultures, like international students or international students halls. Finally, the capstone project includes a personal reflection about how the student is impacted by this experience (Center for Global Competency, 2009).

The internationalization program of Howard Community College, in Maryland proposes that faculty and administration work together on internationalization. This is a different point of view from the other examples, mainly because Howard Community College's internationalization process is based on the training of faculty and staff members and not only students. Its international strategy is based on:

- A world language program
- Partnerships with US and Danish Governments
- Consortium teams with Turkish Technical Colleges
- Working with local businesses and industries
- Scholarships for students with international experiences
- Encouraging and supporting international programs
- Building connections with China
- Growing the English Second Language Programs (Connell, 2006).

Other interesting proposal is from a liberal arts college in the United States. This liberal arts school not only encourage its students to travel abroad, but also this College supports them when they come back with an instructional plan that includes the application of intercultural theories to students' personal experiences (Johnson, 2002).

Another college action to support multiculturalism and diversity inside campuses and inside agricultural colleges is the MANRA group initiative. Students from the College of

Agriculture and Natural Resources at Michigan State University established a group called MANRA in 1985. This group's primary objective is to provide support for recruitment and retention of minority students through social and educational activities. This group traveled to Penn State to encourage students to organize a similar group. At Penn State MANRA not only provides support for recruitment and retention of minorities but it also fosters and promotes agricultural sciences and related fields in a positive manner among multicultural groups (Nelson, 2003).

All these initiatives mentioned may improve intercultural competence in college students, but none of these comprehensive plans are supported by a theoretical framework. Bennett (1986, 1993a, 1993b) proposed a developmental approach to training for Intercultural Sensitivity applicable in education and corporative worlds. Bennett called the process "phenomenology of training" (p. 179). This process is based on two theoretical considerations. The first one is that "people do not respond directly to events; the respond to the meaning they attached to the events" (p. 179). The trainers "construe relevant life events before [they] choose and sequence appropriate elements for the program" (179). Second, "successful intercultural training could not include only the acquisitions of new skills (179)."

The developmental approach of training is based on the Developmental Model of Intercultural Sensitivity (DMIS) described in detail in the theoretical framework section at the end of this literature review chapter. This DMIS theoretical model describes six stages of experience: denial, defense, minimization, acceptance, adaptation, and integration. The trainings, based in this model, are designed according to the stage where the individual tests at. For example, for people in denial, a starting training could be encouraging participants to identify how many different cultures are in Asia. Cultural awareness activities, such as international

nights, could be a good option (Bennett, 1986, 1993a, 1993b). For people in defense, a developmental strategy could be an opportunity to select a culture and identify the differences and similarities in it emphasizing the contribution of those countries to the world bank of knowledge as well as emphasizing the commonalities of cultures. It could be useful to include the course called, *rope course,* or some kind of challenge where the participants have to depend on one another and the participants can discover what each one can do for the other ones (Bennett, 1986, 1993b). People in the minimization stage could be trained first with *cultural self-awareness* through discussions or exercises where the trainer emphasizes that their behavior is not universal. Using members of other cultures is very useful in this stage (Bennett, 1986, 1993b).

When people move from an ethnocentric to an ethnorelative stage the developmental strategies become more complex. Developmental strategies for the acceptance stage should include the practical application of ethnorelative acceptance, meaning adding personal relevance to "anecdotal treatment of behavioral differences[s] and theoretical treatment of values" (Bennett, 1993b, p. 51), such as improving relations with home-stay families or "having *other culture partners"* (Bennett, 1986, p. 193). In the adaptation stage, the developmental training recommended is interaction among cultures, communication with people from other cultures in real life communication situations, living in home-stays and developing working relationships. This developmental approach will help trainers to select and design specific activities for each specific group, according to their personal developmental stage. Each participant will be placed in a group with the same worldview and they will be trained according to their personal developmental needs. This placement also will encourage participants to move from one stage to another in the continuum of the Developmental Model of Intercultural Sensitivity.

In summary, higher education institutions comprehensive intercultural training efforts need a strong institutional commitment and a theoretical framework to support intercultural institutional efforts. The goal of these intercultural efforts is to move students, faculty and staff members from ethnocentric stages to ethnoelative stages of their worldview. These efforts to be completed, has to be evaluated, an assessment plan has to be incorporated into the institutional intercultural efforts.

Intercultural Education Assessment Plans

Institutional intercultural efforts as study abroad, transnational experiences, multinational teaching opportunities, and international courses have to be evaluated, developing an institutional assessment intercultural education plan. Many higher education institutions have developed a variety of intercultural activities assessment plans. Northern Illinois University (NIU), for example offers a variety of multicultural education programs, including week-long activities during the summer for faculty, a series of seminars and workshops on diversity and multicultural issues during the regular academic semester for faculty and staff, dialogue on race for students, and diversity studies minors, such as Black Studies, Latino and Latin America Studies, South East Asia Studies, and Women's Studies. They also include university level committees and commissions, campus units, celebration of multicultural heritage, gender, and ethnic studies centers, open houses and events.

To evaluate these efforts, NIU designed a comprehensive assessment plan, using the case study method. The goal of the assessment was to analyze the impact of NIU multicultural activities on students. NIU developed a diagram where multicultural initiatives were related and affected the outcomes instigated.

The outcomes of this case study showed how:

1) faculty, staff and students participated and benefitted from multicultural and diversity initiatives;
2) courses and curricula continued to transform into authentic multicultural experiences as faculty pursued multicultural research, scholarships and artistry;
3) students obtained and demonstrated the necessary multicultural competencies;
4) campus' supported of diversity and multicultural issues at all levels of the university;
5) the institution's commitment to value diversity and multiculturalism;

This evaluation, using case study methods was very valuable and could be used to design or improve intercultural initiatives for faculty, staff, and students at NIU.

A study conducted by Bhawuk & Brislin (1992) used ICSI (Intercultural Sensitivity Inventory), a self-reported instrument to measure the effectiveness of intercultural trainings at the East-West Center in Hawaii. The Likert-type instrument captured behaviors rather than attitudes or tendencies, and measured the ability of people to modify their behaviors while moving from one culture to another. This study concluded that individualism and collectivism can be used as constructs to measure intercultural sensitivity. ICSI can distinguish people with high sensitivity from those who have average sensitivity. It also recognizes that "the ability to enjoy working with people from other cultures on difficult tasks is significantly correlated with intercultural sensitivity" (p. 432). This study used a reliable instrument that could generalize the findings and apply the recommendations to other higher education institutions regarding to the use of individualism and collectivism as constructs to measure intercultural sensitivity.

In summary, American higher education institutions are making an effort to offer their students a multicultural and diverse education in order to improve their students' intercultural sensitivity. Institutional initiatives include delivering intercultural education programs and

specialized trainings. Some institutions are using a model of intercultural training that includes the development of certain skills, such as cultural self-awareness and consciousness as well as the opportunity to lead multicultural teams and negotiation across cultures. Other institutions are using the Developmental Model of Intercultural Sensitivity proposed by Bennett (1986, 1993b). The model that include the development of certain skills normally include the attendance to certain intercultural activities; the comprehensive training, on the other hand needs a strong institutional commitment and include diverse students activities that could include take courses, learn another language, and have an international experience.

Theoretical Framework

Developmental Model of Intercultural Sensitivity

The Developmental Model of Intercultural Sensitivity (DMIS) is a framework used to explain how people react to different cultures. DMIS is a theoretical base used by Hammer, et al. (2003) to develop an instrument to measure intercultural sensitivity called Intercultural Development Inventory (IDI), which will be used in this study to collect data.

DMIS is based on observations that show how people face cultural differences in some predictable ways as they gain more intercultural competence. This model uses two concepts: intercultural sensitivity and intercultural competence (Hammer, et al., 2003). Basically, DMIS explains how people interpret cultural differences. According to DMIS, people can develop or learn how to become interculturally sensitive and competent (Intercultural Communication Institute, 2007). Hammer, et al, (2003), mentioned that “the greater intercultural sensitivity is associated with the greater potential to exercise intercultural competence” (p. 422).

DMIS theory was developed using grounded theory with long observation periods. After these observations, Bennett applied concepts from constructivism, and identified six stages that

people seem to move through in their acquisition of intercultural competence. These stages are a progression of *worldview* that begins with denial, defense, minimization, acceptance, adaptation, and integration (Bennett 1986, 1993b; Bennett & Hammer, 2002; Hammer Consulting L.L.C., 2007; Hammer, et al., 2003; Intercultural Communication Institute, 2007). After their identification, the stages are grouped as ethnocentric and ethnorelative. The ethnocentric stage includes denial, defense, and minimization. The ethnorelative stage includes acceptance, adaptation, and integration (Paige, Jacobs-Cassuto, Yershova & DeJaeghere, 2003).

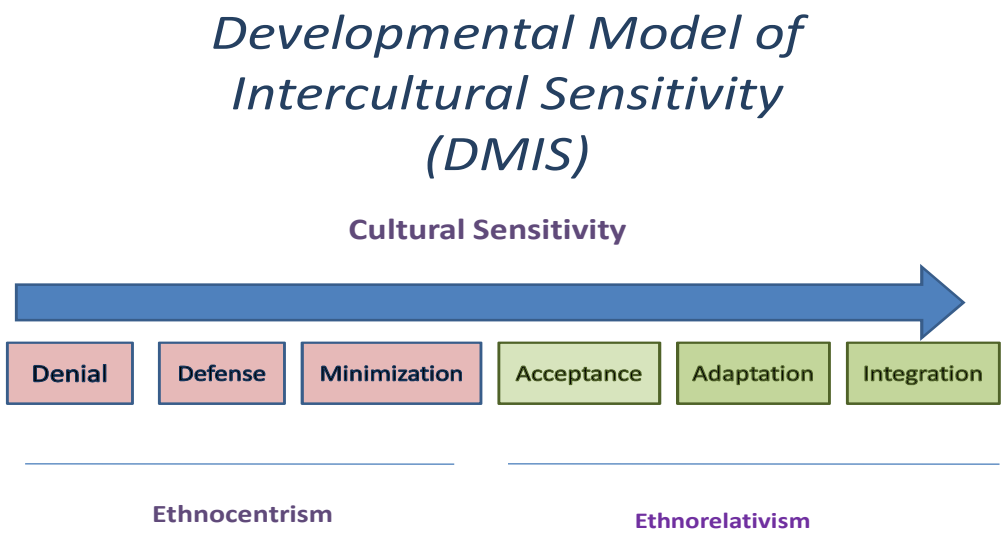
Intercultural experiences, such as comprehensive programs or international courses, field trips, intercultural training, or opportunities for travel abroad could assist in the progression from one stage to another, and change people's personal and group worldviews. Bennett (1986, 1993b) suggests that DMIS is a "continuum of stages of personal growth [that] allows trainers to diagnose the level of sensitivity of individuals and groups and to sequence material according to a developmental plan" (p. 179). This constructivist view shows that moving from one stage to another does not occur simply by being in the vicinity of events when they occur (for example, participating in intercultural experiences). Rather, experiences are a function of how one construes the events (Hammer, et al., 2003). So, people attending the same intercultural experience can construe it in different ways: "The more perceptual and conceptual discriminations that can be brought to bear on the event, the more complex will be the construction of the event, and thus the richer will be the experience" (Hammer, et al., 2003, p. 48).

DMIS stages.

The developmental model of intercultural sensitivity (DMIS) is divided into six *stages of development*. Each stage represents a way of experiencing difference, -denial of difference,

defense against differences, minimization and acceptance of differences, adaptation to differences, and integration of differences (Bennett, 1986, 1993b). The first three stages (denial, defense and minimization) are defined as ethnocentric, meaning that their own culture is the center of their reality; the second three stages (acceptance, adaptation, and integration) are defined as ethnorelative, meaning that their own culture is experienced in the context of other cultures (Figure 1).

Figure 1. Developmental Model of Intercultural Sensitivity



Adapted from Bennett, M. J. (1986). A developmental approach to training for intercultural sensitivity. *International Journal of Intercultural Relations*, *10*, 179-196.

The Developmental Model of Intercultural Sensitivity included the following stages:

1. *Ethnocentric stages*

Ethnocentric stages "assume[e] that the worldview of one's own culture is central to all reality" (Bennett, 1993b, p. 30). The ethnocentric stages are:

I. Denial of cultural differences. It is the stage where one's own culture is experienced as the only one. People in this stage are indifferent or ignorant of cultural differences. People in denial are normally people who grew up in homogenous environments and have had limited contact with people outside their own cultural group. People in denial do not believe that societies are heterogeneous (Bennett, 1986; Hammer, et al., 2003; Paige, Jacobs-Cassuto, Yershova, & DeJaeghere, 2003)

   Denial of cultural differences includes two sub steps:

   a. Isolation is the stage where the cultural differences have no meaning. This stage is common in small towns with homogeneous populations or in places where cultural diversity is excluded. People in this stage may ask questions, such as if all the people in Chicago are in the mafia or if all Mexicans ride donkeys.
   b. Separation is defined as "an intentional erection of physical or social barriers to create distance from cultural differences … racially distinct neighborhoods or ethnically selective clubs are examples of separation" (Bennett, 1993b, p. 32).

II. Defense against cultural difference is the stage where people's own culture (or their adopted culture) is experienced as the only good one (Hammer, et al., 2003; Intercultural Communication Institute, 2007). People in the defense stage feel threatened by difference and respond by protecting their worldview, with a dualistic point of view such as "us-they" (Bennett, 1986; Hammer, et

al., 2003; Paige, et al., 2003). Defense could be a mechanism against the threat of other cultures (Bennett, 1986, 1993b; Hammer, et al., 2003). Defense of cultural differences includes three sub-steps:

a. Denigration, which is "the most common strategy to counter the threat of differences is to evaluate it negatively" (Bennett, 1993b, p. 35). This denigration normally includes race, religion, age, and/or gender (Bennett, 1986). One form of denigration is stereotyping a culture as evil; this denigration can be seen by foreign students, for example, who restrict their contact with some groups to avoid being criticized.

b. Superiority emphasizes the superiority of one culture but does not necessarily denigrate the other culture. Feminism could be a good example of this defense stage. This stage is a response for people "who have been oppressed" (Bennett, 1993b, p. 38)

c. Reversal includes the denigration of one's own culture and the assumption of the superiority of another culture. This stage is common in Peace Corps volunteers. People move to this stage from denigration to the new culture to host the new culture's values (Bennett, 1993b).

III. Minimization of cultural differences is the stage where people recognize some differences, but they keep thinking that all persons are the same (Bennett, 1986, 1993b; Hammer, et al., 2003; Paige, et al., 2003). This stage is the last ethnocentric stage, and it represents the last effort to maintain one's own culture as the center of the rest of cultures. In this stage the cultural

differences are trivialized. Even when the differences are recognized, they are not as important as the similarities among cultures.

a. Physical Universalism is a form of minimization that takes the position that all people have been born, they all eat, they all procreate and they all die. The biological and physical similitude among cultures dominates is the perception (Bennett, 1993b).
b. Transcendent Universalism is a form of minimization characterizes all human beings, as "products of some single transcendent principle, law or imperative" (Bennett, 1993b, p. 43). In this sub stage all human beings are affected by the same laws but their cultures are different. This stage can be risky when the person assumes that when he is with other cultures he should behave the way that he does when he is in his own culture because people like those who are themselves (M. Bennett, 1993b).

2. Ethnorelative stages

Ethnorelatives stages assume that a culture only can be understood in the context of other cultures: "There is no absolute standards of rightness or goodness that can be applied to cultural behavior" (Bennett, 1993b, p. 46). The cultural differences then, are not good or bad, they are just cultural differences. The ethnorelative stages are:

IV. Acceptance of cultural difference. It is the stage where people recognize the differences between cultures; the differences in this stage are accepted as normal (Bennett, 1986, 1993b; Hammer, et al., 2003; Intercultural Communication

Institute, 2007; Paige, et al., 2003). The acceptance stage represents the change from ethnocentrism to ethnorelative behavior (Bennett, 1993b).

Acceptance includes the following two sub stages,

a. Respect for behavioral differences marks the difference between superficially recognizing verbal and non verbal differences (ethnocentric stages) to recognizing and accepting those differences as part of the normal behavior of certain cultures. In this stage acceptance is not only the difference in language, but it is also the differences in communication style (Bennett, 1993b).

b. Respect for value difference emphasizes the variations in behaviors among cultures. People in different cultures process the information in different ways. Values and assumptions are included in this stage. The values can be shared but many cultures, but the way to pursue those values might be different (Bennett, 1993b).

V. Adaptation to cultural difference is the stage where a person tries to imagine "how the other person is thinking about things" (Paige, et al., 2003, p. 471). People in this stage are able to communicate and interact with people from other cultures. Empathy and pluralism are part of this stage (Bennett, 1986, 1993b; Hammer, et al., 2003; Paige, et al., 2003). In the acceptance stage, people learn to appreciate cultural differences and develop skills to relate and communicate with people from other cultures (Bennett, 1993a). The sub stages of adaptation are:

a. Empathy which “describes an attempt to understand by imagining or comprehending the other’s perspective” (Bennett, 1993b, p. 53). Empathy assumes that one knows and respects the differences among cultures. It is not sympathy for the culture (this is an ethnocentric position); it is a true understanding of the culture and the way that the people from that culture behave. A person with high level of intercultural development will be able to temporarily change their behavior or perspectives and be empathetic with the other culture (Bennett, 1993b).

b. Pluralism. It includes two aspects of the adaptation stage; the philosophical aspect including the knowledge of the differences among cultures, and the internalization of two or more cultures. Pluralism is beyond empathy, it is when “cultural difference is respected as highly as one’s self, since it is intrinsic to that self” (Bennett, 1993b, p. 55).

V. Integration of cultural difference. It is the stage where people feel comfortable enough to move from their own culture to two or more cultures (Bennett, 1986, 1993b; Intercultural Communication Institute, 2007). People in this stage have internalized more than one cultural worldview (Paige, et al., 2003). Integration has two sub stages:

a. Contextual evaluation assumes almost all the ethnorelative stages are none evaluation of differences stages. However contextual evaluation is needed to analyze and evaluate cultural perspectives.

This skill is needed to valuate certain actions that may help in certain situations or context within different cultures (Bennett, 1993).

b. Constructive marginality assumes a lack of cultural identification, also called *constructive marginality*. People dealing with cultural marginality are construing their identities at the border line between two or more cultures. Cultural marginality has two forms: *encapsulated marginality*, where the separation from culture is experienced as alienation; and *constructive marginality*, in which the movement in and out of cultures is necessary and a positive part of one's identity (Bennett, 1993a, 1993b; Hammer, et al., 2003). In this stage, persons are able to construct their own frames of references after contextual evaluation. In this stage the person not only analyzes an isolate action in certain culture, the person is able to relate his actions to a cultural frame and decide if that behavior or action is appropriated for certain culture. Bennett (1993a, 1993b), uses the term *encapsulated marginality* to point out that this stage refers to the margins of two or more cultures without a mindful choice.

In summary, DMIS is a not a descriptive model of changes in attitudes and behavior. Rather, it is a model of "change in worldview structure where the observable behavior and self-reported attitudes at each stage are indicative of the state of the underlying worldview" (Hammer, et al., 2003, p. 423). DMIS does not measure changes of attitudes, rather it measures changes on worldview.

Summary of the Literature Review

People from the same culture share values, points of view and meanings (Keesing, 1974). A monoculture environment provides a safe place to live and develop personal skills without the need of adapting or modifying any behavior to be accepted or understood by people from other cultures. However, this world is not monoculture anymore. The internet and the improvement of the international mass communication have developed a global environment. Traveling or doing business around the world is now a daily routine for many people (Chen, 2008). International corporations are seeking professionals capable of working in diverse environments, with the ability to recognize, respect, and adapt their behavior to different cultures (Berthoin & . Friedman, 2008; Geert, Cheryl, Carolyn, & Thomas, 2002; Haeger, 2007; Zhu, 2001).

Higher education institutions are taking responsibility supporting international corporations' needs, educating students to face emerging international and intercultural challenges, and supporting not only multicultural environments inside college campuses, but offering their students numerous multicultural and intercultural experiences, as long and short study abroad programs, or international classes. The institutional goal is, in many cases to develop students' intercultural skills (Ashwill, 2004; Cant, 2004; Fantini, 2009). This goal implies encouraging students to improve their personal intercultural sensitivity, defined as a personal skill that allows people to successfully interact in intercultural environments, showing respect, appreciation, and understanding from people from different cultures (Bennett, 1993a, 1993b; Bhawuk & Brislin, 1992; Hammer, et al., 2003).

Higher education intercultural initiatives to improve students' intercultural competence include basic and comprehensive intercultural trainings. The basic training are normally: international courses, semester long or short international study abroad experiences, international

schools, teaching abroad, transnational education and Fulbright experiences (Anderson, et al., 2005; Busby, 1993; Carter, 2006; Emert, 2008; Fretheim, 2007). The comprehensive trainings include a stronger institutional commitment and the adoption of an institutional comprehensive intercultural strategy, including periodical evaluations, and the adoption of theoretical models to support the intercultural initiatives, as well as possible co-curricular components (Ashwill, 2004; Center for Global Competency, 2009; De Sales University, 2009; University of Illinois, 2009; University of Tampa, 2009). Bennett (1986, 1993b), suggested the use of the Developmental Model of Intercultural Sensitivity (DMIS) as the theoretical framework in an institutional comprehensive training. This model proposes that the intercultural experiences should be defined in terms of stages of personal growth and the design of intercultural trainings should be a process where learners' aims are to ascend through stages to become intercultural sensitive.

There is a need to assess intercultural competency efforts in higher education, mainly because these evaluations have mostly relied on number to show achievement in internationalization (Deardorff, 2004). Those numbers provide valuable information but do not provide information about students' learning skills or attitudes (Engberg & Geen, 2002). In a few cases, intercultural initiatives have been evaluated using intercultural assessment tools. These tools have been developed by professors in the universities, and by intercultural training organizations. They assess different aspects of the intercultural competence, such as intercultural behaviors, communication, beliefs, events, values, adaptability, cross cultural sensitivity, cultural competence, cultural orientation, and cultural awareness (Bayles, 2009; Bennett & Hammer, 2002; Bhawuk & Brislin, 1992; Black, 1988; Connect Cultures. Maximize Performance, 2009; Deardorff, 2006; Fantini, 2006, 2009; Fernandez, 2006; Global Interface 2009; Global Performance Consulting, 2009; Grovewell. Global Leadership Solutions, 2009; Hammer, 2008;

Hammer, et al., 2003; Hogan Assessments, 2009; IMO, 2009; Intercultural Communication Institute, 2007; ITAP. International, 2009; ITIM International, 2009; Krishnamurthi, 2003; LaFromboise, et al., 1991; Nipporica Associates, 2009; Olebe & Koester, 1989; Performance Programs, 2009; Pruegger & Rogers, 1993; Shealy, 2009; Spreitzer, et al., 1997; Trompenaars Hampden-Turner, 2009; Uhes & Shybut, 1971).

The Intercultural Development Inventory is used to assess intercultural sensitivity. It was developed by Bennett and Hammer (2002) using the Developmental Model of Intercultural Sensitivity (DMIS) as the theoretical framework (Bennett, 1986, 1993b). This model is based in observations that show how people face cultural differences in some predictable ways as they gain more intercultural competence (Bennett & Hammer, 2002; Hammer, 2008; Hammer, et al., 2003). The DMIS is divided into six stages of development. Each stage represent a way of experiences differences, -denial of differences, defense against differences, minimization and acceptance of differences, adaptation to differences, and integration of differences (Bennett, 1986, 1993a, 1993b). The first three stages (denial, defense and minimization) are defined as ethnocentric, meaning that their own culture is the center of their reality; the second three stages (acceptance, adaptation, and integration) are defined as ethnorelative, meaning the their own culture is experienced in the context of other culture (Bennett, 1986, 1993a, 1993b; Bhawuk & Brislin, 1992; Emert, 2008; Fantini, 2009; Hammer Consulting L.L.C., 2007; Hammer, 2008; Hammer, et al., 2003; Paige, et al., 2003).

CHAPTER III

Methodology

Introduction

The purpose of this study was to assess intercultural sensitivity among students who participated in "I" (international) designated courses and faculty-led short study abroad programs supported by CASNR at OSU, as measured by the Intercultural Development Inventory (IDI) (Bennett & Hammer, 2002; Hammer, 2008; Hammer, et al., 2003). Further, this study sought to determine the impact of these experiences upon development of intercultural sensitivity. This study aims to contribute to the literature of higher education efforts to assess college initiatives to increase intercultural sensitivity among students and to add to the institutional data base regarding CASNR's efforts to assess changes in intercultural sensitivity in students exposed to intercultural experiences.

This chapter will describe the research process, context of the study, research design, selection of study participants, variables, instrument, validity and reliability of the instrument, data collection, and data analysis procedures

Context of the Study

Oklahoma State University (OSU) is a comprehensive land-grand university founded in 1890. It is located in Stillwater, a north-central Oklahoma community with a population close to 50,000. In 2009, OSU had an enrollment of over 32,000 students at five campuses; 70% of its students attended classes at the Stillwater Campus. OSU offers a variety of bachelors, masters and doctoral degrees. According to the 2008 university catalog, OSU had a diverse student body.

Eighty-one percent of the undergraduate enrollment was from Oklahoma, 16% were from other states, 3% came from nearly 120 foreign countries, and 20% of the undergraduate student population comes from minority groups. There were more than 4,200 graduate students; 58% percent were from Oklahoma, 17% were from other states, and 20% came from foreign countries. Thirty-eight percent of the graduate student population came from minority groups (Oklahoma State University, 2009b).

OSU encourages its students to attend intercultural and international activities inside and outside the OSU campuses (CASNR. Oklahoma State University, 2009; Oklahoma State University, 2007). It also offers opportunities like semester-long exchanges, language immersion programs, international and diverse courses, and faculty-led short study abroad programs. The OSU Study Abroad office has tuition agreements for student exchange programs with more than 30 countries. The School of International Studies hosts the Fulbright Information Center and offers a Masters in International Studies with the option to enroll in the Peace Corps Services. More than 100 short faculty-led study abroad programs are offered annually to OSU students (Tkachenko, 2009).

The College of Agricultural Sciences and Natural Resources (CASNR) is one of six colleges at Oklahoma State University and offers undergraduate and graduate programs. In the spring 2009 semester, CASNR's undergraduate enrollment was 1751 students and enrolled 382 students were in graduate programs. CASNR degree programs consist of Animal Science, Crop Science, Plant and Animal Biotechnology, Food Science, and Agricultural Education, Communications and Leadership (Oklahoma State University, 2009b) to name a few.

The Office of International Agricultural Programs in the CASNR at OSU has supported a variety of activities to encourage students' intercultural experiences, such as international

courses and faculty-led short study abroad programs since 1999. During this time more than 900 students have participated in those courses. The faculty-led short abroad programs included programs to Argentina, Honduras, Costa Rica, Mexico, Peru, Brazil, Australia, New Zealand, China, Japan Thailand, England, Scotland, France, Italy, the United Kingdom, Germany, South Africa, and Uganda among other countries (Henneberry, 2009). Twenty-seven CASNR-OSU students attended semester long study abroad programs organized by the OSU Study Abroad office, from 2004 to 2009 including Reciprocal Programs and Affiliated approved programs (G. Auel & J. Simpson, personal communication, July, 30th, 2009), and more than 100 CASNR-OSU students are enrolled in international courses offered by the college. CASNR also has received support from foundations to offer their students intercultural experiences during 2007 and 2008, the International Foundation for Study Abroad (IFSA Foundation) granted twenty OSU students money to travel to Mexico to attend an intensive Spanish language immersion program at Universidad Popular Autónoma del Estado de Puebla (UPAEP).

All these efforts aim to contribute to increase the CASNR students' intercultural sensitivity, preparing students to successfully work in multicultural and diverse global environments with the abilities to adapt their behaviors, as signs of respect when they work in other cultures.

The Research Design

This study determined students' changes in intercultural sensitivity after attending international courses or faculty-led short term study abroad programs in different countries in America, Europe, Asia, and Oceania using the IDI. This research used the nonequivalent groups design -pretest, posttest, with comparison group. The Nonequivalent Group Design is broadly used in social research. In this design, the participants' assignment to the treatment groups is not

random, and the researcher did not assigned them to each treatment (Trochim, 2009) as well as qualitative theme analysis (Patton, 2001).

The information collected in this study was analyzed using descriptive and inferential statistics as well as theme analysis. Descriptive statistics, such as mean and standard deviation were used to analyze the demographic information; inferential statistics, such as analysis of variance (ANOVA) were used to analyze the data gathered by the Intercultural Development Inventory (IDI). Theme analysis was used to analyze the qualitative information provided by an open-ended questionnaire as part of the IDI (Creswell, 2003, 2005; Patton, 2001). Practical Significance, Eta Squared was also calculated to determine the relationship between de dependent variables and the demographic information, and the dependent variables and the differences between the pre- and posttest (Keppler & Wilckens, 2004)..

The Nonequivalent Groups Design -pretest and posttest, with comparison group was used to assess intercultural sensitivity in students exposed to intercultural experiences supported by the College of Agricultural Sciences and Natural Resources at Oklahoma State University using the IDI. The design is laid out in Table 1.

Table 1

Nonequivalent Groups Design with pre- and posttest design

Group	Subgroup	Types of Intercultural Intervention	Pretest	Posttest

Group 0		Comparison group no intervention
Group 1		Intervention Semester long courses for 3 hours of college credit (AGED 4713/ANSI 3714)
Group 2		Intervention
	Group 2a.	Faculty-led short study abroad programs (1-11 Weeks) **America** Honduras Brazil I Brazil II Costa Rica Nicaragua
	Group 2b.	**Europe** France Italy I Italy II
	Group 2c	**Asia-Oceania** New Zealand Thailand China Japan

Data collected from the pretest and posttest was statistical, analyzed using analysis of variance —one-way ANOVA and split-plot factorial design 5 x 2. Both designs were used to assess intercultural sensitivity in students exposed to intercultural experiences supported by the

CASNR. One-way Analysis of Variance (ANOVA) (Kirk 1995) was used to identify the differences in intercultural sensitivity if any, among different groups studied and the differences in intercultural sensitivity if any, in demographics by the sample population during the pretest and posttest.

The Split-Plot Factorial Design 5 x 2 was used to assess the changes if any, of intercultural sensitivity between the pre- and the posttest among the student groups studied. The Split-Plot Factorial design contains features of two building blocks designs: a completely randomized design and a randomized block design (Kirk 1995). One advantage of using this design is that the block can contain homogeneous subjects or one subject who is observed two or more times. In this case, one subject was observed two times (pretest and posttest). Split-plot factorial design is also called mixed design, and it allows the analysis of the effects of treatments (between groups and within groups) as well as the effect of the interactions between treatments (Kirk 1995) (Table 2).

Table 2

Split Plot Factorial Design 5 x 2

Group (a)	**Blocks (b)**	**Types of intercultural intervention**	**Observation 01 Pretest**	**Observation 02 Posttest**
A1	**B1**	**Comparison group no intervention (1)**	A1B101	A1B102
A2	**B1**	**I Courses (2)**	A2B101	A2B102
A3		**Faculty-led Short Study Abroad**		

	Experience		
B1	America (3)	A3B101	A3B102
B2	Europe (4)	A3B201	A3B202
B3	Asia and Oceania (5)	A3B301	A3B302

Variables

Dependent Variable

The dependent variables for this study were:

1) Students' degree of change from the experience as measured by the *Overall Developmental Intercultural Sensitivity,* Profile Developmental Scale (DS) in the individual IDI profile.
2) Students *Overall Perceived Intercultural Sensitivity*, measured by Profile Perceived Scale (PS) in the individual IDI profile.
3) Students' degree of change regarding their *Worldview*, measured by the IDI profile (five scales).

These dependent variables were collected using the Intercultural Development Inventory (IDI) developed by Bennett and Hammer (Bennett & Hammer, 2002; Hammer Consulting L.L.C., 2007; Hammer, 2008; Hammer, et al., 2003; MDB Group, 2007; Ministries, 2008).This instrument is deeply discussed later in this chapter.

Independent Variable

The independent variable was:

Students' participation in different types of intercultural experience supported by CASNR-OSU.

Subject Selection

Population

The target population selected for this study consisted of undergraduate and graduate students at Oklahoma State University in CASNR enrolled during the 2009 spring semester (1751 undergraduate and 382 graduate students) (Ch. Devuryst, personal communication, August 21st, 2009).

Sampling Procedure

Comparison group.

The comparison group was selected from all the undergraduate students from the CASNR at OSU enrolled in the 2009 spring semester. The researcher sent an email, requesting the students to participate in the study. The request was sent to all the CASNR-OSU undergraduate students enrolled in the 2009 Spring Semester (*N*=1751) to participate in the study. The students were offered an incentive to participate. The incentive was a chance to win a $100 gift certificate to Wal-Mart. All students who completed the pre- and posttest were eligible to win the gift certificate.

Thirty-seven students answered the demographic information and the IDI instrument (pretest) at the beginning of the spring 2009 semester (January and February of 2009). Twenty-nine students out of the original 37 students responded to the post-test at the end of the semester (April and May of 2009). However, one of the students included in the comparison group was removed because the student answered the pretest twice –once in the comparison group and once as a participant of an international course. 28 students were eligible (eligible students did not participate in any "I" course or faculty-led short study abroad program during the 2009 spring semester) to participate as a comparison group for the study. The students who participated in the

comparison group did not participate in any formal intercultural experiences sponsored by CASNR-OSU during the 2009 spring semester.

Treatment group.

All of the students who participated, from December 2008 to August 2009 in any CASNR sponsored intercultural experience were invited to participate in this study, "I" (international) designated courses and faculty-led short study abroad programs. The "I" designated courses are undergraduate 3 credit hour, semester long courses, designed to encourage students to critically analyze one or more cultures outside the United States, the courses selected in this study were AGED 4713 International Programs in Agricultural Education and Extension and ANSI 3903 Agricultural Animals of the World (Oklahoma State University, 2009a) . The faculty-led short study abroad programs are credit hour courses offered by Oklahoma State University professors in diverse colleges that include a trip outside the United States. These trips long vary from one to thirteen weeks.

The participants in this study were selected because they met the criterion of attending "I" designated courses (AGED 4713 International Programs in Agricultural Education and Extension or ANSI 3903 Agricultural Animals of the World) or faculty-led short study abroad programs supported by CASNR-OSU. This sampling strategy could be considered criterion-census sampling (Patton, 2001). The researcher contacted the students through the professors in charge of the intercultural experiences. The students answered the instrument in paper and pencil and/or electronic versions. Each participant answered the same instrument twice (pretest and posttest) as to measure changes before and after participation in the international experience (Hammer, et al., 2003). The students who answered the pretest in the paper and pencil version

also answered five open-ended questions. The different treatment groups and the number of students in each group is presented in Table 3.

Table 3

Treatment groups and number of students in each treatment (N=156)

Group	Subgroup	Type of Intercultural Intervention	Number of student asked to participate in the study
Group 1		I Courses	43
Group 2		Short Study Abroad Experience	
	Group 2a	America	
		Honduras	10
		Brazil	10
		Brazil	5
		Costa Rica	5
		Nicaragua	4
	Group 2b	Europe	
		France	21
		Italy (1)	11
		Italy (2)	10
	Group 2c	Asia and Oceania	
		New Zealand	9
		Thailand	8
		China	10
		Japan/Thailand	10
TOTAL			156

Instrumentation

The Intercultural Development Inventory (IDI) was developed by Hammer and Bennett (2003) as measure of intercultural sensitivity. This instrument was developed using the Developmental Model of Intercultural Sensitivity (DMIS) defined by Bennett (1986, 1193b) as its theoretical framework. IDI measures a person's orientation toward cultural differences described by DMIS (Bennett & Hammer, 2002; Hammer, 2008; Hammer, et al., 2003; Intercultural Communication Institute, 2007; MDB Group, 2007; Ministries, 2008). The purpose of applying this instrument is to learn to what degree, the participants are effectively interacting with other cultures. Being effective with other cultures means developing interest and sensitivity to other cultural values. A culturally sensitive person is aware of cultural differences, and modifies his/her behavior to respect other people and their cultures (Bhawuk & Brislin, 1992). This instrument also determined at which stage of the Developmental Model of Intercultural Sensitivity the responders are. Applying this instrument before and after any intercultural experience (pre- and posttest) might also help to determine the intercultural effectiveness of the CASNR- OSU international courses and faculty-led short term study abroad programs. IDI could also help to determine the responders' needs of intercultural training according to their group or personal Developmental Stage of Intercultural Sensitivity.

IDI is a theory-based standardized instrument, and the main difference between IDI and other instruments that assess intercultural competence is that IDI is not a criterion-referenced instrument; this means that IDI does not match a set of characteristics or behaviors associated with intercultural competence. IDI is a theory-based test, a valid psychometric instrument. IDI measures cognitive structures rather than attitudes. IDI was designed and analyzed using factor analysis and the six-factor orthogonal model (Hammer, et al., 2003). IDI is a statistically reliable,

50-item, cross-culturally valid standardized measure of intercultural sensitivity (Bennett & Hammer, 2002; Hammer Consulting L.L.C., 2007; Hammer, 2008; Hammer, et al., 2003; Intercultural Communication Institute, 2007; MDB Group, 2007; Paige, et al., 2003; Straffon, 2003). IDI is an instrument with a five-factor solution. IDI measures five of the six stages of the DMIS proposed by Bennett (Paige, et al., 2003): Denial/Defense (DD), Reversal (R), Minimization (M), Acceptance/Adaptation (AA), and Encapsulated Marginality (EM) (Table 3.4). DD Scale measures "a worldview that simplifies and /or polarizes cultural difference." R Scale measures "a worldview that reverses the 'us' and 'them' polarization, where 'them' is superior." M Scale measures "a worldview that highlights cultural commonality and universal values through an emphasis on similarity and/or universalism. AA Scale measures "a worldview that can comprehend and accommodate complex cultural differences." EM Scale measures "a worldview that incorporates a multicultural identity with confused cultural perspectives" (Hammer, 2008, Interpreting your Intercultural Development Inventory (IDI) Profile p. 1). The IDI developmental orientations are presented in Table 4.

Table 4

Developmental Orientations

Developmental Stages	Description
DD Denial:	Inability to construe or [tendency] to simplify[y] cultural difference[s]
Defense:	Polarizes cultural differences
R Reversal:	Reverses "Us" and "Them" polarization where "them" is superior

M Minimization:	Highlights cultural commonality and universal values while masking cultural differences
AA Acceptance: Adaptation:	Recognize[s] and appreciates cultural differences in values and behavior Accommodates to complex cultural differences
EM Cultural Disengagement: (Encapsulated Marginality)	Cultural disconnection from [one's] own group

Note. From "The Intercultural Development Inventory (IDI) Manual. Handouts for the Qualifying Seminar for administration and interpretation for the Intercultural Development Inventory, p. 32. Copyright, 2007, by Mitchell R. Hammer, PhD.

Interpretation of the Intercultural Development Inventory

Profile

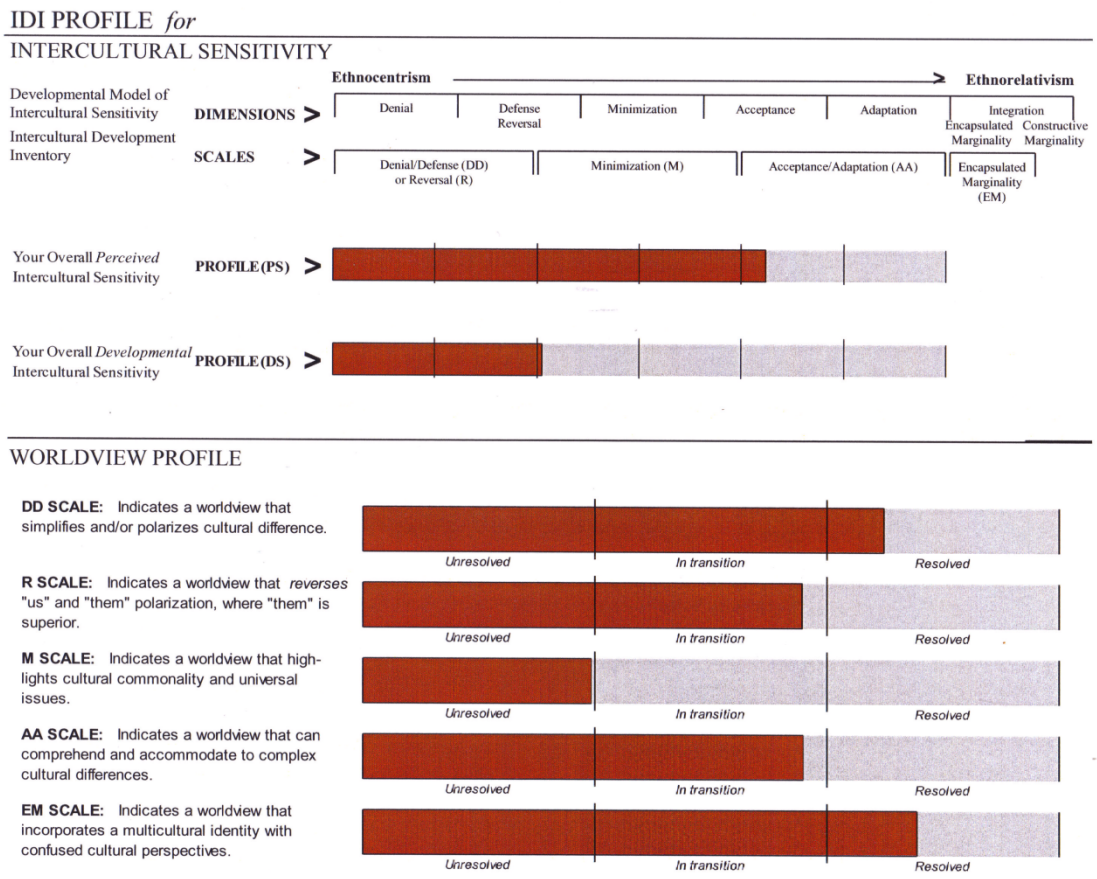
The IDI profiles identify specific issues and impediments regarding cultural differences faced by the individual or group profiled. The results of the 50-item standardized test are analyzed using specialized IDI software. This analysis generates a report, called a profile. This report can be generated by individual or by group. This report is organized into three parts: Intercultural Sensitivity, Worldview Profile, and Developmental Issues.

1) Intercultural Sensitivity, the first part of the report, shows four colored bars extending horizontally form left to right. The first bar shows the Dimensions of the Development Model of Intercultural Sensitivity (DMIS) developed by Bennett (1986, 1993b). The stages measured by the IDI are, denial, defense/reverse, minimization, acceptance, adaptation, and integration: encapsulated and constructive marginality.

This developmental continuum goes from ethnocentrism to ethnorelativism. The second bar shows the Intercultural Development Inventory (IDI) Scales developed by Hammer and Bennett (Hammer, et al., 2003): denial/defense (DD) or reversal (R), minimization (M), acceptance/adaptation (AA), and encapsulated marginality (EM). The third colored bar shows the person's or group's Overall Developmental Intercultural Sensitivity (DS). The fourth colored bar shows the person's or group's Overall Perceived Intercultural Sensitivity (PS). DS and PS colored bars range from 55 to 145.

2) Worldview profile is showed in the second part of the report. This part has five colored bars, each one representing one of the five IDI scales: DD, R, M, AA, EM. The values of this scale range from 1.0 to 5.0, from unresolved, to in transition, to resolved developmental issues.
3) Developmental Issues are showed in the last part of the individual's or group's profile. The developmental issues are described according to the IDI scales and clusters. The values of this scale range from 1.0 to 5.0 from unresolved, to in transition, to resolved developmental issues, as described in the worldview profile. The profile shows a colored bar for each of the following scales and clusters. One example of the first page of an IDI profile is shown in Figure 2.

Figure 2. Example of IDI Profile



Interpretation

The IDI measures an individual's or group's "fundamental worldview orientation to cultural difference, and thus the individual's or group's capacity for intercultural competence." (Interpreting your Intercultural Development Inventory (IDI) Profile (Hammer, 2008, p. 1). The numerical information generated in this profile can be statistically analyzed. However, any analysis of the information generated in an IDI profile should always consider that, for the Overall Perceived and Developmental Intercultural Sensitivity Profiles, the length of the bars indicates only the individual's or group's overall development towards ethnorelativism. For the

Worldview Profile and Developmental Issues, the length of the bars indicates the individual's or group's resolution of specific issues (Hammer, 2008).

Uses of the IDI Instrument

Some of the uses of the IDI instrument are:

1) Developing curricula for intercultural training, educational programs, and diversity efforts (Intercultural Communication Institute, 2007).
2) Identifying training and education needs (Hammer, 2008).
3) Recruiting efforts.
4) For individual or group assessment.
5) For more effective teambuilding efforts.
6) For increasing self-awareness for each individual respondent concerning his/her intercultural sensitivity.
7) For preparing to enter a new culture, such as a multinational environment, a new country, or a domestic situation with cultural diversity (Hammer, 2008).

Advantages of the IDI

1) IDI is a statistically reliable cross-culturally valid measure of intercultural competence.
2) IDI can be used for organizational needs assessment, for training design, or program evaluation.
3) IDI is easy to complete. This instrument asks for 50 items plus ten demographic information questions.
4) IDI generates an in-depth graphic profile of an individual or a group's level of intercultural competence along with a detailed textual interpretation of that

level of intercultural development and associated transitional issue (Hammer Consulting L.L.C., 2007).

Disadvantages of the IDI

1) There is no free access to use the IDI.
2) IDI developers require a certification for all the possible administrators of the instrument. The certification requires the attendance to a qualified seminar. The cost of this seminar is more than $1,000.00 USD.
3) Each application of the IDI has a cost of $10.00 USD per administration.

Validity and Reliability

The IDI Instrument

The Intercultural Development Inventory has been tested for validity and reliability using confirmatory factor analyses, reliability analyses, and constructs validity tests (Hammer, et al., 2003). Confirmatory factor analyses, reliability analyses, and construct validity tests validated five main dimensions of the DMIS, which were measured with the following scales:

1) DD (Denial/Defense) scale (13 items, α=0.85);
2) R (Reversal) scale (9 items, α=0.80);
3) M (Minimization) scale (9 items, α= 0.83);
4) AA (Acceptance/Adaptation) scale (14 items, α=0.84);
5) EM (Encapsulated Marginality) scale (5 items, α=0.80) (Hammer, et al., 2003).

No systematic gender differences were found in four of the scales. However, significant differences by gender were found on one of the five scales (DD scale). No significant differences on the scale scores were found for age, education, or social status, suggesting that the measured concepts are fairly stable. IDI has coefficient alpha levels of .80 or better, meeting or exceeding

the standard reliability criterion for individual and group psychometric diagnosis (Hammer, et al., 2003).

The Research Design

Reliability of the instrument for this study.

The coefficient alpha (Cronbach) for reliability was used to test for internal consistency of this study (Creswell, 2003, 2005). Alpha for internal consistence in this study was 70.2% considering all the participants Intercultural Development Inventory scales evaluated in this study (dependent variables).

Validity of this study.

The validity of this research design was analyzed and the results of this analyzes were:

1. *Internal validity*

History. The IDI Instrument was applied before and after each intercultural experience, from December 2008 to August 2009.

Maturation. All the students who participated in this study were undergraduate or graduate students at Oklahoma State University during the time of the study. This study assumed that the students' maturation was equivalent same during one semester period or during the length of the intercultural experiences. This study did not measure students' maturation.

Regression to the mean. The researcher did not select individuals from any group based in their performance scores.

Selection bias. In the comparison group, 37 of the 1751 agreed to participate and 28 out of 37 completed the study. The participants were asked to voluntarily participate as part of the comparison group. For the treatment groups all the participants to any international course or

faculty-led short study abroad program supported by CASNR-OSU were invited to participate in the study.

Mortality. Eighty-two percent of the students who took the pretest also took the posttest. The information of the participants who did complete the pretest but did not complete the post test was excluded from the statistical analysis of the study.

Interactions with selection. There was no selection of participants.

Diffusion of treatments. The treatments and comparison group were able to communicate with each other, but it is assumed that the treatment group participants could communicate their personal intercultural experiences to the comparison group participants to the degree that would not affect the outcome of the study.

Compensatory equalization. There was not inequality in the study. The participation in the treatment groups was voluntary.

Compensatory rivalry. There was not an awareness of or expectation of the benefits from the comparison group toward the experimental group as all students had the opportunity to participate in the treatments.

Resentful demoralization. The comparison group voluntarily participated in the study, and this group did not choose to participate in any intercultural experience during the 2009 spring semester.

Testing. It is improbable that the participants became familiar with the 50-item instrument during the pretesting; however, some testing threat must be acknowledged.

Instrumentation. The IDI instrument did not change between the pre and the posttest and was developed over time using rigorous standards for validity and found to be highly reliable.

2. External Validity

Interaction of selection and treatment. The participation in this research project was opened to all undergraduate students in CASNR at OSU as the comparison group. It was also open to all undergraduate and graduate students who decided to participate in international courses or in faculty-led short study abroad programs during the 2009 spring semester.

Interaction of setting and treatment. This research project was conducted in the same setting.

Interaction of history and treatment. This experiment took place during the 2009 spring semester at Oklahoma State University and possibly could be replicated at a later time (Creswell, 2005).

Data Collection Procedure

Before the beginning of the study, the researcher was given written permission from the Institutional Review Board (IRB) at Oklahoma State University, application number AG0840 (Appendix A).

Groups

Comparison group.

All undergraduate CASNR students enrolled in the 2009 spring semester (1751) were asked by email to participate in the study by responding to a demographic information profile (Appendix B) and to the Intercultural Development Inventory. The students were contacted though their Oklahoma State University e-mails addresses. The contact was made in a short statement detailing the purpose of the e-mail, the purpose of the assessment, the general methodology as well as a brief statement about the confidentiality of the information collected, the right to withdraw at any time from the study, and the contact information of the Institutional

Review Board (IRB). The email also specified that by opening the instrument they agreed to voluntarily participate in the study (Appendix D).

The students were asked to answer the instrument twice (pretest and posttest). The pretest was administered at the beginning of the 2009 spring semester (January and February) and the posttest was administered at the end of the 2009 spring semester (April and May). All of the comparison group students answered the electronic version of the IDI instrument.

Treatment Groups.

1. *Pretest*

The students in the treatment groups were contacted by the researcher through the faculty member responsible for their intercultural experience (international courses or short faculty-led study abroad programs). The researcher and the study abroad faculty leader set an appointment to administer the instrument (pretest) to the students who participated in the intercultural experience (international courses and faculty-led study abroad programs) in a face-to-face setting; only one group out of fourteen groups was contacted by email (students who traveled to Costa Rica).

During the pretest appointment, the researcher explained to the students the purpose of the study and asked them to answer the instrument; the researcher also provided a brief explanation about the risk associated with the research, the confidentiality of the data collected, and the students' rights to withdraw at any time from the study. The researcher pointed out the need for completing and signing a consent form. All the students were informed that the study included answering a pretest before their intercultural experience (international courses or short faculty-led study abroad programs) and a post test after their intercultural experience (Appendix C). The students who traveled to Costa Rica were the only treatment group that was contacted by

email (faculty leader's decision). The email included a short statement detailing the purpose of the study, the general methodology as well as a brief statement about the confidentiality of the information collected, the right to withdraw at any time from the study, and the IRB contact information (Appendix D). The email also specified that by opening the instrument they agreed to voluntarily participate in the study.

2. Posttest

At the end of the students' intercultural experience, the students were asked again to complete the IDI (posttest). The instrument was distributed in the paper and pencil and electronic version, seven groups answered the post-test in the paper and pencil version and seven groups answered the post test in the electronic version. The summary of the type of instrument each group completed is shown in table 5.

Table 5

Type of Intercultural Development Inventory (IDI) instrument completed per group in the pre- and posttest

Group	Subgroup	Type of Intervention	Pretest	Posttest
Group 1		Courses		
	Group 1a	AGED 4713	Paper-Pencil	Paper-Pencil
	Group 1b	ANSI 3903	Paper-Pencil	Paper-Pencil
Group 2		Short Study Abroad Experience		
	Group 2a	America Honduras	Paper-	Paper-

		Pencil	Pencil
	Brazil	Paper-Pencil	Electronic
	Brazil	Paper-Pencil	
	Costa Rica	Electronic	Electronic
	Nicaragua	Paper-Pencil	Paper-Pencil
Group 2b	Europe		
	France	Paper-Pencil	Paper-Pencil
	Italy	Paper-Pencil	Electronic
	Italy	Paper-Pencil	Electronic
Group 2c	Asia and Oceania		
	New Zealand	Paper-Pencil	Paper-Pencil
	Thailand	Paper-Pencil	Paper-Pencil
	China	Paper-Pencil	Electronic
	Japan/Thailand	Paper-Pencil	Electronic

Eighty-two percent of the students who completed the pretest also completed the posttest (See Table 6).

Table 6

Percentage of responses between the pre- and the posttest including comparison group

Group	Subgroup	Type of Intercultural Intervention	Pretest	Posttest Test	%
Group 0		Comparison Group	36	27	75%
Group 1		Courses			
	Group 1a	AGED 4713	14	10	71%
	Group 1b	ANSI 3903	29	25	86%
Group 2		Short Study Abroad Experience			
	Group 2a	America			
		Honduras	10	10	100%
		Brazil	10	10	100%
		Brazil	5	5	100%
		Costa Rica	5	4	80%
		Nicaragua	4	4	100%
	Group 2b	Europe			
		France	21	19	90%
		Italy	11	7	64%
		Italy	10	8	80%
	Group 2c	Asia and Oceania			
		New Zealand	9	9	100%
		Thailand	8	8	100%
		China	10	7	70%
		Japan/Thailand	10	5	50%
			192	158	82%

Information Collected

Quantitative and qualitative information was collected from the comparison and the treatment groups. The quantitative information collected included demographic information and the Intercultural Development Inventory data. The open-ended questions answered by the

treatment's students during the pretest of the paper and pencil version of the IDI instrument provided qualitative information.

Quantitative data.

1. *Demographic information.*

The demographic information of the participants was collected in two different ways - asking the participants to answer eleven demographic questions before they answered the IDI instrument (Appendix B) and, asking the participants five demographic questions in the IDI instrument, such as gender, age category, amount of previous experience living in another culture, education level (completed), and world region background. This information collected was analyzed using descriptive statistics.

2. *Intercultural sensitivity.*

This study used the second version of the Intercultural Development Inventory (IDI) as the quantitative instrument to assess intercultural sensitivity; The IDI is a psychometrically quantitative validated standardized instrument that measures Intercultural Sensitivity. IDI was developed by Bennett and Hammer (Bennett & Hammer, 2002; Hammer, et al., 2003). Using the Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 1986, 1993b), as the theoretical framework.

Both the electronic and the paper and pencil types of this instrument were used in this study. The data collected with this instrument was analyzed using specialized IDI software provided in the IDI Qualify Seminary for Administrators (Hammer, 2008). This software is capable of developing individual or group profile reports. The individual or group profile report show, in the top of the page, the Developmental Model of Intercultural Sensitivity (DMIS) dimensions, and the Intercultural Development Inventory (IDI) scales; the individual's or the

group's Perceived Intercultural Sensitivity and the individual or group's overall Developmental Intercultural Sensitivity profiles. At the bottom of the page, the report shows the Worldview Profile: Denial-Defense, Reverse, Minimization, Acceptance-Adaptation and Encapsulated Marginality Scales.

The IDI instrument was chosen as the best way to gather the research data because:

1. It is based in the Developmental Model of Intercultural Sensitivity (DMIS) (Bennett & Hammer, 2002; Hammer Consulting L.L.C, 2007; Hammer, 2008; Hammer, et al., 2003).
2. It provides valuable quantitative information.
3. It can be administered using paper and pencil and electronically.
4. The information collected is easy to analyze using the specialized software.
5. The software provided numerical information that is easy to analyze statistically.
6. It offers the opportunity of designing specific trainings according to the developmental stage.
7. It offers the opportunity to assess changes, if any, in intercultural sensitivity after attending certain intercultural activities as courses or faculty-led short study abroad programs.

Qualitative Data

The qualitative data was collected by asking the participants who responded to the paper and pencil version of the IDI instrument, to answer five open-ended questions before they answered the pretest. The questions were:

1. What do you think about participating in intercultural experiences, courses, short study abroad experiences, language training, etc?

2. What intercultural initiatives or programs supported by CASNR have you attended or you would like to attend during your college experience at Oklahoma State University?
3. What do you think is the most common CASNR students' motivation to attend any intercultural experience?
4. What do you think about CASNR efforts and initiatives to increase your intercultural sensitivity?
5. Describe your intercultural experience change during your college education at Oklahoma State University.

Data Analysis Procedure

Quantitative data

Demographic information.

The demographic information collected by the IDI instrument and by the demographic form for the paper and pencil version of the IDI (Appendix B) was analyzed using descriptive statistics with the purpose of describing the population.

Intercultural Development Inventory.

The information collected through the IDI instrument was analyzed using specialized IDI Software developed by Hammer (2008); this software created a Personal and/or a Group Profile of each one of the participants and each one of the groups included in this study. The Personal and Group Profile includes a personal and group overall Developmental intercultural sensitivity scale, a personal overall Perceived intercultural sensitivity scale, a personal Worldview profile, and a section of Developmental issues.

After the IDI software analysis, the data generated as personal and group profiles scores were analyzed using One-Way Analysis of Variance and a Split Plot Factorial Design 5*2. The data was analyzed using the Statistical Software Package for Social Sciences (SPPS) version 17.0 for Windows. The inferential statistic was utilized to understand the relationship between and among the group of variables. A .05 alpha level was set a priori for this study, providing a 95% level of confidence (Kirk 1995; Pedhazur, 1997).

Practical significance, Eta squared *(η2)* reported in this study was used to determine the strength of the relationship between de dependent variables (Intercultural Sensitivity) and the demographics of the population , as well as the changes in intercultural sensitivity (pre- and posttest) among participants in different intercultural experiences (groups).

The statistical analysis and the practical significance focused on:

1) The IDI personal and/or group overall Developmental Intercultural Sensitivity scales for each participant.

2) The IDI personal and/or group overall Perceived Intercultural Sensitivity scales for each participant, and

3) The IDI Worldview profile for each participant and for each group.

The first two profiles (Developmental Intercultural Sensitivity and Perceived Intercultural Sensitivity) use a scale from 55 to 145.

Worldview uses five scales:

1) Denial/Defense (DD),
2) Reverse (R),
3) Minimization (M),
4) Acceptance/Adaptation (AA), and

5) Encapsulated Marginality (EM).

All these scales rank from 1.0 to 2.33 (Unresolved), 2.34 to 3.66 (In transition) and 3.67 to 5.0 (Resolved).

Qualitative Data

Open-ended questions.

The students, who answered the pretest in the paper and pencil type of the IDI instrument, also answered five open ended questions (Appendix E). The information collected from these questions was analyzed using theme analysis (Patton, 2001) and presented in a Memorandum of Findings, the focus of this analysis was to understand students' perception and understanding of CASNR supported intercultural programs and initiatives.

CHAPTER IV

Findings

This chapter presents the results of a research study designed to measure changes in intercultural sensitivity among students exposed to intercultural experiences supported by the College of Agricultural Sciences and Natural Resources (CASNR) at Oklahoma State University using the Intercultural Development Inventory (IDI). The results presented in this chapter represent data gathered from December 2008 to August 2009. The information collected and analyzed includes demographic information, open ended questions, and the responses to the Intercultural Development Inventory (IDI).

All CASNR undergraduate students enrolled in the 2009 Spring Semester (*N*=1751) were asked to participate in the study as part of the comparison group. All the students who participated in any "I" designated course or in any faculty-led short study abroad program supported by CASNR from December 2008 to August 2009 were asked to participate in the study as part of the treatment groups.

Statistical analysis was performed in order to answer the two research questions posed in this study:

- Are there any changes in cultural sensitivity among students exposed to intercultural experiences (International courses and/or faculty-led short study abroad programs) supported by the CASNR-OSU as measured by the Intercultural Development Inventory (IDI)?

- Are there any differences in degrees of change in cultural sensitivity among students exposed to different types of intercultural experiences (international courses and/or faculty-led short study abroad programs) supported by the CASNR-OSU, as measured by the Intercultural Development Inventory (IDI)?

This chapter is organized into three sections according to the data collected and analyzed (demographics, open ended questions, and Intercultural Development Inventory analysis) for the study. The first section summarizes the demographic information collected (gender, age, major, college year, place of birth, ability to speak another language other than English, and previous experience traveling abroad). The second section presents the results of the theme analyzes of five open ended questions collected from the students who responded to the pretest in the paper and pencil version of the IDI in a Memorandum of Findings format. The third section presents the data resulting from the undergraduate and graduate Oklahoma State University students' level of intercultural sensitivity measured by the Intercultural Development Inventory (IDI) measured at the beginning and at the end of the Spring 2009 semester for the comparison group, and before and after the intercultural experience, for the treatment groups (Kirk 1995; Pedhazur, 1997). The Intercultural Development Inventory (IDI) section is organized in two parts, in the first part of this section, the information provided by the Intercultural Development Inventory (IDI) -pretest and posttest is analyzed using One-Way Analysis the Variance (ANOVA) for the Overall Developmental Intercultural Sensitivity, Overall Perceived Intercultural Sensitivity, and Worldview Scales (Dependent variables) in relation to the demographic information. This analysis provides information about the relationship between the demographics of the population and their Intercultural Sensitivity Development. The second part of this last section reports the analysis of the information provided by the Intercultural Development Inventory (IDI) using

Split-Plot Factorial Design 5 x 2 to determine if the population studied changed, and if they do in what degree, their intercultural sensitivity during the span of this study. P*ractical significance, Eta squared* $(\eta)^2$ is reported in the first and the second part of the Intercultural Development Inventory (IDI) section.

Part I. Demographic Information

Demographic Information

The purpose of this study was to assess intercultural sensitivity among students who participated in "I" designated courses and faculty-led short study abroad programs supported by CASNR as measure by the Intercultural Development Inventory (IDI) (Bennett & Hammer, 2002; Hammer, 2008; Hammer, et al., 2003). Further, this study sought to determine the impact of these experiences upon development of intercultural sensitivity.

The studied population consisted of undergraduate and graduate students enrolled at Oklahoma State University during the spring 2009 semester. The students in the comparison group and the treatment groups were invited to voluntarily participate in the study. All the students who decided to participate in the study answered demographic information, and two IDI instruments, a pretest and a posttest. The students who answered the pretest via a paper and pencil version of the IDI also answered five open ended questions.

A total of 1751 CASNR-OSU students were solicited by email to participate in the study as part of the comparison group. Thirty-Seven students (2.11%) answered the pretest and 29 students (1.66% out of the 1751 and 78.37% out of the 37) completed the pretest and the posttest. However, the information of one of the students included in the comparison group was removed from the study because the student answered the pretest twice –once as part as in the comparison group and once as a participant of an international course. One-hundred and fifty six (N=156)

CASNR students who participated in a intercultural experience by taking an "I" designated courses such as, International Agriculture (AGED 4713) or Animals of the Word (ANSI 3903) or attending any faculty-led short study abroad experience to Honduras, Brazil, Costa Rica, Nicaragua, France, Italy, New Zealand, Thailand, China and Japan were asked in person to participate in the study as part of the intervention group. The equivalency of the groups was determine first by the type of intercultural experience (comparison group, "I" Courses, and faculty-led short study abroad programs) and second, by the target continent of the faculty-led short study abroad experiences.

The number of students per group	
Comparison group	28
I Courses	35
America	33
Europe	36
Asia/Oceania	30

All of these students (*N*=156) participated and completed the pretest (IDI) but only one-hundred and thirty-four students in the treatment group (84%) completed the pretest and the posttest (Table 7).

Table 7

Percentage of responses to the Intercultural Development Inventory (IDI) between the pretest and the posttest for the comparison group and the treatments groups

Groups	Subgroups	Type of Intercultural Intervention	Pretest	Posttest	%

Group 0		Comparison Group	37	28	76%
Group 1		I Courses	43	35	81%
Group 2		Short Study Abroad Experience			
	Group 2a	America			
		Honduras	10	10	100%
		Brazil	10	10	100%
		Brazil	5	5	100%
		Costa Rica	5	4	80%
		Nicaragua	4	4	100%
	Group 2b	Europe			
		France	21	19	90%
		Italy	11	7	64%
		Italy	10	10	100%
	Group 2c	Asia and Oceania			
		New Zealand	9	9	100%
		Thailand	8	8	100%
		China	10	8	80%
		Japan/Thailand	10	5	50%
			193	162	84%

Descriptive Statistical Analysis of the Demographic Information

The demographic information analyzed in this section was provided by 162 students that answered the IDI pretest and posttest.

The population studied included 48% male and 52% female. Seventy percent of the population was between 18 and 21 years old. The students' majors were very diverse; however, the majority of the students (30%) were majoring in Animal Science and Pre Veterinary. Junior students were the largest group represented in the study with 32% percent of the sample, following by the seniors with 25%. The smallest groups were the freshman (17%) and graduate students (8%). Sixty-percent of the students were born in Oklahoma and 5% were born outside the United States. Seventy-four percent of the students did not speak another language other than English. Twenty-eight percent of the students reported speaking another language, but only 9%

reported that they spoke another language with more than 50% proficiency. The most popular language spoken by the students in addition to English was Spanish. Sixty-seven percent of the participants had experience traveling abroad but more than half (52%) of the students has spent one month or less traveling outside the United States.

Part II. Qualitative Information

Analysis Open Ended Questions

One-hundred and fifty-one students (78% of the total students who answered the pretest) also answered five open-ended questions. The students answered the following questions,

1) What do you think about participating in intercultural experiences, courses, short study abroad experiences, language training, etc?
2) What intercultural initiatives or programs supported by CASNR have you attend or you would like to attend during your college experience at Oklahoma State University?
3) What do you think is the most common CASNR students' motivation to attend any intercultural experience?
4) What do you think about CASNR efforts and initiatives to increase your intercultural sensitivity?
5) Describe your intercultural experience change during your college education at Oklahoma State University.

The answers to these questions were analyzed using theme analysis. Four central themes were identified:

1) Perceptions of intercultural experience(s)
2) CASNR intercultural initiatives and opportunities.
3) Personal motivation to participate in intercultural activities.

4) Intercultural experiences at OSU.

The students' statements were sorted and organized according to the themes and are presented in memorandum format (Patton, 2001)

Memorandum about findings

Oklahoma State University (OSU) is a comprehensive land-grand university located in Stillwater, Oklahoma. The College of Agricultural Sciences and Natural Resources (CASNR) at OSU offers students the opportunity to study in a diverse environment but mainly at the graduate level. These experiences are available for many OSU students, who grew up in small rural communities the first opportunity to be in contact with people from another culture. OSU-CASNR students have diverse opportunities to interact with people from another culture. The international dinners, for example, gives students a more global perspective.

The College of Agricultural Sciences and Natural Resources encourages students to participate in a variety of intercultural and international experiences, from taking an "I" designated class, such as Animals of the World or International Agriculture to participating in a variety of faculty-led short study abroad courses in different countries in America, Europe, Asia and Oceania. These new experiences have a positive impact in most of the students.

CASNR international institutional efforts are highly respected among students. CASNR has promoted many intercultural experiences encouraging and motivating students to increase their intercultural sensitivity. CASNR international efforts are ahead of many other colleges, trying to get every student to have an international experience, offering a variety of programs, including study abroad opportunities. The students recognized these efforts and are very grateful for the opportunity. However, these efforts many times are restricted by limited economical recourses from students. CASNR also has built strong relations with people from other cultures

and these relations foster the opportunities of the students to visit other countries or to receive classes with people who come from different cultures and ethnic backgrounds. CASNR has many programs to motivate their students to increase their intercultural knowledge, but sadly "some students simple just do not care," One example of these efforts are the "I" (International) Course that CASNR students have to take as a requirement for graduation, these courses do a good job of increasing students awareness of other cultures according to the responses.

CASNR students, in general have different motivations to participate in intercultural activities, including curiosity, resume building, extra credits, travel, or to meet the requirements to graduate, curiosity, or as a resume builder. However, the majority of the students find intercultural experiences life changing experiences and exciting educational opportunities. "It is an opportunity of a life time, where you gain more knowledge than you could form in a class, book or movie."

The students' perception of these intercultural and international experiences is very positive. Most of the students are open to these intercultural experiences and they agree that these experiences give them a different perspective about the world. The students also commented that intercultural and international experiences are a great learning experience because they are able to learn about different places. According to the students, "everybody should have the opportunity to travel abroad. Promoting intercultural experiences is a good idea. Intercultural experiences are "amazing opportunities" that everyone should try to be part of. In today's interdependent society it is imperative to learn how to interact with people from other cultures and learn to speak other languages. Intercultural experiences are "interesting, enlighten and highly educational'. They are "extremely educational and insightful."

In contradiction to CASNR international efforts the perception of the students is that CANSR is not a diverse community. Some students mentioned that some CASNR students sometimes are rude to people from other cultures, mainly because their only experience with people from another culture is when they took classes taught by professors from other countries.

CASNR students recognize that meeting people from other cultures had broadened their horizons and are thankful that OSU affords them this opportunity. Traveling abroad and speaking with people from other cultures made students feel more comfortable interacting with people from other cultures.“Being around people from different cultures is always very fun and interesting.” During my studies at OSU “I have learned to be more accepting and patient.” International and intercultural experiences teach OSU students “how big the world really is.” And “made me more thankful for what I have been offered in life.” After my international experience, “I feel free like there was nothing in the world I couldn’t do.”

Summarizing, Oklahoma State University, College of Agricultural Sciences and Natural Resources has developed a variety of strategies to expose students to numerous intercultural experiences. CASNR students appreciate these efforts but many times they have decided not participate in these activities. The main reason exposed by the students is a lack of economic resources . However, when students participate in any intercultural activity they found them valuables. Intercultural activities, with no doubt broadened students’ horizons.

Part III. Intercultural Development Inventory (IDI) Analysis

This chapter has reported the demographic and qualitative information provided by the participants in this study. In this section the responses of the Intercultural Development Inventory (IDI) are presented. The focus of this analysis is answering the following research questions:

1. Are there any changes in intercultural sensitivity among students exposed to intercultural experiences (courses and short study abroad programs) supported by the College of Agricultural Science and Natural Resources at Oklahoma State University as measured by the Intercultural Development Inventory (IDI)?
2. Are there any differences in degrees of change in cultural sensitivity among students exposed to different types of intercultural experiences (course, short field trips, or language training) supported by the College of Agricultural Science and Natural Resources at Oklahoma State University, according to the Intercultural Development Inventory (IDI)?

After the application of the IDI instruments and the specialized software analysis of the information collected, the Intercultural Development Inventory scores were statistically analyzed to answer the research questions. The IDI scores that were analyzed were: Overall Developmental Intercultural Sensitivity, Overall Perceived Intercultural Sensitivity and Worldview Profile (five scales): Defense/Denied, Reverse, Minimization, Acceptance/Adaptation and Encapsulate Marginality. These Worldview scales are composed of several items from the original 50 from the IDI: DD (13 items), R (9 items), M (9 items), AA (14 items), and EM (5 items) (Hammer, et al., 2003). The scales for the Overall Developmental and Overall Perceived Intercultural Sensitivity scales ranged from 55-145, and for the Worldview profile the range was 1.0-5.0.

Intercultural Development IDI profiles

The information analyzed to answer the research questions is presented in the Intercultural Development Profiles (Figures 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12).

Figure 3. Intercultural Development Inventory (IDI) profile for the Comparison Group. Pretest

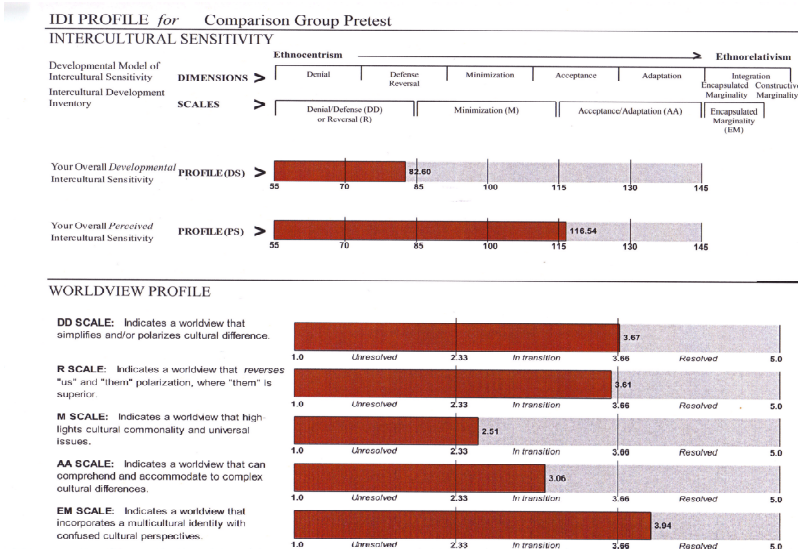


Figure 4. Intercultural Development Inventory (IDI) profile for the Comparison Group. Posttest

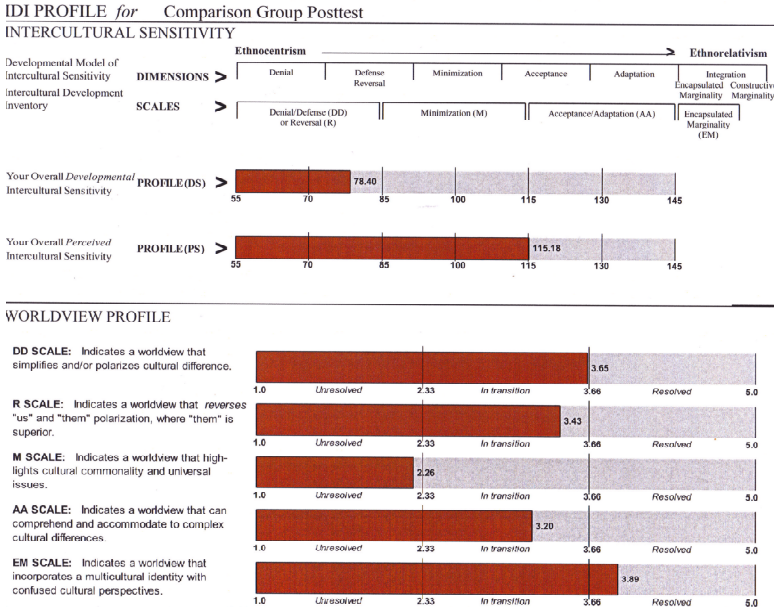


Figure 5. In Intercultural Development Inventory (IDI) profile for the I Courses. Pretest

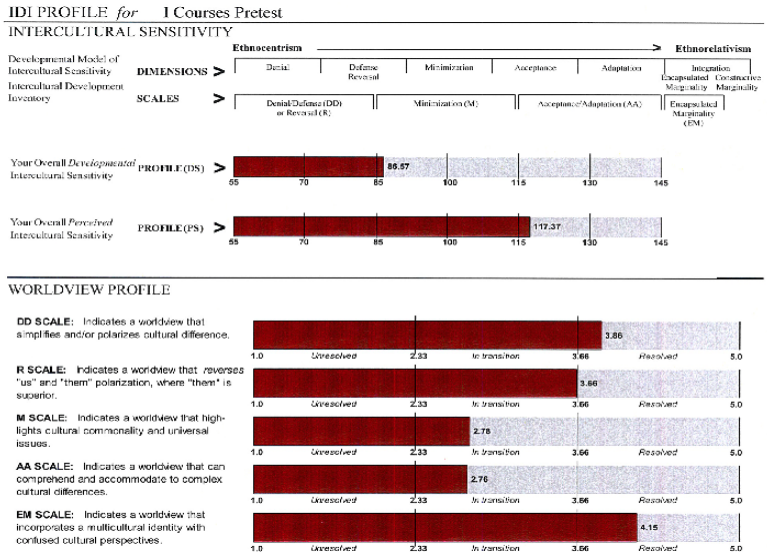


Figure 6. Intercultural Development Inventory (IDI) profile for the I Courses Posttest

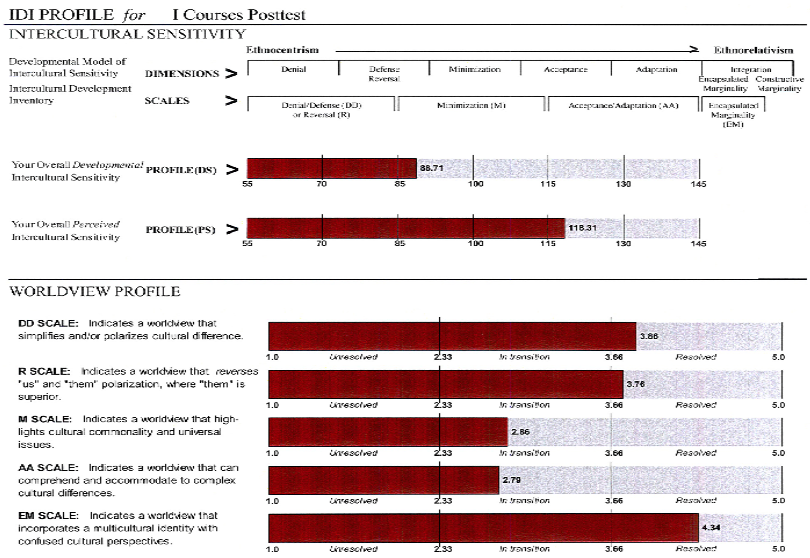


Figure 7. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for America Countries. Pretest

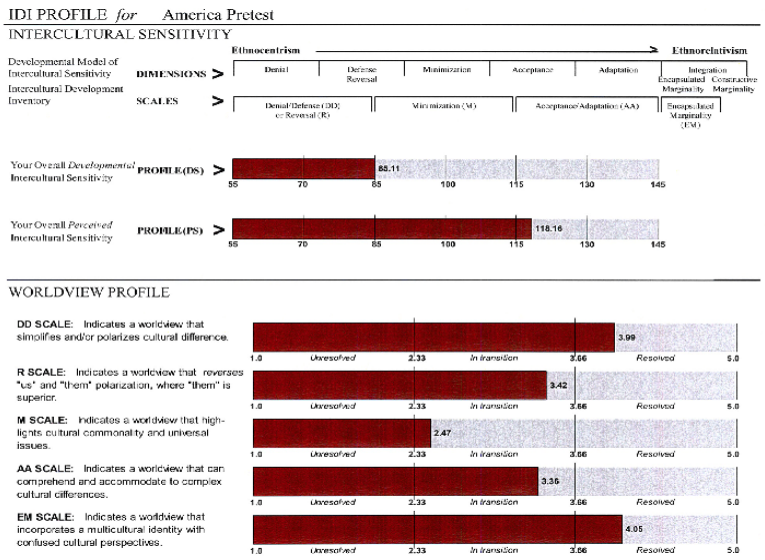


Figure 8. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for America Countries. Posttest

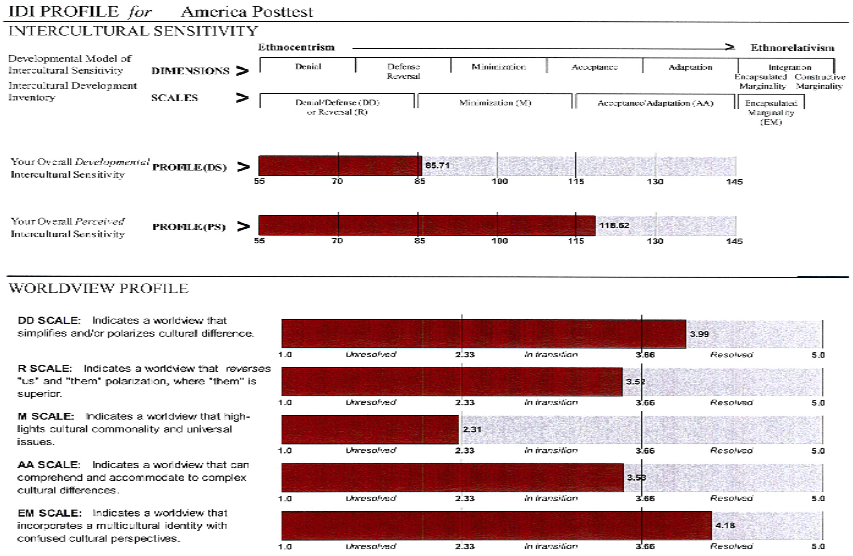


Figure 9. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for European Countries. Pretest.

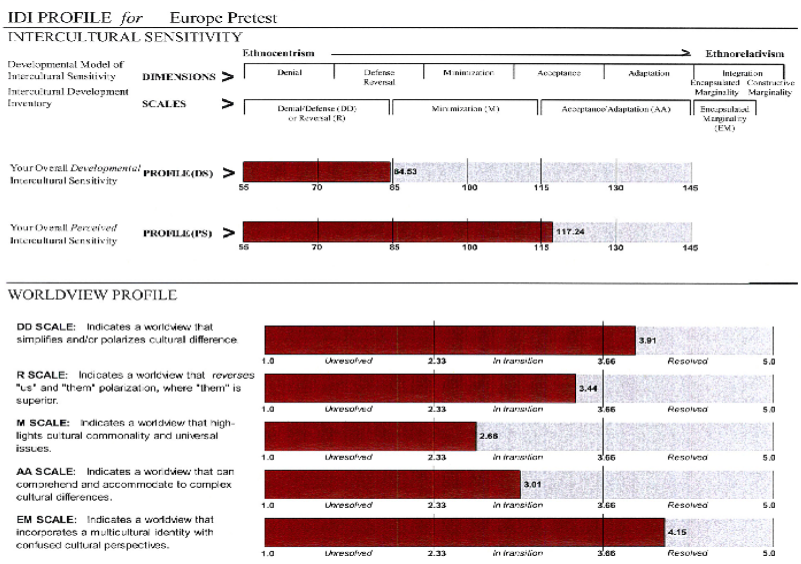


Figure 10. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for European Countries. Posttest.

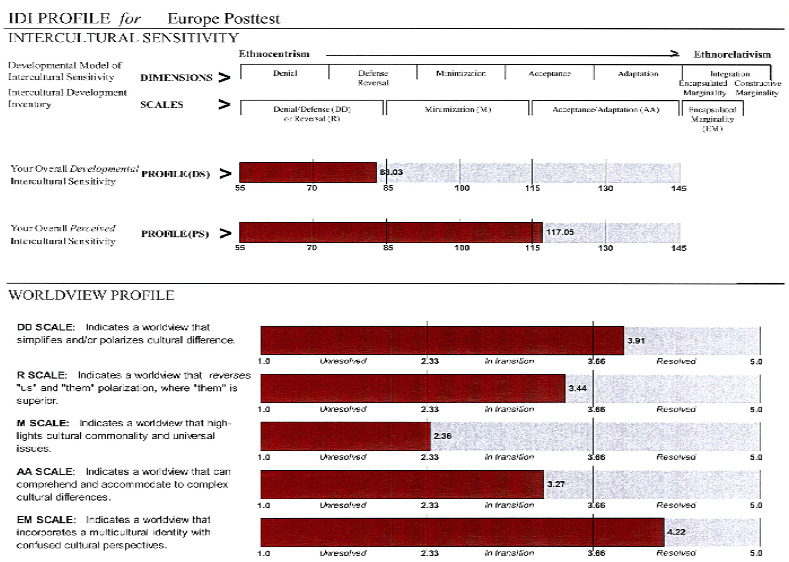


Figure 11. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for Asia/Oceania Countries. Pretest

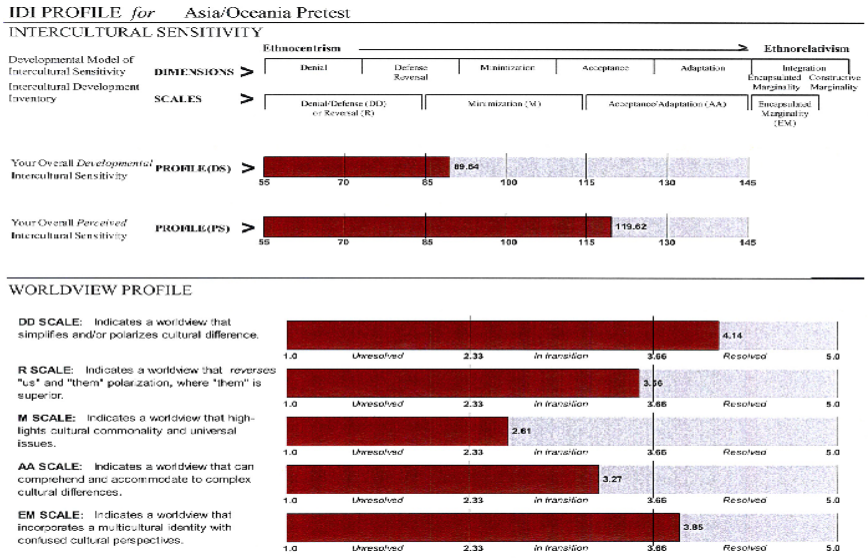
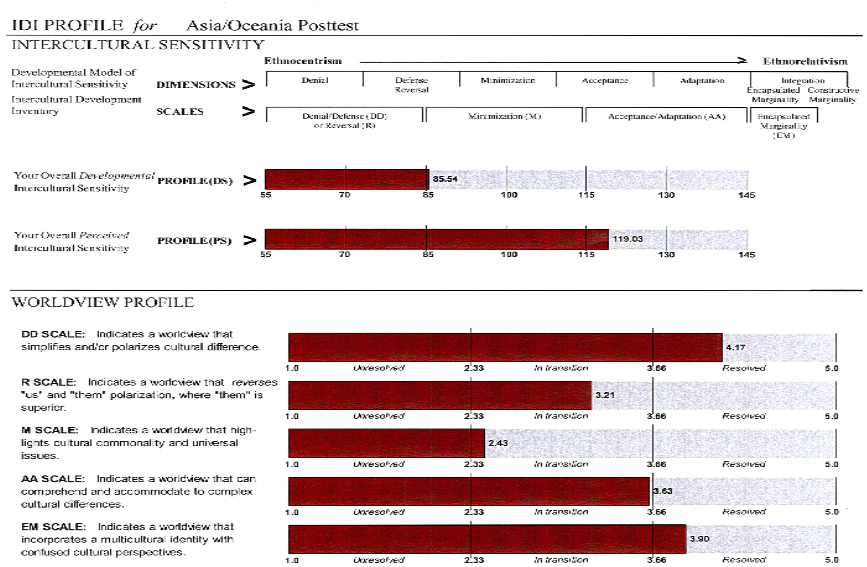


Figure 12. Intercultural Development Inventory (IDI) profile for the Faculty-Led Short Study Abroad Experience for Asia/Oceania Countries. Posttest



The IDI profiles shows that the Intercultural Sensitivity of the groups (Dependent variable) studied was,

- For the Overall Developmental Intercultural Sensitivity the groups were between 78.4 and 89.64 in the 55-145 DS profile, meaning all groups including pretest and posttest were at the time of the assessment Ethnocentric, Defense/Reversal Dimension of the Developmental Model of Intercultural Sensitivity and in the edge between Denial/Defense and Minimization for the Intercultural Development Inventory.
- For the Perceived Overall Developmental Intercultural Sensitivity, the groups were between 115.18 and 119.62 in the 55-145 PS profile, meaning all the groups including pretest and posttest believed they were, at the time of the assessment in the Ethno relative, Acceptance Dimension of the Developmental Model of Intercultural Sensitivity and in the Acceptance/Adaptation Dimension of the Intercultural Development Inventory.
- For the Worldview Profile, the groups were between 3.67 and 4.17 Denial Defense Scale; between 3.21 and 3.76 Reversal Scale; between 2.26 and 2.86 in the Minimization Scale; between 2.79 and 3.63 in the Acceptance/Adaptation Scale and between 3.85 and 4.34 in the 1.0-5.0 Scale for Encapsulated Marginality (See Tables 8, 9, 10 and 11)

Table 8

Mean of Intercultural Development Inventory (IDI). Overall Developmental Intercultural Sensitivity -pretest and posttest) and Perceived Intercultural Sensitivity -pretest and posttest) by Type of Intercultural Intervention (Group)

Group	Subgroup	Type of Intercultural Intervention	Developmental Pretest	Developmental Posttest	Perceived Pretest	Perceived Posttest

0		Comparison Group	82.60	78.40	116.54	115.16
1		Courses Short Study Abroad Experience	86.57	88.71	117.37	118.31
2a	Group 2a	America	85.11	85.71	118.16	118.62
2b	Group 2b	Europe	84.53	83.03	117.24	117.05
2c	Group 2c	Asia and Oceania	89.64	85.54	119.62	119.03

Note: *Total Scale from* *55 to 145*
Denial/Defense (DD) or Reversal (R) *55-85*
Minimization (M) *85.1-115*
Acceptance/Adaptation *115.1-145*

Table 9

Intercultural Development Inventory (IDI) Scales of Overall Developmental Intercultural Sensitivity -pretest and posttest and Perceived Intercultural Sensitivity -pretest and posttest

Group	Subgroup	Type of Intercultural Intervention	Developmental Pretest	Developmental Posttest	Perceived Pretest	Perceived Posttest
0		Comparison Group	DD/ R	DD/ R	AA	AA
1		Courses Short Study Abroad Experience	M	M	AA	AA
2a	Group 2a	America	M	M	AA	AA
2b	Group 2b	Europe	DD/R	DD/R	AA	AA

2c	Group 2c	Asia and Oceania	M	M	AA	AA

Note: *Total Scale from* *55 to 145*
Denial/Defense (DD) or Reversal (R) *55-85*
Minimization (M) *85.1-115*
Acceptance/Adaptation *115.1-145*

Table 10

Intercultural Development Inventory (IDI) Means of the Worldview profile Scales -pretest and posttest

		DD Pretest	DD Posttest	R Pretest	R Pretest	M Pretest	M Posttest
	Comparison Group	3.67	3.65	3.61	3.43	2.51	2.26
	I Courses	3.86	3.86	3.66	3.76	2.78	2.86
	Short Study Abroad Experience						
Group 2a	America	3.99	3.99	3.42	3.52	2.47	2.31
Group 2b	Europe	3.11	3.84	3.44	3.48	2.66	2.39
Group 2c	Asia and Oceania	4.14	4.17	3.56	3.21	2.61	2.43

Note: *DD/R Denial Defense/Reversal (1.0-5.0)*
Unresolved (1.0-2.33)
In Transition (2.34-3.66)
Resolved (3.67-5.0)
M *Minimization (1.0-5.0)*
Unresolved (1.0-2.33)
In Transition (2.34-3.66)
Resolved (3.67-5.0)

Table 11

Descriptive clusters of the Worldview Profile -pretest and posttest

	DD Pretest	DD Posttest	R Pretest	R Pretest	M Pretest	M Posttest
Comparison Group	Resolved	In transition	In transition	In transition	In transition	Unresolved
Courses					In transition	
Short Study Abroad Experience	Resolved	Resolved	In transition	Resolved		In transition
America	Resolved	Resolved	In transition	In transition	In transition	Unresolved
Europe	Resolved	Resolved	In transition	In transition	In transition	Unresolved
Asia and Oceania	Resolved	Resolved	In transition	In transition	In transition	In transition

Note: *DD/R Denial Defense/Reversal (1.0-5.0)*
Unresolved (1.0-2.33)
In Transition (2.34-3.66)
Resolved (3.67-5.0)
M Minimization (1.0-5.0)
Unresolved (1.0-2.33)
In Transition (2.34-3.66)
Resolved (3.67-5.0)

Overall Developmental and Overall Perceived Intercultural Sensitivity Analysis

This section is organized in two parts. The first part of this section, the information provided by the Intercultural Development Inventory (IDI) is analyzed using One-Way Analysis the Variance (ANOVA) for the IDI categories studied: Overall Developmental Intercultural Sensitivity, Overall Perceived Intercultural Sensitivity, and Worldview Scales (Dependent variables) in relation to the demographic information collected.

Analysis of Variance (ANOVA) of the Overall Developmental and Overall Perceived Intercultural Sensitivity

A one-way analysis of variance (ANOVA) was performed to determine whether the mean of the IDI scores differed from gender, age, college major, college year, place of birth, ability to speak another language and experience traveling abroad. When the means of IDI scores were statistically different $p < .05$ and there were more than two categories studied, the Turkey HSD Post Hoc Test was performed to determine the statistically difference between categories.

2. By Gender

The results of the ANOVA test in the groups studied indicate a *statistically significant difference*, $F\ (1, 160) = 4.86\ p < .05$, between genders in the means Overall Developmental Intercultural Sensitivity Scores –pretest.

The results indicate that there was no *statistically significant difference* $p < .05$ between genders posttest and in the means Overall Developmental Scores of Intercultural Sensitivity – posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest, Eta squared (η^2) was .029; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared* (η^2) was .015 (See Table 12).

Table 12

ANOVA of the Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by Gender

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Developmental Pretest	Between Groups	879.757	1	879.757	4.863	.029*	.029
	Within Groups	28945.63	160	180.910			
	Total	29825.386	161				
Developmental Posttest	Between Groups	589.63	1	589.63	2.564	.111 NS	.015
	Within Groups	36793.734	160	229.961			
	Total	37383.364	161				

*$p < .05$

The results of the ANOVA test indicate *no statistically difference* $p < .05$ between genders in the means Overall Perceived Intercultural Sensitivity Scores –pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared* (η^2) was .029; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared* (η^2) was .014 (See Table 13).

Table 13

ANOVA of the Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by Gender

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Perceived Pretest	Between Groups	73.324	1	73.324	2.553	.112 NS	.016
	Within Groups	4595.718	160	28.723			
	Total	4669.041	161				
Perceived Posttest	Between Groups	76.187	1	76.187	2.284	.133 NS	.014
	Within Groups	5336.722	160	33.355			
	Total	5412.909	161				

*$p < .05$

3. By Age

The results of the ANOVA test indicate *no significant difference* between ages at the $p<.05$ level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest *Eta squared* (η^2) was .017; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared* (η^2) was .018 (See Table 14).

Table 14

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by Age

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Developmental Pretest	Between Groups	502.590	2	251.295	1.363	.259NS	.017
	Within Groups	29322.797	159	184.420			
	Total	29825.386	161				
Developmental Posttest	Between Groups	660.914	2	330.457	1.431	.242 NS	.018
	Within Groups	36722.450	159	230.959			
	Total	37383.364	161				

*$p < .05$

Note: *Group 1.* *18 to 21 years old*
Group 2. *22 to 30 years old*
Group 3. *30-40 years old*

The results of the ANOVA test indicate *no significant difference* between ages at the $p<.05$ level in the means of Overall Perceived Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared* (η^2) was .030; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared* (η^2) was .044 (See Table 15).

Table 15

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by Age

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Perceived Pretest	Between Groups	139.088	2	69.544	2.441	.090 NS	.030
	Within Groups	4529.953	159	28.490			
	Total	4669.041	161				
Perceived Posttest	Between Groups	128.261	2	64.131	1.930	.149 NS	.024
	Within Groups	5284.648	159	33.237			
	Total	5412.909	161				

**p < .05*

Note: Group 1. 18 to 21 years old
Group 2. 22 to 30 years old
Group 3. 30-40 years old

4. By College Major

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between college majors at the $p < .05$ level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest The practical significance for the Overall Developmental Intercultural Sensitivity pretest E*ta squared (η^2)* was .038; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared (η^2)* was .058 (Table 16).

Table 16

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by College Major

	Sum of		Mean Squares	*df*	Square	*F*	*Sig.*	η^2
Developmental Pretest	Between Groups	1139.460	6	189.910	1.026	.410 NS	.038
	Within Groups	28685.926	155	185.070			
	Total	29825.386	161				
Developmental Posttest	Between Groups	2164.184	6	360.697	1.587	.154 NS	.058
	Within Groups	35219.180	155	227.221			
	Total	37383.364	161				

*$p < .05$

Note: Group 1. Animal Science and Pre Veterinary
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between college majors at the $p < .05$ level in the means of Overall Perceived Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared (η^2)* was .075; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared (η^2)* was .056 (Table 17).

Table 17

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by College Major

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Perceived Pretest	Between Groups	351.181	6	58.530	2.101	.056 NS	.075
	Within Groups	4317.866	155	27.857			
	Total	4669.041	161				
Perceived Posttest	Between Groups	300.713	6	50.119	1.520	.175 NS	.056
	Within Groups	5112.196	155	32.982			
	Total	5412.909	161				

*$p < .05$

Note *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Major

5. By College Year (Freshmen, Sophomores, Juniors and Seniors)

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between college year at the $p<.05$ level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest *Eta squared* (η^2) was .053; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared* (η^2) was .036 (Table 18).

Table 18

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by College Year

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Developmental Pretest	Between Groups	1576.720	4	394.180	2.191	.072 NS	.053
	Within Groups	28248.667	157	179.928			
	Total	29825.386	161				
Developmental Posttest	Between Groups	1357.541	4	339.385	1.479	.211NS	.036
	Within Groups	36025.823	157	229.464			
	Total	37383.364	161				

*$p < .05$

Note: *Group 1.* *Freshman*
Group 2. *Sophomore*
Group 3. *Junior*
Group 4. *Senior*
Group 5. *Graduate Student*

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between college years at the $p < .05$ level in the means of Overall Perceived Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared (η^2)* was .048; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared (η^2)* was .041(Table 19).

Table 19

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by College year

		Sum of Squares	*df*	Mean Square	*F*	*Sig.*	η^2
Perceived Pretest	Between Groups	221.978	4	55.494	1.959	.103NS	.048
	Within Groups	4447.064	157	28.325			
	Total	4669.041	161				
Perceived Posttest	Between Groups	224.261	4	56.065	1.696	.153 NS	.041
	Within Groups	5188.648	157	33.049			
	Total`	5412.909	161				

*$p < .05$

Note: *Group 1.* *Freshman*
Group 2. *Sophomore*
Group 3. *Junior*
Group 4. *Senior*
Group 5. *Graduate Student*

6. By Place of Birth

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between place of birth at the $p < .05$ level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest *Eta squared* (η^2) was .026; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared* (η^2) was .003 (Table 20).

Table 20

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by Place of Birth

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Developmental Pretest	Between Groups	762.158	2	381.079	2.085	.128 NS	.026
	Within Groups	29063.228	159	182.788			
	Total	29825.386	161				
Developmental Posttest	Between Groups	111.114	2	55.557	0.237	.789 NS	.003
	Within Groups	37272.25	159	234.417			
	Total	37383.364	161				

*$p < .05$

Note: *Group 1.* *Oklahoma*
Group 2. *Other States*
Group 3. *Other Countries*

The results of the ANOVA test in the groups studied indicate a *statistically significant difference*, F (2, 159) = 3.535 $p < .05$, between places of birth in the means Overall Perceived Intercultural Sensitivity Scores –pretest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared* (η^2) was .042; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared* (η^2) was .004 (Table 21).

Table 21

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by Place of Birth

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Perceived Pretest	Between Groups	198.782	2	99.391	3.535	.031*	.042
	Within Groups	4470.259	159	28.115			
	Total	4669.041	161				
Perceived Posttest	Between Groups	24.188	2	12.094	0.357	.700 NS	.004
	Within Groups	5388.721	159	33.891			
	Total	5412.909	161				

*$p < .05$

Note: *Group 1.* *Oklahoma*
Group 2. *Other States*
Group 3. *Other Countries*

A Turkey HSD test was conducted to determine the difference between groups in the Overall Perceived Intercultural Sensitivity -Pretest. Turkey HSD analysis revealed that there is a difference in the Overall Perceived Intercultural Sensitivity pretest between the students who were born in Oklahoma (Group 1) and the students that were born outside Oklahoma (Group 2), and the students that were born outside the United States (Group 3) (Table 22).

Table 22

Multiple Comparison for the Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity pretest Turkey HSD by Place of Birth

Dependent Variable	(I) Birth	(J) Birth	Mean Difference (I-J)	Standard Error	Significance
Overall Perceived Intercultural Sensitivity	1	2	.02997	.88822	.999
		3	-5.10128*	1.94968	.026*
Overall Perceived Intercultural Sensitivity	2	1	-.02997	.88822	.999
		3	-5.13125*	2.00410	.030*

p < .05

Note: *Group 1.* *Oklahoma*
Group 2. *Other States*
Group 3. *Other Countries*

7. By the ability to Speak another Language

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between the ability to speak another language at the *p < .05* level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest *Eta squared (η^2)* was .003; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared (η^2)* was .006 (Table 23).

Table 23

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest Scores by the Ability to Speak another Language

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Developmental Pretest	Between Groups	94.076	1	94.076	0.506	.478 NS	.003
	Within Groups	29731.310	160	185.821			
	Total	29825.385	161				
Developmental Posttest	Between Groups	232.931	1	232.931	1.003	.78 NS	.006
	Within Groups	37150.433	160	232.190			
	Total	37383.364	161				

* $p < .05$

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between the ability to speak another language at the $p < .05$ level in the means of Overall Perceived Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared* (η^2) was .012; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared* (η^2) was .011 (Table 24).

Table 24

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest Scores by Ability to Speak another Language

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Perceived Pretest	Between Groups	57.576	1	57.576	1.998	.159 NS	.012
	Within Groups	4611.465	160	28.822			
	Total	4669.041	161				
Perceived Posttest	Between Groups	63.565	1	63.565	1.901	.170 NS	.011
	Within Groups	5349.344	160	33.433			
	Total	5412.909	161				

$*p < .05$

8. By Experience Traveling Abroad

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between the Experience Traveling Abroad at the $p < .05$ level in the means of Overall Developmental Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Developmental Intercultural Sensitivity pretest *Eta squared (η^2)* was .009; the practical significance for the Overall Developmental Intercultural Sensitivity posttest *Eta squared (η^2)* was 0 (Table 25).

Table 25

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Developmental Intercultural Sensitivity -pretest and posttest by Experience Traveling Abroad

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Developmental Pretest	Between Groups	257.870	1	257.870	1.395	.239 NS	.009
	Within Groups	29567.516	160	184.797			
	Total	29825.386	161				
Developmental Posttest	Between Groups	0.094	1	.094	.000	.984 NS	.000
	Within Groups	37383.270	160	233.645			
	Total	37383.364	161				

*$p < .05$

The results of the ANOVA test in the groups studied indicate *no statistically significant difference* between the Experience Traveling Abroad at the $p < .05$ level in the means of Overall Perceived Intercultural Sensitivity Scores - pretest and posttest. The practical significance for the Overall Perceived Intercultural Sensitivity pretest *Eta squared (η^2)* was .020; the practical significance for the Overall Perceived Intercultural Sensitivity posttest *Eta squared (η^2)* was .003 (See Table 26).

Table 26

ANOVA Intercultural Development Inventory (IDI) Scores: Overall Perceived Intercultural Sensitivity -pretest and posttest by Experience Traveling Abroad

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Perceived Pretest	Between Groups	94.803	1	94.803	3.316	.70 NS	.020
	Within Groups	4574.239	160	28.589			
	Total	4669.041	161				
Perceived Posttest	Between Groups	17.654	1	17.654	0.524	.47 NS	.003
	Within Groups	5395.255	160	33.720			
	Total	5412.909	161				

$*p < .05$

Worldview (Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulate Marginality) analysis

ANOVA of Worldview Scale

1. *By Gender*

The results of the ANOVA test indicate *no significant difference* at the $p < .05$ level between genders in the means of the Worldview Scales for Reversal –pretest and -posttest, Minimization –pretest and –posttest, Acceptance/Adaptation –pretest and -posttest, Encapsulated Marginality -pretest and -posttest.

The results of the ANOVA test indicate a *statistically significant difference, F* (1, 160) = 4.86, 4.983 $p < .05$, between genders in the means Denial/Defense –pretest and posttest and the practical significance for the Worldview *Eta squared (η^2)* are presented in Table 27.

Table 27

ANOVA Intercultural Development Inventory (IDI): Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by Gender

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	1.911	1	1.911	6.224	.014*	.04
	Within Groups	49.136	160	.307			
	Total	51.047	161				
DD Posttest	Between Groups	2.088	1	2.088	4.983	.027*	.03
	Within Groups	67.033	160	.419			
	Total	69.121	161				
R Pretest	Between Groups	1.603	1	1.603	3.721	.055 NS	.022
	Within Groups	68.923	160	.431			
	Total	70.526	161				
R Posttest	Between Groups	.060	1	.060	.104	.748 NS	.000
	Within Groups	92.928	160	.581			
	Total	92.988	161				
M Pretest	Between Groups	.021	1	.021	.043	.836 NS	.000
	Within Groups	77.682	160	.486			

	Total	77.703	161				
M Posttest	Between Groups	0.104	1	.104	.201	.654 NS	.001
	Within Groups	82.636	160	.516			
	Total	82.740	161				
AA Pretest	Between Groups	0.312	1	.312	.669	.415 NS	.004
	Within Groups	74.079	160	.466			
	Total	74.391	161				
AA Posttest	Between Groups	0.000	1	.000	.000	.991 NS	.000
	Within Groups	74.277	160	.464			
	Total	74.277	161				
EM Pretest	Between Groups	.067	1	.067	.111	.739 NS	.000
	Within Groups	96.617	160	.604			
	Total	96.684	161				
EM Posttest	Between Groups	0.001	1	.001	.002	.962 NS	.000
	Within Groups	86.570	160	.541			
	Total	86.571	161				

- $p < .05$
** $p < .01$

Note: *DD* *Denial Defense*
R *Reversal*
M *Minimization*
AA *Acceptance/Adaptation*
EM *Encapsulated Marginality*

2. By Age

The results of the ANOVA test indicate *no statistically significant difference* at the $p<.05$ level between ages in the means of the Worldview Scales for Defense/Denial –pretest and -

posttest, Reversal –pretest and -posttest, Minimization –pretest and -posttest, Acceptance/Adaptation –pretest and posttest, and Encapsulated Marginality -pretest and –posttest, and the practical significance for the Worldview *Eta squared (η^2)* are presented in Table 28.

Table 28

ANOVA Intercultural Development Inventory (IDI): Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by Age

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	1.541	2	.771	2.475	.087NS	.030
	Within Groups	49.506	159	.311			
	Total	51.047	161				
DD Posttest	Between Groups	1.875	2	.937	2.217	.112 NS	.027
	Within Groups	67.246	159	.423			
	Total	69.121	161				
R Pretest	Between Groups	.695	2	.347	.791	.455 NS	.009
	Within Groups	69.831	159	.439			
	Total	70.526	161				
R Posttest	Between Groups	.344	2	.172	.296	.745 NS	.004
	Within Groups	92.644	159	.583			
	Total	92.988	161				
M Pretest	Between	.021	2	.011	.022	.979 NS	.003

	Groups						
	Within Groups	77.682	159	.489			
	Total	77.703	161				
M Posttest	Between Groups	.038	2	.019	.037	.964 NS	000
	Within Groups	82.702	159	.520			
	Total	82.740	161				
AA Pretest	Between Groups	2.301	2	1.150	2.521	.084 NS	.031
	Within Groups	72.090	159	.456			
	Total	74.391	161				
AA Posttest	Between Groups	1.553	2	.777	1.698	.186 NS	.021
	Within Groups	72.723	159	.457			
	Total	74.277	161				
EM Pretest	Between Groups	.030	2	.015	.024	.979 NS	000
	Within Groups	96.654	159	.608			
	Total	96.684	161				
EM Posttest	Between Groups	.350	2	.175	.323	.725 NS	.004
	Within Groups	86.221	159	.542			
	Total	86.571	161				

Note 1: *DD* *Denial Defense*
R *Reversal*
M *Minimization*
AA *Acceptance/Adaptation*
EM *Encapsulated Marginality*

Note 2: *Group 1.* *18 to 21 years old*
Group 2. *22 to 30 years old*
Group 3. *30-40 years old*

3. By College Major

The results of the ANOVA test indicate *no significant difference* at the $p < .05$ level between college majors in the means of the Worldview Scales for Defense/Denial -posttest, Reversal –pretest and -posttest, Minimization –pretest, and Encapsulated Marginality -pretest and –posttest.

A statistically significant difference, F (6, 155) = 2.295, 2.312, 3.955, 3.431 $p < .05$ and $p < .01$ between college majors in the Worldview Scales Denial/Defense Pretest, Minimization Posttest, and Acceptance/Adaptation Pretest, and Posttest, and the practical significance for the Worldview *Eta squared* (η^2) are presented in Table 29.

Table 29

ANOVA Intercultural Development Inventory (IDI): Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by College Major

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	4.164	6	.694	2.295	.038*	.081
	Within Groups	46.882	155	.302			
	Total	51.047	161				
DD Posttest	Between Groups	4.378	6	.730	1.747	.114 NS	.063
	Within Groups	64.743	155	.418			
	Total	69.121	161				
R Pretest	Between Groups	3.192	6	.532	1.224	.297 NS	.045

	Within Groups	67.335	155	.434			
	Total	70.526	161				
R Posttest	Between Groups	3.034	6	.506	.871	.518 NS	.033
	Within Groups	89.954	155	.580			
	Total	92.988	161				
M Pretest	Between Groups	2.875	6	.479	.993	.432 NS	.037
	Within Groups	74.828	155	.483			
	Total	77.703	161				
M Posttest	Between Groups	6.795	6	1.133	2.312	.036*	.082
	Within Groups	75.945	155	.490			
	Total	82.740	161				
AA Pretest	Between Groups	9.933	6	1.656	3.955	.001**	.133
	Within Groups	64.458	155	.419			
	Total	74.391	161				
AA Posttest	Between Groups	8.709	6	1.452	3.431	.003*	.117
	Within Groups	65.567	155	.423			
	Total	74.277	161				
EM Pretest	Between Groups	1.576	6	.263	.428	.859 NS	.016
	Within Groups	95.108	155	.614			
	Total	96.684	161				
EM Posttest	Between Groups	1.934	6	.322	.590	.738 NS	.022
	Within Groups	84.638	155	.546			
	Total	86.571	161				

- *P < .05*

** $p < .01$

Note 1: *DD* *Denial Defense*
R *Reversal*
M *Minimization*
AA *Acceptance/Adaptation*
EM *Encapsulated Marginality*

Note 2: *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

Turkey HSD analysis revealed no statistically significance difference between College Majors for the Denial/Defense Pretest. However, the Ryan-Einot-Gabriel-Welsch F revealed a statistically significance difference, groups 5, 6 and 7 (Landscape Architecture, Engineering and other Majors) are different from the groups 1, 2, 3, 4 and 5, (Animal Science and Pre Veterinary, Environmental Science, Ecology and Soil Science, Agribusiness, Agricultural Economics, and Agricultural Education and Agricultural Communications but groups 5, 6, and 7 are not different from one another (Table 30).

Table 30

Multiple Comparison for Intercultural Development Inventory (ID): Denial/Defense Scales pretest Ryan-Einot-Gabriel-Welsch F by College Major

Major	Subset alpha =0.05	
3	3.7789	
4	3.7990	
2	3.8324	
1	3.8445	
6	3.9385	3.9385
7	4.2246	4.2246

5		4.4514
Sig.	.254	.102

Note *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

Turkey HSD analysis revealed no statistically significance differences between College Majors for the Minimization Posttest. However, the Ryan-Einot-Gabriel-Welsch F revealed a statistically significance difference between groups 1, 2, 3, 4 and 9 (Animal Science and Pre Veterinary, Environmental Science, Ecology and Soil Science, Agribusiness, Agricultural Economics, Agricultural Education and Agricultural Communications, and other Majors) are different from groups 5 and 6 (Landscape Architecture and Engineering) but not different from one another (Table 31).

Table 31

Multiple Comparison for Intercultural Development Inventory (ID): Minimization Scales posttest. Ryan-Einot-Gabriel-Welsch F by College Major

Major	Subset alpha =0.05	
5	2.0486	
6	2.2426	
3	2.3222	2.3222
2	2.3376	2.3376
7	2.4023	2.4023
1	2.6192	2.6192
4		2.7781
Sig.	.132	.204

Note *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science

Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

Turkey HSD analysis revealed there was a *statistically significance difference* in the Acceptance/Adaptation -pretest between the students enroll in Animal Sciences/Pre Vet (1) , Environmental Science, Ecology and Soil Science (2), Agricultural Education and Agricultural Communication (4) and the other major group of students (7) (See Table 32).

Table 32

Multiple Comparison for Intercultural Development Inventory (IDI): Acceptance/Adaptation Scales pretest. Turkey HSD By College Major

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Standard Error	Significance
Acceptance/Adaptation Pretest	7	1	.84402*	.20184	.001**
		2	.71838*	.21594	.019**
		3	.55547	.28054	.432
		4	.86969*	.23049	.004**
		5	.19769	.30330	.995
		6	.62416	.21097	.054

**p < .05*
*** p <.01*
Note *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

Turkey HSD analysis revealed that there was a *statistically significance difference* in the Acceptance/Adaptation –posttest between the students enrolled in Landscape Architecture Majors(5), and the Animal Science and Pre Veterinary students (1) (See Table 33).

Table 33

Multiple Comparison for the Intercultural Development Inventory (IDI): Acceptance/Adaptation Scales posttest. Turkey HSD by College Major.

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Standard Error	Significance
Acceptance/Adaptation Posttest	5	1	.84020*	.26280	.027*
		2	.68266	.27389	.169
		3	.33492	.32777	.948
		4	.79524	.28386	.082
		6	.43950	.26995	.664
		7	.33637	.30491	.926

**p < .05*

Note *Group 1. Animal Science and Pre Veterinary*
Group 2. Environmental Science, Ecology and Soil Science
Group 3. Agribusiness, Agricultural Economics
Group 4. Agricultural Education and Agricultural Communications
Group 5. Landscape Architecture
Group 6. Engineering
Group 7. Other Majors

4. *By College Year*

The results of the ANOVA test indicate *no statistically significant difference* at the *p<.05* level between ages in the means of the Worldview Scales for Defense/Denial –pretest and posttest, Reversal –pretest and -posttest, Minimization –pretest and -posttest,

Acceptance/Adaptation –pretest and posttest, and Encapsulated Marginality -pretest and – posttest, and the practical significance for the Worldview *Eta squared (η^2)* are presented in Table 34.

Table 34

ANOVA Intercultural Development Inventory (IDI): Denial/Defense, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by College Year

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	.794	4	.199	.621	.649 NS	.015
	Within Groups	50.252	157	.320			
	Total	51.047	161				
DD Posttest	Between Groups	1.658	4	.414	.964	.429 NS	.024
	Within Groups	67.463	157	.430			
	Total	69.121	161				
R Pretest	Between Groups	3.937	4	.984	2.320	.059 NS	.056
	Within Groups	66.590	157	.424			
	Total	70.526	161				
R Posttest	Between Groups	5.348	4	1.337	2.395	.053 NS	.057
	Within Groups	87.641	157	.558			
	Total	92.988	161				
M Pretest	Between Groups	1.321	4	.330	.679	.608 NS	.017

	Within Groups	76.382	157	.487			
	Total	77.703	161				
M Posttest	Between Groups	1.013	4	.253	.486	.746 NS	.012
	Within Groups	81.727	157	.521			
	Total	82.740	161				
AA Pretest	Between Groups	3.160	4	.790	1.730	.146 NS	.042
	Within Groups	71.231	157	.457			
	Total	74.391	161				
AA Posttest	Between Groups	2.476	4	.619	1.354	.253 NS	.033
	Within Groups	71.801	157	.457			
	Total	74.277	161				
EM Pretest	Between Groups	4.704	4	1.176	2.007	.096 NS	.049
	Within Groups	91.980	157	.586			
	Total	96.684	161				
EM Posttest	Between Groups	2.547	4	.637	1.190	.317 NS	.029
	Within Groups	84.024	157	.535			
	Total	86.571	161				

- $p < .05$

** $p < .01$

Note 1:
DD Denial Defense
R Reversal
M Minimization
AA Acceptance/Adaptation
EM Encapsulated Marginality

Note 2:
Group 1. Freshman
Group 2. Sophomore
Group 3. Junior
Group 4. Senior
Group 5. Graduate Student

5. By Place of Birth

The results of the ANOVA test indicate *no statistically significant difference* at the $p<.05$ level between Place of birth in the means of the Worldview Scales for Defense/Denial – pretest and -posttest, Reversal –pretest and -posttest, Minimization –pretest and -posttest, and Encapsulated Marginality -pretest and posttest.

The results ANOVA test indicate a *statistically significant difference, F* (2, 159) = 5.784, $p < .05$ and F (2, 159) = 3.239, $p < .01$ between groups exposed to different intercultural experiences in the Worldview Scales Acceptance/Adaptation – pretest and –posttest and the practical significance for the Worldview *Eta squared (η^2)* are presented in Table 35.

Table 35

ANOVA Intercultural Development Inventory (IDI): Denial/Defense, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by Place of Birth

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	.168	2	.084	.262	.770 NS	.003
	Within Groups	50.879	159	.32			
	Total	51.047	161				
DD Posttest	Between Groups	.697	2	.349	.810	.447 NS	.010
	Within Groups	68.424	159	.430			
	Total	69.121	161				
R Posttest	Between Groups	2.290	2	1.145	2.668	.072 NS	.032
	Within	68.236	159	.429			

	Groups						
	Total	70.526	161				
R Posttest	Between Groups	2.080	2	1.040	1.819	.166 NS	.022
	Within Groups	90.908	159	.572			
	Total	92.988	161				
M Pretest	Between Groups	.236	2	.118	.242	.785 NS	.003
	Within Groups	77.467	159	.487			
	Total	77.703	161				
M Posttest	Between Groups	1.475	2	.738	1.443	.239 NS	.018
	Within Groups	81.265	159	.511			
	Total	82.740	161				
AA Pretest	Between Groups	5.075	2	2.537	5.784	.004**	.068
	Within Groups	69.317	159	.439			
	Total	74.391	161				
AA Posttest	Between Groups	2.908	2	1.454	3.239	.042*	.039
	Within Groups	71.369	159	.449			
	Total	74.277	161				
EM Pretest	Between Groups	.054	2	.027	.045	.956 NS	000
	Within Groups	96.630	159	.608			
	Total	96.684	161				
EM Posttest	Between Groups	.320	2	.160	.295	.745 NS	.003
	Within Groups	86.251	159	.542			
	Total	86.571	161				

- *P < .05*

** *p < .01*

Note 1: *DD* *Denial Defense*
R *Reversal*
M *Minimization*
AA *Acceptance/Adaptation*
EM *Encapsulated Marginality*
Note 2: *Group 1.* *Oklahoma*
Group 2. *Other States*
Group 3. *Other Countries*

Turkey HSD analysis revealed that there was a *statistically significance difference* in the Acceptance/Adaptation –pretest and posttest between the students who were born in the United States, Oklahoma (1) and other states (2) and the Students born in another country (3) (Table 36 and 37).

Table 36

Multiple Comparison for Intercultural Development Inventory (IDI): Acceptance/Adaptation Scale Pretest. Turkey HSD by Place of Birth.

Dependent Variable		(I) Groups	(J) Groups	Mean Difference (I-J)	Standard Error	Significance
Acceptance/Adaptation Pretest	3		1	.69457*	.24355	.014*
			2	.84611*	.25063	.003 **

*P < .05**
*p < .01***
Note *Group 1. Students Born in Oklahoma*
Group 2. Students Born in other US States
Group 3. Students Born in another Country

Table 37

Multiple Comparison for Intercultural Development Inventory (IDI): Acceptance/Adaptation Scales posttest. Turkey HSD by Place of Birth

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Standard Error	Significance
Acceptance/Adaptation Pretest	3	1	.60952*	.24635	.038*
		2	.62954*	.25322	.037*

*p < .05**

Note *Group 1. Students Born in Oklahoma*
Group 2. Students Born in other US States
Group 3. Students Born in another Countr

6. By the Ability to Speak Another Language

The results of the ANOVA test indicate *no statistically significant difference* at the *p<.05* level between Ability to Speak another Language in the means of the Worldview Scales for Defense/Denial –pretest and -posttest, Reversal –pretest and -posttest, Minimization –pretest and –posttest, Encapsulated Marginality -pretest and -posttest.

The results of the ANOVA test indicate a *statistically significant difference, F* (1, 160) = 9.411, 6.553 $p < .05$, between Ability to Speak another Language in the means of the Worldview Scales for Acceptance/Adaptation –pretest and posttest, and the practical significance for the Worldview *Eta squared* (η^2) is presented in Table 38.

Table 38

ANOVA Intercultural Development Inventory (IDI): Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by Ability to Speak another Language

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	1.052	1	1.052	3.367	.068 NS	.021
	Within Groups	49.995	160	.312			
	Total	51.047	161				
DD Posttest	Between Groups	1.074	1	1.074	2.524	.114 NS	.015
	Within Groups	68.047	160	.425			
	Total	69.121	161				
R Pretest	Between Groups	.023	1	.023	.053	.818 NS	000
	Within Groups	70.503	160	.441			
	Total	70.526	161				
R Posttest	Between Groups	.006	1	.006	.011	.918 NS	000
	Within Groups	92.982	160	.581			
	Total	92.988	161				
M Pretest	Between Groups	1.321	1	1.321	2.767	.098 NS	.017
	Within Groups	76.382	160	.477			
	Total	77.703	161				
M Posttest	Between Groups	.936	1	.936	1.830	.178 NS	.011
	Within	81.805	160	.511			

	Groups						
	Total	82.740	161				
AA Pretest	Between Groups	4.157	1	4.157	9.411	.003**	.056
	Within Groups	70.234	160	.442			
	Total	74.391	161				
AA Posttest	Between Groups	2.922	1	2.922	6.553	.011*	.039
	Within Groups	71.354	160	.446			
	Total	74.277	161				
EM Pretest	Between Groups	.821	1	.821	1.370	.244 NS	.008
	Within Groups	95.863	160	.599			
	Total	96.684	161				
EM Posttest	Between Groups	.597	1	.597	1.112	.293 NS	.007
	Within Groups	85.974	160	.537			
	Total	86.571	161				

- $p < .05$

Note 1:
DD *Denial Defense*
R *Reversal*
M *Minimization*
AA *Acceptance/Adaptation*
EM *Encapsulated Marginality*

7. By Experience Traveling Abroad

The results of the ANOVA test indicate *no statistically significant difference* at the $p<.05$ level between Experience Traveling abroad in the means of the Worldview Scales for Defense/Denial -posttest, Reversal –pretest and -posttest, Minimization –pretest and -posttest, Encapsulated Marginality -pretest and -posttest.

The results of the ANOVA test indicate a *statistically significant difference, F* (1, 160) = 5.164, 6.742, 7.106, $p < .05$, between Experience Traveling Abroad in the means Worldview Scales for Denial/Defense –pretest, and Acceptance/Adaptation –pretest and –posttest. The practical significance for the Worldview *Eta squared* (η^2) is presented in Table 39.

Table 39

ANOVA Intercultural Development Inventory (IDI): Defense/Denial, Reverse, Minimization, Acceptance/Adaptation and Encapsulated Marginality Scales -pretest and posttest by Experience Traveling Abroad

		Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
DD Pretest	Between Groups	1.596	1	.1.596	5.164	.024*	.031
	Within Groups	49.451	160	.309			
	Total	51.047	161				
DD Posttest	Between Groups	1.029	1	1.029	2.418	.122 NS	.015
	Within Groups	68.092	160	.426			
	Total	69.121	161				
R Pretest	Between Groups	.001	1	.001	.003	.959 NS	000
	Within Groups	70.525	160	.441			
	Total	70.526	161				
R Posttest	Between Groups	.239	1	.359	.621	.432 NS	.002
	Within Groups	92.629	160	.579			
	Total	92.988	161				
M Pretest	Between Groups	.453	1	.453	.937	.334 NS	.006
	Within	77.251	160	.483			

	Groups						
	Total	77.703	161				
M Posttest	Between Groups	1.437	1	1.437	2.829	.095 NS	.017
	Within Groups	81.303	160	.508			
	Total	82.740.	161				
AA Pretest	Between Groups	3.026	1	3.026	6.742	.010**	.041
	Within Groups	71.365	160	.449			
	Total	74.391	161				
AA Posttest	Between Groups	3.159	1	3.159	7.106	.008**	.042
	Within Groups	71.118	160	.444			
	Total	74.277	161				
EM Pretest	Between Groups	.834	1	.834	1.392	.240 NS	.009
	Within Groups	95.850	160	.599			
	Total	96.684	161				
EM Posttest	Between Groups	.010	1	.010	.018	.892 NS	000
	Within Groups	86.561	160	.541			
	Total	86.571	161				

- $p < .05$

** $p < .01$

Note 1:

DD	*Denial Defense*
R	*Reversal*
M	*Minimization*
AA	*Acceptance/Adaptation*
EM	*Encapsulated Marginality*

Summary

The information provided by the Intercultural Development Inventory (IDI) –pre and posttest- was analyzed using One-Way Analysis of Variance (ANOVA) for the Overall Developmental Intercultural Sensitivity, Overall Perceived Intercultural Sensitivity and Worldview Scales (Dependent Variables) in relation to the demographic information. Practical significance, *Eta squared (η2)* was reported to determine the strength of the relationship between de dependent variables and the demographics of the population and their Intercultural Sensitivity Development.

A summary of the statistical analysis and practical significance is presented in Tables 40, 41, 42, and 43.

Table 40

Summary of One-Way ANOVA for Intercultural Development Inventory Profile (Dependent Variables) and population sample different Intercultural Experiences (Independent Variable) and Demographics.

	DS Pretest	DS Posttest	PS Pretest	PS Posttest
By Gender	*	NS	NS	NS
By Age	NS	NS	NS	NS
By College Major	NS	NS	NS	NS
By College Year	NS	NS	NS	NS
By Place of Birth	NS	NS	*	NS

By Ability to Speak another Language	NS`	NS	NS	NS
By Experience Traveling Abroad	NS	NS	NS	NS

Note: NS Statistically Difference No Significance

- *Statistically Difference Significance p < .05*

DS Overall Developmental Intercultural Sensitivity

PS Overall Perceived Intercultural Sensitivity

Table 41

Summary of One-Way ANOVA for Intercultural Development Inventory Worldview (Dependent Variables) and population sample different Intercultural Experiences (Independent Variable) and Demographics.

	DD Pre-	DD Post-	R Pre-	R Post-	M Pre-	M Post-
By Gender	*	*	NS	NS	NS	NS
By Age	NS	NS	NS	NS	NS	NS
By College Major	*	NS	NS	NS	NS	*
By College Year	NS	NS	NS	NS	NS	NS
By Place of Birth	NS	NS	NS	NS	NS	NS
By Ability to Speak another Language	NS	NS	NS	NS	NS	NS
By Experience Traveling Abroad	*	NS	NS	NS	NS	NS

Note: NS Statistically Difference No Significance

- *Statistically Difference Significance p < .05*

DD Denial/Defense

R *Reversal*
M *Minimization*

Table 42

Summary of Practical Significance Eta squared (η^2) for Intercultural Development Inventory Profile (Dependent Variables) and population sample different Intercultural Experiences (Independent Variable) and Demographics.

	DS Pretest	DS Posttest	PS Pretest	PS Posttest
By Gender	.029	.015	.016	.014
By Age	.017	.018	.030	.024
By College Major	.038	.058	.075	.056
By College Year	.053	.036	.048	.041
By Place of Birth	.026	.003	.042	.004
By Ability to Speak another Language	.003	.006	.012	.011
By Experience Traveling Abroad	.009	000	.020	.003

Note: *DS* *Overall Developmental Intercultural Sensitivity*
PS *Overall Perceived Intercultural Sensitivity*

Table 43

Summary of the practical significance Eta squared (η^2) for Intercultural Development Inventory Worldview (Dependent Variables) and population sample different Intercultural Experiences (Independent Variable) and Demographics.

	DD Pre-	DD Post-	R Pre-	R Post-	M Pre-	M Post-
By Gender	.040	.030	.022	000	000	.001
By Age	.030	.027	.009	.004	.003	000
By College Major	.081	.063	.045	.033	.037	.082
By College Year	.015	.024	.056	.057	.017	.012
By Place of Birth	.003	.010	.032	.022	.003	.018
By Ability to Speak another Language	.021	.015	000	000	.017	.011
By Experience Traveling Abroad	.031	.015	000	.002	.006	.017

Note: *DD* *Denial/Defense*
R *Reversal*
M *Minimization*

Changes in Intercultural Sensitivity

To assess the changes if any, in intercultural sensitivity and answer the research questions posed in this study, it was necessary to analyze the data collected in this study using a Split Plot Factorial 5 x 2 Design. This experimental design compared each groups' Intercultural Sensitivity

measured by the Intercultural Development Inventory (IDI) during pre- and the posttest to determine if there were differences between the pre- and posttest for each group of intercultural experiences (Independent Variable) the Overall Developmental Intercultural Sensitivity, the Overall Perceived Intercultural Sensitivity and the Worldview Scales (Dependent Variables). This analysis also determines the degree of change, if any, in Intercultural Sensitivity among the participants. This practical significance, Eta squared *(η2)* are also reported. The information is organized and presented in this section by each of the dependent variables.

All the groups were analyzed using the following subjects' factors:

Groups	N
1	28
2	35
3	33
4	36
5	30

Overall Developmental Intercultural Experience

The results of the Split Plot Factorial Design 5 x 2 test between the Pre- and Posttest for the Overall Developmental Intercultural Sensitivity indicate *no statistically significant differences* between and within groups from the pretest to the posttest at the $p < .05$ level (Table 44).

Table 44

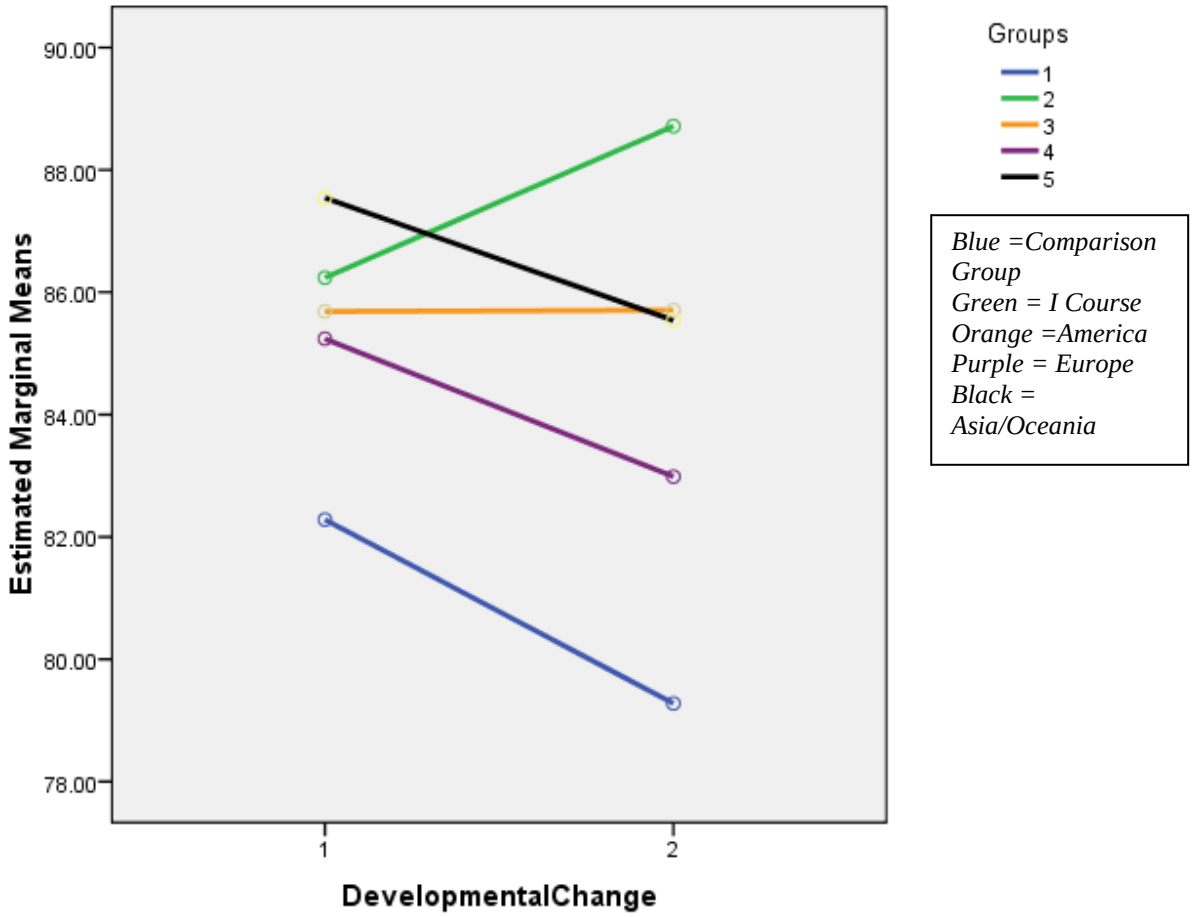
Test of Between and Within Subjects Contrast for the Intercultural Development Inventory: Overall Developmental Intercultural Sensitivity by Group -pretest and posttest

Type of Effect	Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Between-Subjects Effects	Group	1656.755	4	414.189	1.293	.275 NS	.032
	Error	50309.495	157	320.443			
Within-Subjects Effects	Time	72.895	1	72.895	.767	.382 NS	.005
	Time*Group	326.484	4	81.621	.859	.490 NS	.021
	Error (Time)	14916.016	157	95.006			

Note *$p < .05$

A Profile Plot of the Change in the Overall Developmental Intercultural Sensitivity by Group measured by the Developmental Intercultural Inventory (IDI) are presented in Figure 1

Figure 13. Profile Plot of the Changes from the Pretest to the Posttest in the Overall Developmental Intercultural Sensitivity by Group of Intercultural Experience measured by the Intercultural Development Inventory (IDI)



Overall Perceived Intercultural Experience

The results of the Split Plot Factorial Design 5 x 2 test by group between the pre- and posttest for the Overall Perceived Intercultural Sensitivity indicate *no statistically significant differences* between the pre- and posttest at the $p < .05$ level (Table 45).

Table 45

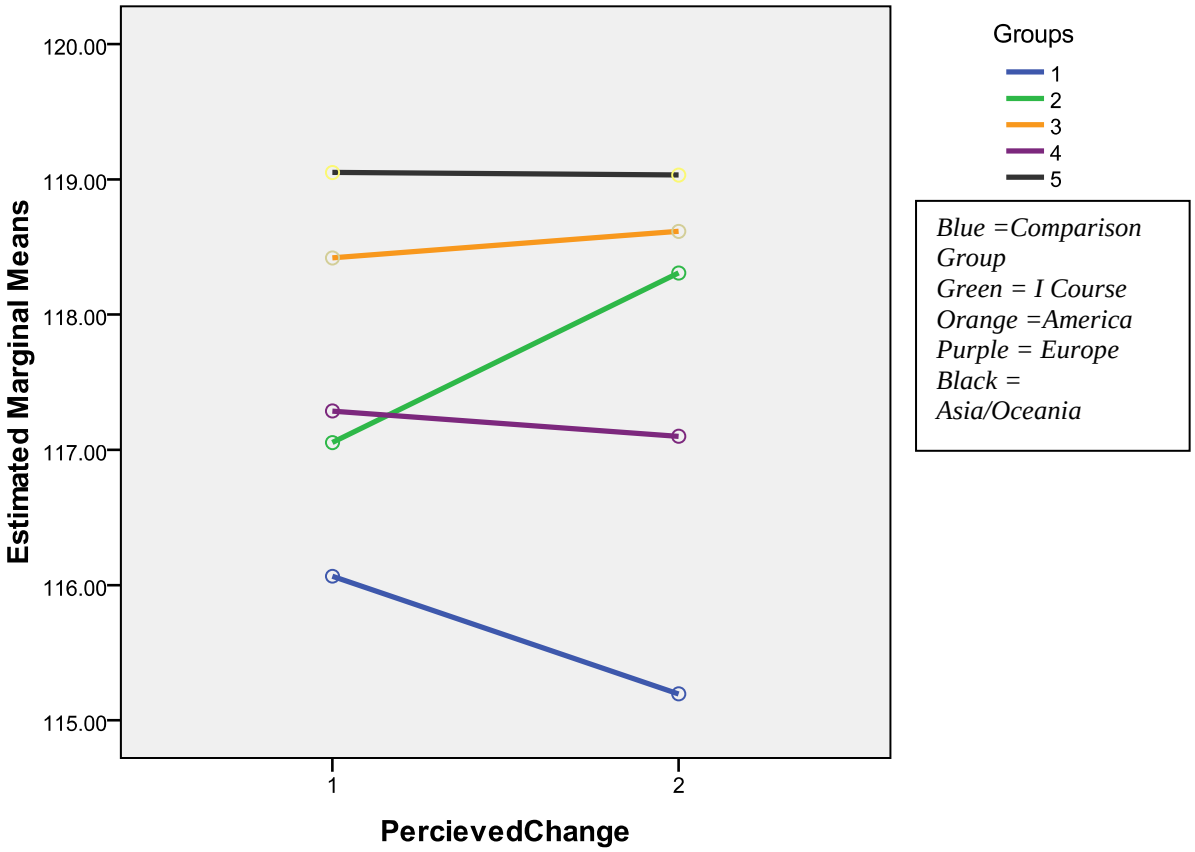
Test of Between and Within Subjects Contrast for the Intercultural Development Inventory (IDI): Overall Perceived Intercultural Sensitivity by Group -pretest and posttest

Type of Effect	Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Between-Subjects Effects	Group	409.025	4	102.256	2.136	.079 NS	.052
	Error	7517.539	157	47.882			
Within-Subjects Effects	Time	.451	1	.451	.033	.855 NS	000
	Time*Group	38.256	4	9.564	..709	.587 NS	.018
	Error (Time)	2117.131	157	13.485			

Note *$p < .05$

A Profile Plot of the change in the Overall Perceived Intercultural Sensitivity measured by the Developmental Intercultural Inventory (IDI) by group is presented in Figure 14.

Figure 14. Profile Plot of the Changes between the Pretest and Posttest in the Overall Perceived Intercultural Sensitivity by Group of Intercultural Experience measured by the Intercultural Development Inventory (IDI)



Worldview

1. *Denial/Defense Scale*

The results of the Split Plot Factorial Design 5 x 2 test by group between the pre- and posttest for the Worldview Scale Denial/Defense indicate *no statistically significant differences* between the pre- and posttest at the $p < .05$ level (See Table 46).

Table 46

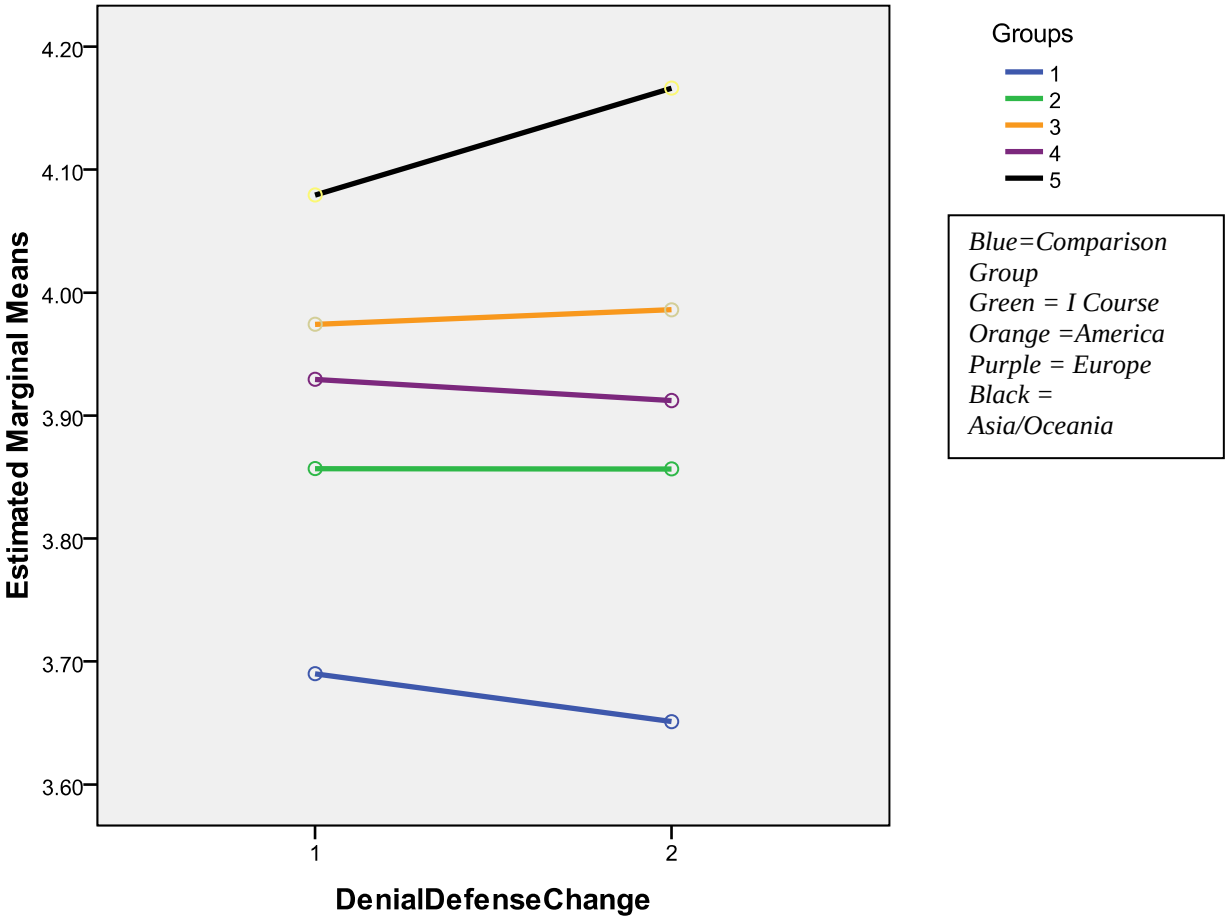
Test of Between and Within Subjects Contrast for the Intercultural Development Inventory (IDI): Worldview Denial/Defense Scale by Group -pretest and posttest

Type of Effect	Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Between-Subjects Effects	Group	6.458	4	1.614	2.136	.079 NS	.067
	Error	89.658	157	.571			
Within-Subjects Effects	Time	.006	1	.006	.038	.846 NS	000
	Time*Group	.137	4	.034	.225	.924 NS	.006
	Error (Time)	23.915	157	.152			

Note *$p < .05$

A Profile Plot of the change in the Worldview Denial/Defense Scales measured by the Developmental Intercultural Inventory (IDI) is presented in Figure 15.

Figure 15. Profile Plot of the Changes in Worldview Denial/Defense Scale by Group of Intercultural Experience measured by the Intercultural Development Inventory (IDI)



2. Reversal Scale

The results of the Split Plot Factorial Design 5 x 2 test between the Pre- and Posttest for the Worldview Reversal Scale indicate *no statistically significant differences* between the pre- and posttest at the $p < .05$ level (Table 47).

Table 47

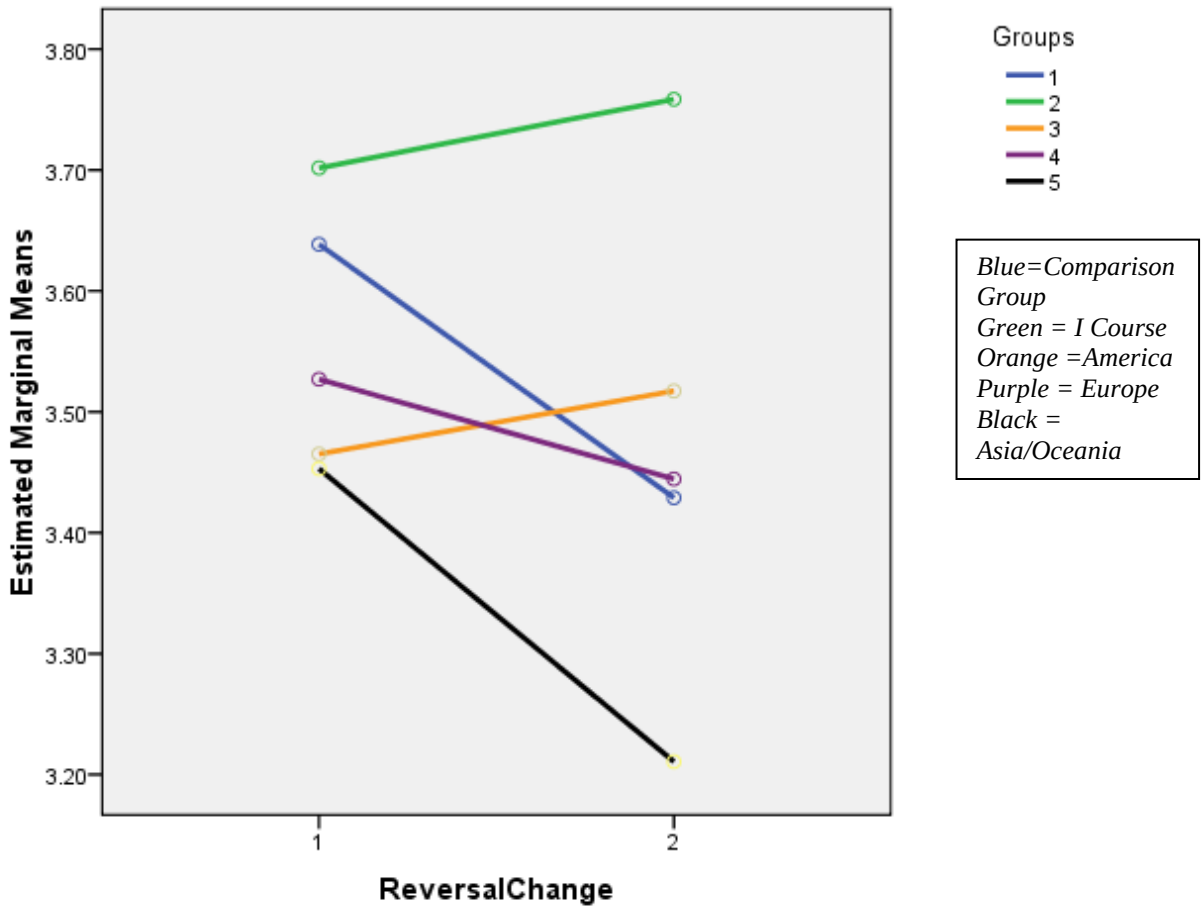
Test of Between and Within Subjects Contrast for the Intercultural Development Inventory (IDI): Worldview Reversal Scale by Group -pretest and posttest

Type of Effect	Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Between-Subjects Effects	Group	5.366	4	1.341	1.648	.165 NS	.040
	Error	127.788	157	.814			
Within-Subjects Effects	Time	.581	1	.581	3.135	.079 NS	.023
	Time*Group	1.246	4	.311	1.679	.157 NS	.005
	Error (Time)	23.115	157	.185			

Note $*p < .05$

A Profile Plot of the change in the Worldview Reversal Scale measured by the Developmental Intercultural Inventory (IDI) are presented in Figure 16.

Figure 16. Profile Plot of the Changes between Pretest and Posttest in Worldview Reversal Scale by Group of Intercultural Experience measured by the Intercultural Development Inventory (IDI)



3. Minimization Scale

The results of the Split Plot Factorial Design 5 x 2 test between the Pre- and Posttest for the Worldview Minimization Scale indicated a *statistically significant difference* between the pre- and posttest , F (1, 4) = .019, .022 $p < .05$ (Table 48).

Table 48

Test of Between and Within Subjects Contrast for the Intercultural Development Inventory (IDI): Worldview Minimization Scale by Group- pretest and posttest

Type of Effect	Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	η^2
Between-Subjects Effects	Group	7.996	4	1.999	2.512	.044*	.060
	Error	124.919	157	.796			
Within-Subjects Effects	Time	.912	1	.912	5.592	.019 *	.035
	Time*Group	1.920	4	.480	2.943	.022 *	.074
	Error (Time)	23.115	157	.185			

*$p < .05$

A Turkey HSD test was conducted to determine the degree of change between groups in the Worldview Minimization Scale. There was *no statistically significance difference* in the degree of change between the comparison group and the groups that traveled to America, Europe or Asia/Oceania. However, there was *statistically significant difference* ($p < .05$) between the Comparison Group and the Group that took the I Course in their Worldview Minimization Scale (Table 49).

Table 49

Multiple Comparison for Worldview Minimization Scale Changes in Intercultural Sensitivity Measured by the Intercultural Development Inventory (IDI) Turkey HSD

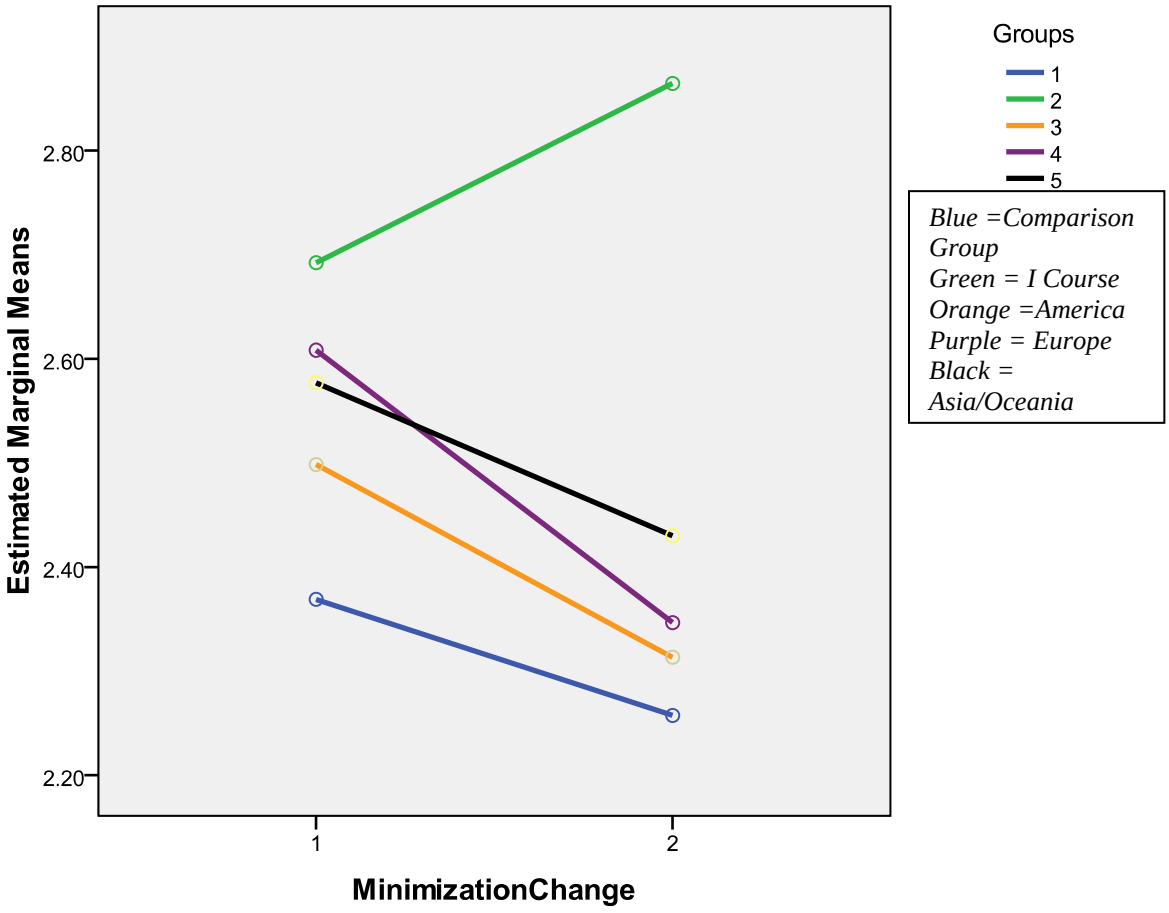
Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Standard Error	Significance
Worldview Minimization Scale	1	2	-.4652	.15992	.033*
		3	-.0927	.16206	.979
		4	-.1643	.15893	.839
		5	-.1903	.16574	.781

*p < .05**

Note *Group 1. Comparison Group No Intervention*
Group 2. I Courses
Group 3. Faculty-Led Short Study Abroad Program to America
Group 4. Faculty-Led Short Study Abroad Program to Europe
Group 5. Faculty-Led Short Study Abroad Program to Asia/Oceania.

A Profile Plot of the change in the Worldview Minimization Scale measured by the Developmental Intercultural Inventory (IDI) is presented in Figure 17.

Figure 17. Profile Plot of the Changes in Worldview Minimization Scale by Group of Intercultural Experience measured by the Intercultural Development Inventory (IDI)



Acceptance /Adaptation and Encapsulated Marginality changes were not analyzed because the participants did not reach those Scales of the Intercultural Development Inventory (IDI).

Summary

The information provided by the Intercultural Development Inventory (IDI) –pre and posttest- was analyzed using a Split-Plot 5 x 2 Factorial Design for the Overall Developmental

Intercultural Sensitivity, Overall Perceived Intercultural Sensitivity and Worldview Scales (Dependent Variables) of the different groups studied (Independent Variables) in relation to the time -pre and posttest (Group * Time). This analysis completed the statistical analysis and answered the research questions about the changes in Intercultural sensitivity in students exposed to intercultural experiences supported by the College of Agricultural Sciences and Natural Resources at Oklahoma state University measured by the Intercultural Development Inventory (IDI).

A summary of the findings in this section are presented in Table 50 and 51.

Table 50

Summary of the Statistical Analysis of the Changes in Intercultural Sensitivity in students exposed to intercultural experiences supported by the College of Agricultural Sciences and Natural Recourses at Oklahoma State University measured by the Intercultural Development Inventory (IDI).

Type of Effect	Source	IDI Profile		Worldview		
		DS	PS	DD	R	M
Between-Subjects effects	Group	NS	NS	NS	NS	*
Within-Subjects Effects	Time	NS	NS	NS	NS	*
	Time x Group	NS	NS	NS	NS	*

Note *NS* *Statistically Difference No Significance*
- *Statistically Difference Significance p < .05*

DS *Overall Developmental Intercultural Sensitivity*
PS *Overall Perceived Intercultural Sensitivity*
DD *Denial/Defense*
R *Reversal*

M *Minimization*

Table 51

Summary of the practical significance Eta squared (η^2) of the Changes in Intercultural Sensitivity in students exposed to intercultural experiences supported by the College of Agricultural Sciences and Natural Recourses at Oklahoma State University measured by the Intercultural Development Inventory (IDI).

Type of Effect	Source	IDI Profile		Worldview		
		DS	PS	DD	R	M
Between-Subjects effects	Group	.032	.052	.067	.040	.060
Within-Subjects Effects	Time	.005	000	000	.023	.035
	Time x Group	.021	0.18	.006	.005	.074

Note *DS* *Overall Developmental Intercultural Sensitivity*
PS *Overall Perceived Intercultural Sensitivity*
DD *Denial/Defense*
R *Reversal*
M *Minimization*

CHAPTER V

Summary, Conclusion, Discussion, Limitations of the Study, Recommendation for Future Research, and Recommendations for Practice

Summary

Oklahoma State University College of Agricultural Sciences and Natural Resources (OSU-CASNR), understanding the importance of educating students to become competent on an intercultural level has designed a variety of activities to encourage students to explore different cultures. These activities are international courses ("I" designated courses) and faculty-led short study abroad programs to America, Europe, Asia and Oceania. The purpose of this study was to assess intercultural sensitivity among students who participated in "I" designated courses and faculty-led short study abroad programs supported by CASNR. Further, this study sought to determine the impact of these experiences upon development of intercultural sensitivity. The following research questions guided the study,

- Were there changes in intercultural sensitivity among students exposed to intercultural experiences (international courses and faculty-led short study abroad programs)?
- Were there differences in degrees of change in cultural sensitivity among students exposed to different types of intercultural experiences (international courses and faculty-led short study abroad programs)?

To answer the research questions this study used Bennett's Developmental Model of Intercultural Sensitivity (DMIS) as the theoretical framework. This theoretical model provides the groundwork for measuring and understanding an individual's worldviews toward cultural difference. The DMIS is a continuum of six stages of intercultural sensitivity. The first three stages, Denial, Defense, and Minimization, indicates a worldview that is ethnocentric while the three later stages, Acceptance, Adaptation, and Integration, indicates a worldview that is ethno relative .The Intercultural Development Inventory (IDI) instrument used in this study was developed by Bennett and Hammer to measure individuals' basis of cultural differences along the DMIS continuum (Hammer, et al., 2003).

Three hundred and twenty-four IDI instrument were applied to 162 students using a Nonequivalent Groups Design -pretest, posttest cluster into five distributed in five groups, 1) Comparison Group (no intervention), 2) International Courses, and 3) Faculty- Led Short Study Abroad Experience to America, 4) Europe and 5) Asia/Oceania. The IDI instruments were distributed by email and in paper-pencil version. The information provided by the students was analyzed used descriptive and inferential statistical, as well as theme analysis.

The analysis of the study participants' IDI scores indicated that all the groups studied (comparison group," I" courses, and faculty-led short study abroad programs to America, Europe and Asia/Oceania) were in the Ethnocentric Phase of the Developmental Continuum for the pre- and posttest. The results showed no statistically significant differences among groups in the pre- and posttest in the IDI Profile, Overall Developmental and Overall Perceived Intercultural Sensitivity, and Worldview Scales of Denial/Defense and Reversal. This study showed a statistically significant difference between the pretest and the posttest in the IDI Worldview Minimization Scale, the comparison group was different from the "I" designated course group (*p*

< .05). The comparison group decreased in the Minimization scale from 2.51 to 2.26 between the pretest and posttest. The I Courses Group increased in the Minimization scale from 2.78 to 2.86. The changes in the Worldview Minimization for the other groups were not statistically significant.

The comparison group (no intervention) and the faculty-led short study abroad program to Europe -pre- and post test were in the Denial/Defense or Reversal cluster of the Intercultural Development Inventory (Hammer, 2008; Hammer, et al., 2003). The "I" International courses and faculty-led short study abroad programs to America and Asia/Oceania groups -pre- and posttest were situated in the Minimization Scale of the Intercultural Development Inventory.

This study showed that, 63 of 66 Eta squares calculated (95%) for the demographic information were considered small, and only 3 out of 66 (5%) were considered medium. Nine-five percent of the demographic information accounted with less than 6% of the observed intercultural sensitivity. Five percent of the demographic information collected in this study accounted between 6 and 8% of the observed intercultural sensitivity. The Eta squared *(η2)* calculated for the changes in intercultural sensitivity between groups pre- and posttest was between small (80%) medium (20%). These numbers showed a small-medium of the relationship between the Intercultural Development Inventory scales and the different intercultural experiences. None were considered to have a large effect size.

Conclusions

This study concluded that all the groups studied (comparison group, "I" designated courses and faculty-led short study abroad programs to America, Europe and Asia/Oceania) at

the time of the assessment were in the Ethnocentric Phase of the Overall Developmental Intercultural Sensitivity continuum for the pre-and posttest. The comparison group, pre- and posttest, and the faculty-led short study abroad program to Europe, pre-and posttest, at the time of the assessment were in the Defense/Denial/ Reversal stage of the Intercultural Development Inventory. Participants in the "I" designated courses and in the faculty-led short study abroad programs to America and Asia/Oceania, pre- and posttest were in the minimization phase of the Intercultural Development Inventory. All the groups studied placed themselves, at the time of the study in the Acceptance/Adaptation phase of the Overall Perceived Intercultural Sensitivity for the pre- and posttest.

The study showed no statistically significance difference between the pre- and the posttest in the IDI Profile, Overall Developmental, Overall Perceived Intercultural Sensitivity and Worldview Scales of Denial/Defense and Reversal. However, the study showed a statistically significant difference between the pre- and posttest in the IDI Worldview Minimization Scale. The comparison group was different from the "I" designated courses group. The comparison group decreased in the Minimization scale, and the "I" designated course group increase in the Minimization scale. The changes in the Worldview Minimization of the other groups were not statistically significant.

None of the groups studied (comparison group, "I" designated courses, and faculty-led short study abroad programs to America, Europe and Asia/Oceania) moved from one scale to another in the continuum of the Developmental Model of Intercultural Sensitivity between the pre- and posttest (Bennett, 1986, 1993b). However, the behavior of the groups were different, between the pre- and posttest. The comparison group and faculty-led short study abroad programs to Europe and Asia/Oceania, Overall Developmental Intercultural Sensitivity group

mean score decreased, although not significantly. The faculty-led short study abroad program to America remains constant and the "I" designated course Overall Developmental Intercultural Sensitivity group mean score increased (Figure 13).

This study showed that, 63 of 66 Eta squares calculated (95%) for the demographic information were considered small, and only 3 out of 66 (5%) were considered medium. Nine-five percent of the demographic information accounted with less than 6% of the observed intercultural sensitivity. Five percent of the demographic information collected in this study accounted between 6 and 8% of the observed intercultural sensitivity. The Eta squared *(η2)* calculated for the changes in intercultural sensitivity between groups pre- and posttest was between small (80%) medium (20%). These numbers showed a small-medium of the relationship between the Intercultural Development Inventory scales and the different intercultural experiences. None were considered to have a large effect size.

Discussion

Demographic Information

The demographic information provided by students' who participated in this study showed 48% males and 52% females; freshmen and graduate students were the smallest groups represented in the study (17% freshmen, 19% sophomores, 33% juniors, 23% seniors and 8% graduate). The majority of the students participating in this study were enrolled in Animal Science and Pre Veterinary. Sixty percent of the participants were born in Oklahoma, and 35% were born in other States. Twenty–eight percent of the students reported speaking another language but only 9% of the students reported speaking another language with more than 50%

proficiency. Sixty-seven percent of the participants had experience traveling abroad but more than a half of the students had spent one month or less traveling outside the United States.

This demographic information is similar to the demographic information provided by Oklahoma State University in 2008 for all students, where students' body population was 48% female and 52% male. The distribution of the students showed 16% freshmen, 17% sophomores, 21% juniors, 23% seniors and 18% Graduate students. Seventy- five percent of the students were residents of Oklahoma and 17% were from out of the state. There was no available information about students' ability to speak another language, proficiency and experience traveling abroad at the university level. Only one notable difference was found in the percentage of graduate students (18%) according to OSU and the graduate students included in the study (8%), this may be because the "I" designated courses and faculty-led short study abroad programs supported by CASNR are designed for undergraduate students and offered at the undergraduate level; however, enrollment is not limited to undergraduate students.

One-Way Analysis of Variance was performed for gender, age, college major, college year, place of birth and ability to speak another language and experience traveling abroad to determine if any of the variables influenced participants' score of intercultural sensitivity, measured by the Intercultural Development Inventory (IDI). The study showed no statistical differences in intercultural sensitivity among students' ages, college majors, college years, ability to speak another language, and experience traveling abroad in Overall Developmental and Overall Perceived Intercultural Sensitivity -pre- and posttest. This finding is similar to Fretheim (2007) who found no statistically significant relationships between the background variables and a participant's IDI scores. The study also showed statistical difference in intercultural sensitivity among students' gender in the Overall Developmental Intercultural Sensitivity -pretest and

between places where the students were born and in the students' Worldview Denial/Deference. These results are similar to Bray (2004), who found significant differences in gender using samples of IDI Developmental Scores. However, the difference in gender were studied by Hammer, Bennett and Wiseman (2003) and they concluded that for the DD scale males scored significantly higher than females. Because the gender effect was not systematically observed across the other four scales, the authors conclude that the IDI was not influenced by gender differences.

Demographic data provided valuable information about the participants' backgrounds and experience in intercultural environments; characteristics and experience living or interacting with other cultures affected participants' intercultural sensitivity (Altshuler, et al., 2003; Bayles, 2009; Carter, 2006).

The qualitative information provided by the students who answered the open-ended questions, during their pretest showed that students' were interested and willing to participate in intercultural activities supported by the College of Agricultural Sciences and Natural Resources (CASNR) at Oklahoma State University. This study also showed that CASNR international and intercultural efforts were highly respected among students, mainly because students felt that CASNR had a strong commitment to offer them International and Intercultural experiences, such as "I" designated courses, or faculty led short study abroad programs to America, Europe, Asia and Oceania. OSU students, in general appreciated CASNR efforts because in many cases, these students grew up in small rural communities and their first opportunity to be in contact with people from other cultures was at OSU. Supporting these statements, Krishnamurthi (2003) found that the intercultural institutional efforts are valued by faculty, staff, and students and because of this support the institutions should continued funding these activities.

CASNR and OSU not only encourage students to participate in intercultural and international programs, they also offer students a variety of economical support. For example, the IFSA Foundation Scholarship awarded CASNR-OSU with $90,000 in 2007 to take students to Mexico to learn Spanish at Universidad Popular Autónoma del Estado de Puebla (Oklahoma State University & College of Agriculture Sciences and Natural Resources, 2007), or the OSU institutional commitment, offering students the President's Study Abroad Office Scholarship that awards $150,000 annually in scholarship, in increments of $500, $750, and $1,000, depending on the program length (G. Auel. Personal communication, October 7th, 2009). CASNR students mentioned that the opportunity to attend any intercultural experiences broadened their horizons and prepared them to work in intercultural and international societies.

Intercultural Development Inventory (IDI) Analysis

The analysis of the study participants' IDI scores indicated that all the groups studied (comparison group, "I" designated courses and faculty-led short study abroad programs to America, Europe and Asia/Oceania) were in the Ethnocentric Phase of the Overall Developmental Intercultural Sensitivity Continuum for the pre- and posttest. The comparison group, pre- and posttest, the faculty-led short study abroad program to Europe, pre- and posttest, was in the Defense/Reverse Scale of the Intercultural Development Inventory (Hammer, 2008; Hammer, et al., 2003). This cluster is a combination between the Denial, Defense and Reversal and it is characterized by a "neutral disinters in cultural differences", "by polarized us/them distinctions" and by "a dichotomized world-view, when "them" is good and "us" is bad" (Hammer, 2008, p. 35, 36 & 18).

People in denial are not aware of and deny cultural differences, and believe that "everything works for everybody". Denial is a reflection of people who have been isolated from

other cultures. According to Bennett (1986) a extreme case of denial could attributed subhuman status to people from another culture. When people move from Denial to Defense, they are able to identify some differences between cultures, but they perceive their own culture as superior, it is clear for people in defense that they are not like us, “us” being good and “them” being bad. Some differences in the Defense stage can be perceived as threats of their own worldview. Reversal is a form of defense in the DMIS, people in reversal polarize cultural differences, in their own particular dichotomized worldview, but now “them” are good and “us” are bad (Hammer, 2008). According to Bennett (1986) the most common Defense strategy is “denigration of differences” or perception of “cultural superiority” (p. 183). The groups in these stages are able to see the differences between cultures but those differences are normally seen in a negative way (defense/reversal), stereotype other cultures and put themselves in judgmental positions. In this study, at was mentioned, the comparison group and the faculty-led short study abroad to Europe were in the Denial/Defense/Reversal stage of the Intercultural Development Inventory for the Overall Developmental Intercultural Sensitivity Profile. These groups are not aware of cultural differences and they believe that the world is divided between “us” and “them”.

Participants in the international “I” designated courses, and faculty-led short study abroad programs to America and Asia/Oceania, -pre- and posttest were in the Minimization phase of the Intercultural Development Inventory. People in Minimization determine that “cultural difference subsumed into familiar categories” (Hammer, 2008 p. 39). They believe that all cultures are similar and they are not willing to explore or deeply analyze cultural differences. People in Minimization know that other cultures exist and they could even know a lot about some specific cultures, but their knowledge is superficial. Minimization is an Ethnocentric Stage where their personal culture is the frame of reference. Cultural differences are perceived as unique because

there is only one human reality. Good intentions, families, social issues, are common to all the cultures. The notion of the American "Melting Pot" or "we are all the same" are minimization ideas (Hammer, 2008). Altshuler, Sussman and Kachur (2003) mentioned that people struggle in minimization to make "sense of cultural differences" (p. 397).

The results of this study are similar to those found by Chen (2008), who studied Taiwan business college students and found that 97.9% of the students scored from the DD/R stage to the Minimization stage, and with Fretheim (2007) who found 89.3% of the participants had IDI scores that corresponds to an ethnocentric worldview orientation.

The analysis of the study participants' IDI scores indicates that all the groups who participated in the study (comparison group, "I" courses and faculty-led short study abroad programs to America, Europe and Asia/Oceania) placed themselves in the Acceptance/Adaptation Phase of the Overall Perceived Intercultural Sensitivity Continuum -- pretest and posttest. These results showed that the participants' believed that their intercultural sensitivity was higher than it actually is. These findings are not unusual and have been reported by numerous authors (Ashwill, 2004; Ayas, 2006; Hammer, 2003); the relationship between overall developmental and perceived intercultural sensitivity could be used by the IDI Professionals' to explain to the participants' their developmental opportunities.

Worldview Profiles were analyzed based in the Overall Developmental Intercultural Sensitivity Scale for each group. Nine out of the ten groups studied (including -pre- and posttest) were in the "Resolved" scale for Denial/Defense cluster. Only one group (comparison group posttest) studied was "In Transition". In the Reversal Scale, eight out of the ten groups studied (including -pre- and posttest) were "In Transition," only the "I" courses group were in the "Resolved" cluster during the pretest and the posttest. These findings mean that participants had

resolved their denial/defense issues, recognizing the presence of other cultures and beginning to recognize cultural difference. Participants in these stages are able to differentiate their own culture from the other people's culture. However, some of the groups are still dealing with issues of "us" and "them" and which group is culturally superior. These results showed that 90% of the groups studied had resolved their Denial/Defense/Reversal issues, in preparation for the next stage Minimization.

For the groups in the Minimization Scale, eight out of the ten groups studied (including - pre- and Posttest) were "In Transition", the comparison group posttest and the faculty-led short study abroad programs to America posttest were not. These findings mean that participants are trying to move from the ethnocentric to the ethno relative scale of the Developmental Model of Intercultural Sensitivity. The participants are working to resolve the issues associated with Minimization. Participants' recognize the presence of different cultures but they still think that the cultures are the same and the differences are only superficial.

The Acceptance/Adaptation and Encapsulated Marginality clusters were not included in this analysis due the group's Overall Developmental Intercultural Sensitivity were situated only in the Denial/Defense, Reversal and Minimization Scales, and the Overall Developmental Intercultural Sensitivity determine the participants' Worldview Profile Scale (Figures 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12).

Changes in Intercultural Sensitivity

The study showed no statistically significance differences between the pretest and the posttest in the IDI Profile, Overall Developmental, Overall Perceived Intercultural Sensitivity, and Worldview Scales of Denial/Defense and Reversal. However, this study showed a statistically significant difference between the pretest and the posttest in the IDI Worldview

Minimization Scale. The comparison group was different from the "I" course group. The comparison group decreased in the Minimization scale, and the "I" courses group increased in the Minimization scale. The changes in the Worldview Minimization for the other groups were not statistically significant. This results agreed with Ayas (2006), Keefe (2008), Patterson (2006) and Altshler et al. (2003). Ayas (2006) found no significant difference in developmental and perceived levels of intercultural sensitivity among medial students at George Washington University; Keefe (2008) found no difference in students who attended short-term study abroad courses outside the United States; Patterson (2006) found no difference in groups who had a study abroad experience, and Altshuler, et al. (2003) found no difference after training in intercultural sensitivity among health care providers after a intercultural intervention. Some authors attribute this lack of change in Intercultural Sensitivity to the small sample size, or to the length of the intervention. These explanations are not applicable to this study because this study analyzed 162 individuals who complete the pre- and posttest, for a total of 324 IDI instruments and all the interventions were longer than those reported by Altshler, et al. However, Bok (2006) pointed out that American students do not change during their study abroad experiences because those experiences are "too short, too isolated from the surrounding society, and too often situated in cultures similar to our own" (p. 247). This could be the case in this study.

The lack of movement from one stage to another in intercultural sensitivity in Oklahoma State University students, after the intercultural intervention is contrary to the findings in International Schools where 97% of the students were in Bennett's Acceptance or Adaptation stages of the DMIS. This study (Straffon, 2001, 2003) showed a positive correlation between the length of time the student attend an international school and the length of time the students lived outside of their home country. These results are similar to the experience of Fulbright scholars

teaching outside the United States, who showed a positive growth in intercultural competence overall (Emert, 2008). Additionally, Carter (2006) found that intercultural interventions like study abroad, participation in discussions, relationships with people different form one's self, exposure to a diverse campus and especially international students changed students' Intercultural Sensitivity measured by the Intercultural Development Inventory (IDI). Conway (2008) also found significant statistically differences in changes in intercultural sensitivity among community colleges employees who were through a 6-year intercultural competence professional development program. According to this study, the length of exposure to different cultures positively affects intercultural sensitivity. One or two weeks of faculty-led short study abroad programs are too short to impact the students' intercultural sensitivity (Bok, 2006).

The absence of changes in intercultural sensitivity among the participants in this study could be explained in two different ways, first because the absence participants' framework of cultural differences decrease the opportunity to improve participants' intercultural sensitivity during the experience (Altshuler, et al., 2003), and second, because the constructivist view of the Intercultural Development Inventory (IDI), according to this view "experience does not occur simply by being in the vicinity of events where they occur. Rather, experience is a function of how one construes the events" (Paige, et al., 2003, p. 423).

However, even though this study did not find changes in Intercultural Sensitivity among participants' groups between the pretest and posttest, the analysis of the Profile Plots of the Changes –pre and posttest could be useful to understanding the behavior of the participants' groups. The comparison group, and the groups that travel to Europe and Asia/Oceania decreased their Overall Developmental Intercultural Sensitivity, the "I" courses group increased its Overall Developmental Intercultural Sensitivity; the group that traveled to Central and South America

did not show a visible change. The behavior of participants' Overall Perceived Intercultural Sensitivity was very similar to the Overall Developmental Intercultural Sensitivity (Figures 13 and 14). These results confirmed the relationship between the Overall Developmental and the Overall Perceived Intercultural Sensitivity (Hammer, 2008; Hammer, et al., 2003). The group that attended "I" designated courses increased their Overall Developmental and Perceived Intercultural Sensitivity probably because the instructor in one of the courses was an International Ph.D. student and the professor for the other "I" designated course has extensive experience in international affairs, or maybe because the courses emphasized the culture differences with discussions and intercultural interventions (Bok, 2006). These results could be related to the length of the intervention, the students attend "I" designated courses for 16 weeks and the average length for the faculty-led short study abroad programs is between 8 and 10 days.

For the Worldview Profile, the Profile Plot the Denial/Defense cluster showed no difference (less than 0.10 in the scale) among the groups –pre and posttest. The Reversal Scale decreased for the in the comparison group and the faculty-led short study abroad programs to Europe and Asia/Oceania and a slight increment for the students who participated in the "I" designated courses and the students who participate in the faculty-led short study abroad programs to America. Reversal is part of the Defense scale the participants in this stage are able to recognize the differences but they polarized the differences and live in a dichotomized world "us" and "them". The difference between the first stage of Defense and Reversal is that in Defense "us" are better than "them", in Reversal "them" are better than "us." The participants distinguished the cultures, but are not able to recognize any similarity between their own culture and others cultures (Hammer, 2008; Hammer, et al., 2003).

The Minimization scale showed a statistically significantly difference between the changes –pre and posttest for the comparison group and the "I" courses group, this difference was explained earlier in this chapter. However, the Profile Plot of the Changes in Minimization showed that only the "I" courses students increased their Minimization score between the –pre and posttest; the rest of the groups including the comparison group showed a decrement in the Minimization score. This situation could be explained the same way that this study explained the changes in the Overall Developmental Intercultural Sensitivity, the instructor in one of the "I" courses was an International PhD student and the professor for the other "I" Course has an extensive experience in international affairs, or maybe because the courses emphasized the culture differences with discussions and intercultural interventions (Bok, 2006) (For for information about the Profile Plot of Changes see figures 14, 15, 16 and 17).

The Acceptance/Adaptation and Encapsulated Marginality Profile Plots are not included in this analysis due the group's Overall Developmental Intercultural Sensitivity were situated only in the Denial/Defense, Reversal and Minimization Scales. However, the graphics are available (See Figures 18 and 19).

Finally, Practical significance, Eta squared *($\eta 2$)* reported in this study was used to determine the strength of the relationship between the dependent variables (Intercultural Sensitivity) and the demographics of the population , as well as the changes in intercultural sensitivity (pre- and posttest) among participants in different intercultural experiences (groups). The interpretation of the Eta squared was following Keppel & Wickens (2004) standards (Small effect .01 to .06; medium effect .06 to .15; larger effect .15 and grater). This study showed that 63 of 66 Eta squared calculated (95%) for the demographic information were considered small,

and only 3 out of 66 (5%) were considered medium. None were considered to have a large effect size.

Nine-five percent of the demographic information accounted with less than 6% of the observed intercultural sensitivity. Five percent of the demographic information collected in this study accounted between 6 and 8% of the observed intercultural sensitivity. The Eta squared *(η2)* calculated for the changes in intercultural sensitivity between groups pre- and posttest was between small (80%) medium (20%). These numbers showed a small-medium of the relationship between the Intercultural Development Inventory scales and the different intercultural experiences. At the time of this writing, there were no studies available to relate or compare the Eta square findings with.

Limitations of the Study

- All the data analyzed in this research project was provided as self-report measures by Oklahoma State University students between December 2008 and August 2009.
- The participants in this study were not randomly assigned to different intercultural experiences ("I" designated courses and faculty-led short study abroad programs), rather taken as intact groups, thus selection bias could affect the results.
- The comparison group was not randomly selected among the population. The researcher sent an email to all the CASNR undergraduate students enroll in the spring 2009 semester, asking for participation, and 37 students out of 1751 answered the request, those students who answered the email were selected to participate in the study. Thus, selection bias could be present in the study.
- The researcher made the assumption that the students included in the comparison groups did not participate in any formal intercultural experience supported by CASNR-OSU.

However, the research cannot warranty that these students did not have any intercultural experience during the study.

- The researcher did not manipulate the independent variables; the research did not design or implemented the interventions (treatments). Each treatment was designed and implemented by different professors.
- The students probably knew that they were participant in a research study that could have implications and perhaps the students were bias or felt pressure to respond in certain way.
- The researcher used the two versions of the Intercultural Development Inventory, the electronic and the paper-pencil version. The electronic version was sent by email and the participants responded the instrument any time they decided. The paper-pencil version was personally handled to the student. The researcher and/or the professors were in the same room where the participants answered the instrument.
- The last limitation could be the time when the participants answered the instrument before and after their intercultural experience. Some of the students answered the survey one week before attending their intercultural experience while others did three months before their intercultural experience. Some students answered the posttest right before they finished the semester and others when they finished their international experience.

Recommendations for Future Research

In general, the author recommends encouraging students and faculty members at Oklahoma State University to conduct research in areas associate with multiculturalism, diversity, and intercultural sensitivity and competence. The main research areas should be on the design, implementation, and assessment of comprehensive intercultural plans to increase students, faculty and staff. Questions remain regarding what causes students' intercultural

sensitivity to change. Witch activities should higher education institutions support to increase students' intercultural sensitivity? How long after the experience do changes in intercultural sensitivity occur? How can colleges and universities design comprehensive plans to increase students, professors, and staff members' intercultural sensitivity?

Future research in this area should:

- Use and develop reliable and theory-based instruments to assess intercultural competences and intercultural activities.
- Randomly select and assign the participants to the different treatments.
- Manipulate the treatments homogenously.
- Use only one version of the Intercultural Development Inventory or study the differences if any between groups applying both versions of the instrument.
- Collect data at different points of time after participants finished an intercultural experience, for example, immediately, one week, and one month after an experience to evaluate the impact of these experiences in the long run.
- Study professors' intercultural sensitivity to determine a minimum level of intercultural sensitivity an instructor should have in order to make an impact on students' intercultural sensitivity.
- Compare intercultural experiences to determine the relationship between lengths of the experience and change in intercultural sensitivity, as well as the relationship between the intercultural training previous the experience and the impact in intercultural sensitivity.

Recommendation for Practice

The College of Agricultural Sciences and Natural Resources at Oklahoma State University encourages students to participate in Intercultural activities. The CASNR Director of International Agricultural Programs and the Office of Diversity Coordination are responsible for college internationalization and diversity efforts. CASNR-OSU is always motivating student to participate in any intercultural or international experience. CASNR-OSU intercultural efforts include a mandatory requirement for their students to take at least one "I" designated course (Animals of the World or International Agriculture), and they support and coordinate more than 15 faculty-led short study abroad programs to America, Europe, Asia and Oceania, as well as support and encourage multiple faculty international experiences including trips, dual programs, and exchanges. The office of International Agricultural Programs also coordinates the Masters of Agriculture (MAg) degree with a specialization in International Agriculture. CASNR-OSU intercultural and international activities are very appreciated by students, faculty and staff members. However, all this effort did not reflected in any change of Intercultural Sensitivity among CASNR-OSU students measured by the Intercultural Development Inventory during this study.

The study recommends designing and adopting a Comprehensive Intercultural Plan for students, faculty and staff members in the College of Agricultural Sciences and Natural Resources at Oklahoma State University. This plan should aim to contribute to increase the Intercultural Competence of undergraduate and graduate students at CASNR-OSU. To do so, it is recommended that CASNR-OSU adopt a model supported by a theoretical framework of intercultural education. The Institutional Comprehensive Intercultural plan should include the diversity office and the Director of International Agricultural efforts to guide students during

their intercultural education and prepare them to make the most of all their intercultural experiences during their college years, and in the long run, help them become intercultural competent professionals. Bennett's (1986) Developmental Model of Intercultural Sensitivity has been tested and determined to be an appropriate method for achieving intercultural sensitivity, mainly because this Model offers participants the opportunity to assess their intercultural sensitivity before and after exposure to any intercultural experience using the Intercultural Development Inventory (IDI) (Hammer, et al., 2003). The goal of the Institutional Intercultural Comprehensive Plan should be focused in moving students, faculty and staff members to the *Integration Dimension of the Developmental Model of Intercultural Sensitivity.*

The comprehensive plan should start by identifying students, professors and staff members' Developmental Intercultural Sensitivity Stage using the Intercultural Development Inventory (IDI) (Hammer, 2008; Hammer, et al., 2003), to design programs to improve participants intercultural sensitivity, "increasing complexity and difficulty within the dimensions of behavior requirements (active/passive), risk of failure and self-disclosure (low/high), and culture learning domain focus (cognitive/affective)" (Bennett, 1986, p. 180).

This plan should capture the concern and interest of CASNR-OSU community members and include actions in the formal and the informal education of CASNR students, inside and outside the classroom. This plan should include encouraging professors to have international and intercultural experiences, and reward their efforts so when they finish their intercultural experience they include their personal intercultural experience in the curriculum design and development (Chen, 2008). Professors with intercultural experience should be able to include high levels of interactive intercultural discussions and multiple discussion about cultural differences in their classes (Conway, 2008). Other approach to the college intercultural efforts is

to include in their formal education courses in World Geography, History, Foreign Police, International Markets, and well as courses related to the role and impact of America in the World. These courses could allow students to understand "misconceptions and parochialisms that many people have on first approaching another society and culture" (Bok, 2006, p. 241).

Second, students should be encouraged to learn another language. Learning another language is an excellent way to move from Ethnocentrism to Ethno-relativism (Arevalo-Guerrero, 2009; Bennett, 1986; Bok, 2006). This learning activity could improve the number of students in short or semester long travel abroad opportunities, that are many times limited because the language barriers (Bok, 2006; Busby, 1993; Carter, 2006). Travel abroad is a very good opportunity to get students out of their comfort zones and encourage them to explore another culture. However, study abroad experiences should be designed not only to study tangible differences between cultures, like architecture, music, and production systems but to guide students to discover the intangible intercultural differences, the power of the distance in that culture, or the uncertainly avoidance, or the individualism or collectivism in a specific society, or the relationships between the genders (D. Freathy, Personal Communication October 16th, 2009) (Hofstede, 1980). Preparation courses, where the students learn the basics about language, history and culture of the other countries, as well as an assignment of writing journals, attending discussion panels, and focus groups are some examples of activities that might improve students' intercultural sensitivity.

Third, the OSU Comprehensive Plan should include a strategy to integrate international and minority students into the College, maybe supporting students that are willing to live with international and minority students or motivating students' to be in contact with international

students (Bok, 2006). Actually, international students at OSU are housing mainly in the University Apartment complex. The American students are housing in the university suites.

Finally, a forth recommendation could be to design a Co-Curricular Transcript in International and Intercultural Education; this transcript could document the extra-classroom international and intercultural activities, focused on participants' interest in developing their personal intercultural sensitivity. The students could attend international events, learn new languages, promote intercultural activities, tutor international students, etc. (De Sales University, 2009; University of Illinois, 2009; University of Tampa, 2009)

In summary, intercultural training in higher education institutions has to be part of a Institutional Intercultural Comprehensive Plan, that should include curricular classes, language courses, study abroad experiences, the integration of international and minority students and a Co-Curricular transcript. All these actions were supported by the Developmental Model of Intercultural Sensitivity developed by Bennett (1986).

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APPENDIX

Appendix A
Institutional Revision Board Research Approval

Oklahoma State University Institutional Review Board

Date:	Tuesday, October 21, 2008
IRB Application No	AG0840
Proposal Title:	Assessing Changes in Intercultural Sensitivity in Students Exposed to Intercultural Experiences Within the College of Agriculture Sciences and Natural Resources at Oklahoma State University Using the Intercultural Development Inventory
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 10/20/2009

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466 Ag Hall
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sheila Kennison, Chair
Institutional Review Board

APPENDIX B

Demographic Information

USER NAME

Demographic information

Gender

Age

Major

College year (freshman, sophomore, junior, senior)

Place of birth

Do you speak another language than English? YES NO

If yes, which other language do you speak?

How fluent are you? 25% 50% 75% 100%

Have you been in a foreign country? YES NO

If yes, which foreign country(ies)?

For how long did you travel abroad?

APPENDIX C

Consent Form for the Paper Pencil Version of the IDI

Informed consent form that will accompany the pencil-paper version of the IDI

My name is Lupita Fabregas, I am a Doctoral student in Agricultural Education at Oklahoma State University. I am conducting a research study about the CHANGES IN INTERCULTURAL SENSITIVITY IN STUDENTS EXPOSED TO INTERCULTURAL EXPEREINCES WITHIN THE COLLEGE OF AGRICULTURE SCIENCES AND NATURAL RESOURCES AT OKLAHOMA STATE UNIVERISTY USING THE INTERCULTURAL DEVELOPMENT INVENTORY.

I want to invite you to be a participant. Your participation is important and will be truly appreciated. Your participation includes responding to two paper-pencil standardized 50-items instrument developed by Bennett and Hammer (2003), and five open-ended questions. You will answer one instrument at the beginning of your intercultural experience and the other at the end of your intercultural experience. Responding to each instrument will take you approximately 30 minutes.

Your participation in this study is voluntary. By signing this form you are consenting to participate in this research. However, you may decide to stop answering the instrument at any time.

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

The information collected from this instrument will be kept confidential. All reports will discuss group findings and will not include information that will identify you. All records will be stored securely in the office of the principal researcher and only the researchers and individuals responsible for research oversight will have access to the records. The researchers will keep the records for 5 years. Individual names and codes will not be stored with study data.

If you have questions about this research, please contact me at 405-744-5342, or maria.fabregas@okstate.edu

If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, Institutional Review Board (IRB) Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu.

Your user name is XXXXX

Your password is XXXXX

Thank you for your contribution.

I consent to participate in this study

Your Name_____ Signature and Date_____

APPENDIX D

Consent Form for the Electronic Version of the IDI

Remainder # 1. E-mail with informed consent information that will accompany the link to the electronic version of the IDI

My name is Lupita Fabregas, I am a Doctoral student in Agricultural Education at Oklahoma State University. I sent you an e-mail a week ago regarding a study about the CHANGES IN INTERCULTURAL SENSITIVITY IN STUDENTS EXPOSED TO INTERCULTURAL EXPEREINCES WITHIN THE COLLEGE OF AGRICULTURE SCIENCES AND NATURAL RESOURCES AT OKLAHOMA STATE UNIVERISTY USING THE INTERCULTURAL DEVELOPMENT INVENTORY.

I would like to remind you of the opportunity to participate in this research. Your participation is important and will be truly appreciated. Your participation includes responding to two electronic standardized 50-items instrument developed by Bennett and Hammer (2003), and five open-ended questions. You will answer one instrument at the beginning of the spring 2009 semester and the other at the end of the Spring 2009 semester. Responding to each instrument will take you approximately 30 minutes.

Your participation in this study is voluntary. By opening the electronic version of the instrument you are consenting to participate in this research. However, you may decide to close the instrument at any time.

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

The information collected from this instrument will be kept confidential. All reports will discuss group findings and will not include information that will identify you. All records will be stored securely in the office of the principal researcher and only the researchers and individuals responsible for research oversight will have access to the records. The researchers will keep the records for 5 years. Individual names and codes will not be stored with study data.

If you have questions about this research, please contact me at 405-744-5342, or maria.fabregas@okstate.edu

If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, Institutional Review Board (IRB) Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu.

By completing the instrument in www.idiassessment.com you are consenting to participation in this research.

Please complete the online standardized instrument as soon as possible, by following these steps:

1. Give yourself 30 minutes to complete the instrument, go to www.idiassessment.com

2. Enter your username (xxxxx) and password (xxxx). The username and password are case sensitive

3. After reading the directions carefully, complete the survey. Please submit it at the end.

Thank you for your contribution.

APPENDIX E

Open Ended Questions

USER NAME

What do you think about participating in intercultural experiences, courses, short study abroad experiences, languages training, etc?

What intercultural initiatives or programs promoted by CASNR have you attended or you would like to attend during your college experience at Oklahoma State University?

What do you think is the most common CASNR students' motivation to attend any intercultural experience?

What do you think about CASNR efforts and initiatives to increase your intercultural sensitivity?

Describe your intercultural experience change during your college education at Oklahoma State University.

VITA

Maria Guadalupe Fabregas Janeiro
Candidate for the Degree of
Doctor of Philosophy

Dissertation:
ASSESSING CHANGES IN INTERCULTURAL SENSITIVITY IN STUDENTS EXPOSED TO INTERCULTURAL EXPERIENCES SUPPORTED BY THE COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES AT OKLAHOMA STATE UNIVERSITY USING THE INTERCULTURAL DEVELOPMENT INVENTORY

Major Field: Agricultural Education

Biographical:

Education:
Completed the requirements for the Doctor of Philosophy in Agricultural Education at Oklahoma State University (OSU), Stillwater, Oklahoma, United States in December 2009

Completed the requirements for the Master Degree in Education at Universidad Popular Autónoma del Estado de Puebla (UPAEP), Puebla, Puebla, Mexico in September 1999

Completed the requirements for the Bachelor Degree in Agriculture and Animal Science Engineering at Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey, Nuevo Leon, Mexico in June 1981

Experience:

I have been working in Universidad Popular Autónoma del Estado de Puebla (UPAEP), Mexico since 1984. I was a part-time professor, a full-time professor, and Director of the Animal Science School until 1992. I was in charge of the Financial Support Department in UPAEP for 10 years, which involved working with disadvantaged students.. I help found the UPAEP Scholarship Foundation (FEMSAC) Institution that raised more than 2 million dollars in 5 years. In 2002, I moved to Stillwater, Oklahoma. My main responsibilities are developing academic relationships between UPAEP and public and private institutions in the United States; developing exchange programs; and, designing tailor-made programs for UPAEP students, American students, professors, and staff members in order for them to learn more about the language and cultural differences between Mexico and the United States. It is my desire to become a faculty member in a prestigious higher education institution, continue working for the development of international relationships between Mexican and American higher education institutions; designing institutional and corporate programs to improve personnel intercultural sensitivity; and, providing a variety of intercultural and cross cultural trainings to prepare professionals for work in multicultural national and international environment.

Name: Maria Guadalupe Fabregas Janeiro Date of Degree: December 2009

Institution: Oklahoma State University Location: Stillwater, OK

Title of Study: ASSESSING CHANGES IN INTERCULTURAL SENSITIVITY IN STUDENTS EXPOSED TO INTERCULTURAL EXPERIENCES SUPPORTED BY THE COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES AT OKLAHOMA STATE UNIVERSITY USING THE INTERCULTURAL DEVELOPMENT INVENTORY

Pages in Study: 193 Candidate for the Degree of Doctor of Philosophy
Major Field: Agricultural Education

Abstract

Oklahoma State University, College of Agricultural Sciences and Natural Resources (OSU-CASNR), understands the importance of educating students to become inter-culturally competent. As such, they have designed a variety of activities to encourage students to explore various cultures. These activities include International courses ("I" courses) and faculty-led short study abroad programs to America, Europe, Asia and Oceania. The purpose of this study was to assess changes in intercultural sensitivity among students who participated in "I" International courses and faculty-led short study abroad programs supported by CASNR compared to a comparison group from the same population. This study used Bennett's Developmental Model of Intercultural Sensitivity (DMIS) as the theoretical framework (Bennett, 1986; Bennett, 1993b). A nonequivalent groups design -pretest, posttest, with comparison group was employed for data collection and analysis. Three hundred and twenty four Intercultural Development Inventory (IDI) instruments were completed by 162 students using a pretest, posttest design clustered into five groups. The information provided by the students was analyzed used descriptive and inferential statistical, and theme analysis. The analysis of the study participants' IDI scores indicated the all the groups studied were in the Ethnocentric Phase of the Developmental Continuum for the -pre- and posttest. The comparison group (no intervention) and the faculty-led short study abroad program to Europe -pre- and post test were in the Defense/Reversal cluster of the Developmental Model of Intercultural Sensitivity and in the Denial/Defense or Reversal cluster of the Intercultural Development Inventory (Hammer, 2008; Hammer, et al., 2003). The "I" International courses and faculty-led short study abroad programs to America and Asia/Oceania groups -pre- and posttest were situated in the Defense/Reversal Dimension of the Developmental Model of Intercultural Sensitivity and in the Minimization Scale of the Intercultural Development Inventory. The results showed no statistically significant differences among groups from the pretest to the posttest in the IDI Profile, Overall Developmental and Overall Perceived Intercultural Sensitivity, and Worldview Scales of Denial/Defense and Reversal. This study showed a statistically significant difference between the pretest and the posttest in the IDI Worldview Minimization Scale, the comparison group was different from the "I" (International) course group. ($p<.05$). The comparison group decreased in the Minimization scale from 2.51 to 2.26. The "I" courses group increased in the Minimization scale from 2.78 to 2.86. The changes in the Worldview Minimization for the other groups studied were not statistically significant. Eta squared for practical significance was also calculated for the demographic information and change in intercultural sensitivity.

ADVISER'S APPROVAL: Kathleen D. Kelsey, Ph.D.