

## Assessing intercultural competence growth using direct and indirect measures

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### Abstract

The purpose of this study is to explore and assess the improvement in intercultural competence of USAF Academy cadets using indirect measures (e.g., questions in end-of-course critiques and institutional surveys) and a direct measure—specifically the Intercultural Development Inventory (IDI). Data gathered from several groups of subjects at different academic levels were evaluated to see if certain variables were facilitating intercultural competence growth. Initial findings suggest that language study and time spent abroad in target language countries assist students in gaining intercultural competence.

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**Terrence W. Haverluk** (PhD, University of Minnesota) has taught at the college level for 20 years. He teaches a wide variety of course including geopolitics, human geography, the geography of Asia, the geography of Europe, the geography of Latin America, Global Cultural Awareness, and research methods. Dr. Haverluk is the co-director of the geopolitics core class, which is required of all 1,000 senior level cadets. He is also the co-coordinator of the USAFA intercultural competence outcome team. Dr. Haverluk has published several articles on the cultural geography of Hispanics in the US, as well as written 3 books on geopolitics.

## Introduction

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*The notion of multicultural or intercultural competence is clearly not the sole purview of the foreign language (FL) education field.*

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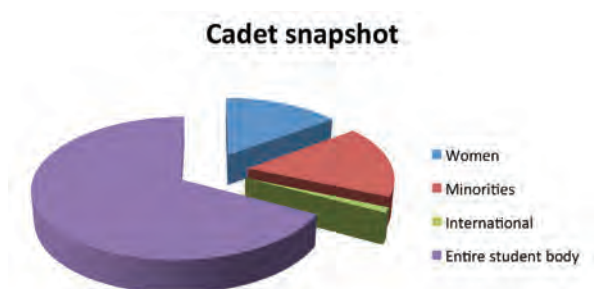
The notion of multicultural or intercultural competence is clearly not the sole purview of the foreign language (FL) education field. Indeed, it has been an issue of high interest for several decades in a variety of realms such as government milieus, general educational settings, and business environments. As the world became increasingly more global, a need was perceived both to define and then assess one's intercultural competence and potential for success while functioning in a particular venue. One solution proffered to address this need was the creation of a model to describe intercultural competence and then the development of an instrument to measure that competence. Several such models (e.g., Bennett, 1986; Byram, 1997; van der Zee & van Oudenhoven, 2000; Ward & Kennedy, 1999) have been developed in an attempt to describe and then measure intercultural competence, and they have been employed in a wide array of situations where intercultural competence is desired. A discussion of these models and instruments as well as a more detailed explanation of the model selected for use in the present study are presented later in this paper. The particular model selected and the empirical measure of its theoretical concepts were the basis for a study conducted at the United States Air Force Academy (USAFA) in order to measure the intercultural competence of three groups of students (cadets) at different stages in their educational careers and with diverse international experiences. It is important to understand the institutional context of USAFA, as it is distinctly different from most other tertiary institutions on a number of levels.

## Institutional Context and Outcomes

According to the United States Air Force Academy Strategic Plan of 2010, its mission is to "...educate, train and inspire men and women to become officers of character..." (p. 2). The Air Force Academy curriculum is designed to provide cadets a broad undergraduate liberal education within the framework of a military institution. In an effort to provide a general picture of the student body at USAFA, a number of characteristics and statistics were compiled representing the cohorts entering USAFA in the years 2012 through 2015. This overall composite yields a comprehensive portrait of the students at USAFA and, by extension, the subjects in the study. The USAFA is a highly competitive institution, fielding between 9,000 and 13,000 applicants each year. From this large pool approximately 1100 to 1300 are accepted for admission. Of these admissions, women comprise between 20 and 23% of the student population. The percentage of minorities at USAFA varies between 21 and 27% and includes Hispanic, Asian/Pacific Islander, African American, and Native American students. In terms of geography, every state is represented. In addition, USAFA has over 70 full-time international students matriculating for the entire four-year curriculum or for only one semester (see Figure 1).

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Figure 1. Cadet Characteristics Snapshot



In keeping with the highly selective classification of USAFA, the mean score on the Critical Reading portion of the SAT Reasoning Test is 640 points; the mean for the Mathematics portion is 666 points. Each year approximately 10% of the freshman class is composed of either valedictorians or salutatorians from the students' high school graduating class. Between 63% and 65% of incoming students were members of the National Honor Society and participated in several other honorary organizations. In addition, over 80% of students lettered in at least one sport during their high school career; they also were members of myriad clubs and activities of all categories, from the debate team to musical clubs to Scouts.

Due to the unique character of its mission, in 2007 the Air Force Academy adopted a set of institutional outcomes, which provide a better framework and integrate efforts across the academic, military and athletic domains to meet the Academy's mission to develop leaders of character. A team of professionals from across the mission partners (academics, military, and athletic) formulated Institutional Outcomes that capture the characteristics cadets need to possess as Air Force officers. In order to simplify the socialization and adoption of the outcomes throughout the institution, they are summarized in three words: Responsibilities, Skills, and Knowledge. Specifically, USAFA wants to "commission leaders of character who embody the Air Force core values committed to Societal, Professional, and Individual **Responsibilities**, empowered by Integrated Intellectual and Warrior **Skills**, and grounded in essential **Knowledge** of the Profession of Arms and Human and Physical Worlds" (USAFA Self-Study Report, 2009, p. ii). The Outcomes are further organized into a tier system, which provides additional levels of measurable detail.

Intercultural competence was adopted as an institutional outcome under the responsibilities "umbrella" and an interdisciplinary team set out to more fully define the outcome and to develop an assessment strategy. The team's initial work confirmed the importance of intercultural competence for the officer of the 21<sup>st</sup> century. The nature of today's post-cold war conflicts clearly shows that the men and women being prepared at USAFA as future leaders will face increasingly complex multicultural environments. They will have to lead a more diverse force, work with coalition partners and allies, and interact with members of local populations around the world. President Obama, speaking to the Veterans of Foreign Wars in Phoenix, Arizona, stated that: "... in the 21<sup>st</sup> century, military

strength will be measured not only by the weapons our troops carry, but by the languages they speak and the cultures they understand” (Obama, 2009).

There are many definitions of intercultural competence, also known as cross-cultural competence, in published works. The Air Force Academy adopted the official Air Force definition of intercultural (or cross-cultural) competence:

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**Intercultural  
Competence**

*“The ability to quickly and accurately comprehend, then appropriately and effectively act, to achieve the desired effect in a culturally complex environment”*

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“The ability to quickly and accurately comprehend, then appropriately and effectively act, to achieve the desired effect in a culturally complex environment” (United States Air Force Culture & Language Center, 2012).

**Developing Intercultural Competence**

Delving deeper into the core curriculum revealed that all Air Force Academy cadets begin their formal journey toward intercultural competence in a foreign language and history class during their freshman year. In their initial foreign language courses, cadets learn the mechanics of a foreign language and are also exposed—for the first time in many cases—to a foreign culture, where people may have products, practices, and perspectives (3Ps) much different than their own. Students confront these cultural differences through a variety of activities in class (e.g., role plays, scenarios, group discussion, films, readings). They explore the new products and practices and are then asked to grapple with the perspectives that underpin these cultural artifacts and behaviors and that also may contrast with those viewpoints held by their own culture. During this first year, all cadets also take History 101, which addresses a wide range of cultural constructs such as ethnic issues, religion, and race, and additionally includes a survey of the origins of the world’s civilizations with an emphasis on world religions and philosophies.

The journey to higher levels of intercultural competence continues in the sophomore year in courses such as English 211 and Political Science 211. In the English course, cadets focus on understanding different perspectives on major issues and engage in discussions dealing with cultural awareness, diversity, and sensitivity to the value systems of others. In the political science class “American Government, Politics, and National Security,” cadets strengthen their knowledge of our own culture and way of life, which is a key element in the development of intercultural competence. In their junior year, all cadets take an ethics course (Philosophy 310), which highlights an officer’s responsibilities to reason and act ethically and to know civic, cultural, and international contexts in which the US military operates. During their senior year, cadets take Social Sciences 412, “Geopolitics,” in which they describe, interpret, and evaluate global political relations and formulate strategies for interacting in Western and non-Western cultures.

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In addition to the classroom experience, approximately 600 cadets per year, roughly 15% of the student population, participate in language or cultural immersion programs or in summer operational experiences in a foreign country. A review of students' reflections after these experiences abroad suggests that they provide a significant boost to the students' intercultural competence. A student meditating about an experience in a mountain village in Morocco wrote the following:

I loved our night in the mountain because I got to be witness to a culture extremely different to my own. It's so easy to get caught up in the American way of life, focused on wealth and materials, we sometimes forget to appreciate the small things.

Once it was determined how the development of intercultural competence was being addressed in the curriculum, the next challenge was to determine how to measure success in this outcome. "Success" for future Air Force officers will be characterized by their ability to work in a multinational, multicultural environment to complete an assigned task or mission. Successful individuals are usually those who have the ability to look at a situation outside of their own cultural perspective. For the purposes of this study, the key goal of the assessment plan was to determine how an integrated, intentional curriculum and study abroad program had improved the intercultural competence of the students.

A multi-faceted assessment strategy was adopted that incorporated feedback from the students, indirect data from external and internal sources, and one assessment tool that measured this outcome directly. The internal indirect assessment data consisted of results from voluntary end-of-course surveys of cadets and an institutional survey focused on the outcomes. External indirect assessment data came from the National Survey of Student Engagement (NSSE, 2013), which is described more at length later in this paper. Finally, discussions with language and culture stakeholders across the Air Force and the Department of Defense led to the choice of the Intercultural Development Inventory (IDI) as the best available tool to measure cross-cultural competence directly based on reliability and validity data available. The IDI theoretical construct is discussed in more detail in the Direct Assessment Data section below.

The specific research questions addressed by this study are:

1. Is there evidence of intercultural competence growth from freshman to senior year?
2. Is there evidence that students who major in Foreign Area Studies and study abroad become more intercultural competent than cadets from other majors?
3. Is there evidence that a foreign language minor leads to increased intercultural competence?

### **Indirect Assessment Data**

Every course at the Air Force Academy is required to have the opportunity for cadets to provide voluntary and anonymous feedback on a somewhat standardized

questionnaire about the course at the mid-point and at the end of the semester. The questionnaire generally focuses on the students' attitudes toward such matters as the content of the course, activities, and the instructor. The questionnaire also provides the opportunity to receive feedback on questions of particular interest to that course or department. The courses that contribute to the aforementioned intercultural competence outcome during the freshman year (entry-level foreign languages and History 100) specifically included the following question in their questionnaire:

How did this course develop your intercultural competence?

1. Not at all
2. Slightly
3. Substantially

Student responses to this question indicate that the courses intended to develop intercultural competence during the freshman year are having a perceived success. The vast majority of cadets who have responded over four semesters feel these courses are having some impact on their intercultural competence, with 98.3% of students indicating that the course "slightly" or "substantially" developed their intercultural competence (N=4006).

The institutional outcome survey was specifically designed to determine the extent to which cadets felt their overall experience at USAFA had helped them develop in each of the outcomes. The survey was conducted with senior cadets graduating in the classes of 2008 and 2011. For the Intercultural Competence Outcome, the cadets answered the following question:

Were USAFA experiences beneficial in developing intercultural competence?

- a. They were beneficial
- b. There was no effect
- c. No opinion

As can be seen in Table 1 on the next page, the majority of respondents found their USAFA experiences in this outcome beneficial. When asked what experiences have been beneficial or detrimental, approximately 46% of the respondents felt academic courses (both major and core) were beneficial. Other highly-rated beneficial activities included unscheduled time (40.8%), international programs (30.5%), and extracurricular activities (25.6%). There were no significant numbers in any activity listed as detrimental to this outcome, but 11% cited the lack of diversity at USAFA as detrimental to the development of this outcome, highlighting an interesting connection that will require further research.

A total of 140 cadets offered suggestions on how to improve the development of this outcome. Approximately 47% stated a need to be exposed to diversity and 12% suggested more real-life examples, speakers, and making international travel more accessible to cadets. The suggestions confirm the need for additional research on the link between a diverse environment and the development of intercultural competence.

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**Table 1.** Institutional Outcome Survey Results (N=299)

Beneficial	75.4 % (n=225)
No effect	18.6 % (n=56)
No opinion	6.0 % (n= 18)

Whereas internal measures indicated there was positive growth in this outcome, at least from a cadet perspective, the NSSE provided additional external validation of this perspective. Using the instrument called The College Student Report, NSSE gathers data from over 600 four-year colleges and universities about student participation in programs and activities to provide an estimate of how students are spending their time (NSSE, 2013). The NSSE is administered at USAFA every 3 years, most recently in 2011.

According to the National Survey of Student Engagement (2013), “student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning.” The results at USAFA are compared to the results of a Military Academy consortium composed of the US Military Academy, the US Naval Academy, and in 2011 the US Merchant Marine Academy. The results are also compared to a group of selected peers, which are colleges and universities in the same Carnegie classification as USAFA. Examples include Brigham Young University, Bucknell, Georgia Tech, James Madison, and Northeastern.

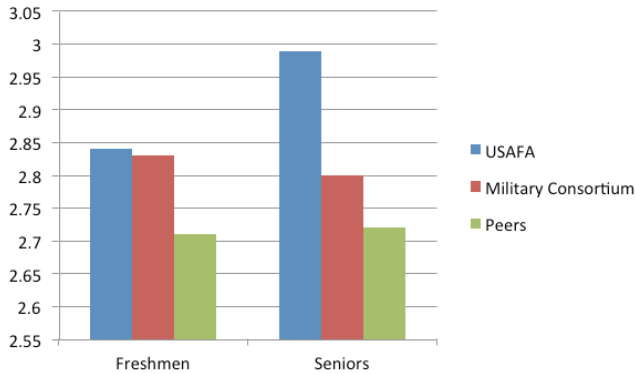
Four questions (indicated below as 1.a., 1.b., 1.c., 2.a) in the NSSE were identified that furnished insights into (1) the cadets’ ability to engage in class discussions providing a diverse perspective and (2) the level of exposure cadets had to alternative perspectives in their classrooms. More specifically the survey asked:

1. In your experience at your institution during the current school year, about how often have you done each of the following? (Never, Sometimes, Often, Very often)
  - a. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments.
  - b. Had serious conversations with students of a different race or ethnicity than your own.
  - c. Had serious conversation with students who are very different from you in terms of their religious beliefs, political opinions, or personal values.
2. To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas: (Very little, Some, Quite a bit, Very much)
  - a. Understanding people of other racial and ethnic backgrounds.

Responses to these queries are considered to be indirect data as the level of intercultural competence gained is not directly measured. However, we can reasonably

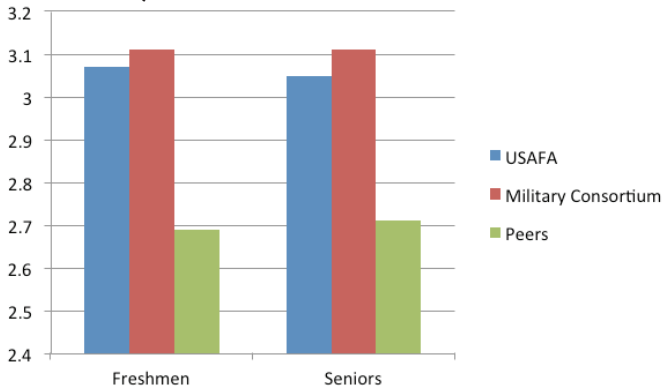
infer that higher levels of discussion and exposure to alternative perspectives in the classroom will yield higher levels of intercultural competence. The results of the survey administered in 2011 for each question are shown in Figures 2 – 5 below for each of the questions. The statistical significances and effect sizes reported here come directly from the NSSE report and represent mean differences larger than would be expected by chance alone.

**Figure 2. NSSE Results — Included Diverse Perspectives**



**Note:** Significant difference between freshmen at USAFA and peers ( $p < .001$ , effect size = 0.14)  
 Significant difference between seniors at USAFA and military consortium ( $p < .001$  level, effect size = 0.21)  
 Significant difference between seniors at USAFA and peers ( $p < .001$ , effect size = 0.29)

**Figure 3. NSSE Results — Had serious conversations with students of different race or ethnicity**

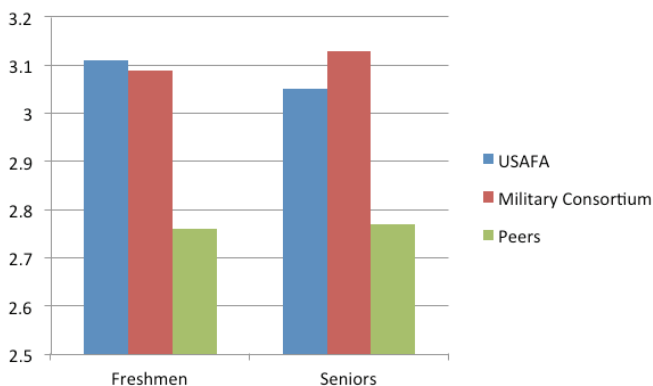


**Note:** Significant difference between freshmen at USAFA and peers ( $p < .001$ , effect size = 0.38)  
 Significant difference between seniors at USAFA and peers ( $p < .001$ , effect size = 0.35)



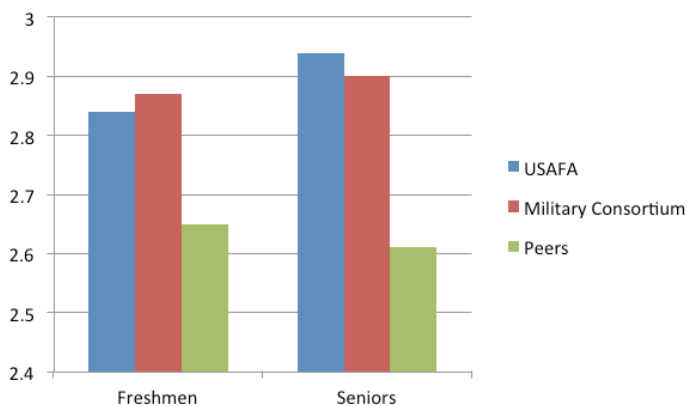
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**Figure 4. NSSE Results – Had serious conversations with students of different religious beliefs, political opinions, or personal values**



**Note:** Significant difference between freshmen at USAFA and peers ( $p < .001$ , effect size = 0.36)  
Significant difference between seniors at USAFA and peers ( $p < .001$ , effect size = 0.30)

**Figure 5. NSSE Results – Institution contributes to understanding people of other racial and ethnic backgrounds**



**Note:** Significant difference between freshmen at USAFA and peers ( $p < .001$ , effect size = 0.2)  
Significant difference between seniors at USAFA and peers ( $p < .001$ , effect size = 0.34)

These results indicate that Air Force Academy freshmen and senior cadets scored higher when compared to students at peer institutions on each of the questions selected. Additionally, the data show that USAFA seniors scored higher

than students from other service academies and peer institutions on how often diverse perspectives are included in classroom discussions or writing assignments.

The final source of indirect data came from cadet observations in after-action reports and photo-journals completed after returning from high-impact learning experiences such as language or cultural immersion programs. Not all cultural immersion programs include a language learning component. Qualitative analyses of student comments confirm an increased awareness and appreciation of different perspectives. Due to space constraints only a few samples of their insights are provided below:

“This was priceless . . . It’s important to understand different perceptions of Americans, other races, and every other characteristic which makes us humans different.”

“I tried to see the difference in this way of life. However, it was difficult for me . . . as I’ve lived my entire life one way.”

“From this amazing trip, I was able to broaden my scope of thinking. I realized how different some cultures are, and how naive I have been about my own.”

The indirect data collected and discussed above were strong indicators that the curriculum is having a positive impact on the intercultural competence of our students. Nevertheless, data derived from direct assessment of this growth were still lacking. The first step was to settle on an acceptable model of intercultural competence that aligned with the Air Force’s perspective of this construct. Then, the natural progression was to determine which instrument best followed that model and could provide an empirical measure of the construct. The Intercultural Development Inventory (IDI) was the tool chosen to provide direct assessment about the level of intercultural development of the subjects.

### **Direct Assessment Data: Models and Measures of Intercultural Competence**

Byram’s Model of Intercultural Communicative Competence (1997) suggests that the acquisition of intercultural competence involves five components or *savoirs*. These components are (1) *savoir être*: attitudes, or curiosity toward other cultures; (2) *savoir*: knowledge, as in cultural knowledge; (3) *savoir comprendre*: skills of relating and interpreting, dealing with comprehension of texts; (4) *savoir apprendre/faire*: skills of discovery and interaction, acquiring new cultural knowledge through real-time interaction; and (5) *savoir s’engager*: critical cultural awareness, the ability to analyze and balance products, practices, and perspectives of one’s own culture and the target culture. A more detailed explanation of the *saviors* pays specific attention to an intercultural speaker’s behavior, knowledge, and skills (Byram, 1997; Sercu, 2004). The model focuses on purposeful planning and assessment that deliberately includes intercultural competence as a pedagogical aim (Byram, 2009).

The Process Model of Intercultural Competence (Deardorff, 2006) involves movement from the personal level to the interpersonal level, denoted

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by intercultural interaction. This model recognizes the ongoing process of intercultural competence development, and states that while individuals continually strive for improvement in intercultural competence, they may never achieve ultimate competence (Deardorff, 2006).

The Developmental Model of Intercultural Sensitivity (DMIS) was proposed by Bennett (1986) and further elaborated (1993) to assist people on their own personal intercultural journey. Because this journey was seen as a continuing process, Bennett outlined a roadmap to identify the stages each person would necessarily travel through while becoming interculturally competent. The DMIS is a six-stage model divided into two parts. The first portion, denoted the ethnocentric phase, is comprised of three stages. The second portion, named the ethno-relative phase, is made up of another three stages. In the ethnocentric phase, a person journeys through various levels of recognition of cultural differences, and the terminology reflects the concomitant reaction. The first stage, *Denial of difference*, is characterized by stereotyping and superficial statements of tolerance. At this point, a person really is not able to recognize, interpret, or accept cultural difference. In the second stage, *Defense against difference*, the person recognizes cultural difference but reacts with a negative assessment of anything that differs from the native culture. The greater the cultural difference, the more negative the reaction. In the third stage, *Minimization of difference*, recognition of cultural difference is accompanied by acceptance on a superficial level. The person places an emphasis on the similarities between cultures and suggests a commonality of values (Anderson, Lawton, Rexeisen, & Hubbard, 2006; Bennett, 1986, 1993; Durocher, 2007; Hammer, Bennett, & Wiseman, 2003; Paige, Jacobs-Cassuto, Yershova, & DeJaeghere, 2003).

Once a person moves into the ethno-relative realm, he or she passes through three further stages. The first, *Acceptance of difference*, is farther along the continuum as the person recognizes and truly accepts cultural differences, be they in behaviors or values. In stage five, *Adaptation to difference*, communication skills emerge that enable the person to engage in intercultural communication. That is, a person acknowledges the necessity for empathy and makes an effort to be understood and act appropriately across cultural boundaries, without ceding his or her own cultural values. The final stage, *Integration of difference*, entails a person operating within a completely bicultural or multicultural frame of reference while simultaneously maintaining a sense of self or identity (Anderson et al., 2006; Bennett, 1986, 1993; Durocher, 2007; Hammer, Bennett, & Wiseman, 2003; Paige et al., 2003). While these stages can easily be conceptualized and expressed in a linear fashion, the path a person takes through each stage does not necessarily follow suit. In other words, one can make little, adequate, or great progress within stages and certainly between stages. However, one can also relapse or retreat into a previous stage or position within the same stage (Anderson et al., 2006; Engle & Engle, 2004). Movement along this intercultural continuum is difficult to predict and to measure, but at the very least the DMIS provides a framework for evaluation and operational definitions of various points throughout the process of developing intercultural competence.

Many external assessment tools exist that claim to assess intercultural competence or minimally certain aspects of this construct (Fantini, 2009). The utility of a particular tool depends on the match between the construct definition and the components measured, along with the methodological approach to measurement in general. A few assessment tools are described below as a sample; for a listing of over 40 different tests, please see Fantini (2009). The Sociocultural Adaptation Scale (SCAS) (Searle & Ward, 1990; Ward & Kennedy, 1999) is a 29-item scale with a five point Likert-type response range that measures cognitive and behavioral dimensions of sociocultural adaptation. Subjects taking the SCAS are asked to rate the level of difficulty they perceive or experience in adapting to situations that require some amount of intercultural interaction (Ward & Kennedy, 1999). The Multicultural Personality Questionnaire (van der Zee & van Oudenhoven, 2000) is an instrument designed to measure and describe the behavior of someone who is interacting with a person from another culture. Five personality factors are assessed by this instrument: (1) cultural empathy, the ability to identify with those from different cultural backgrounds; (2) open-mindedness, the capacity to accept people from another cultural group with different values and norms; (3) social initiative, the degree to which one takes the initiative in intercultural social situations; (4) emotional stability, or how calm one remains in a stressful situation; and (5) flexibility, or how easily one can adjust behavior to new situations (van der Zee & van Oudenhoven, 2000).

The IDI (Hammer, 1999; Hammer, Bennett, & Wiseman, 2003) was created precisely to operationalize the DMIS model and provide a method of assessing at what stage individuals are. It consists of a 50-item questionnaire that assesses the major stages of intercultural competence, as conceptualized in the DMIS model. Subjects take the questionnaire and respond to statements on a 5-point Likert scale to express agreement or disagreement (Hammer et al., 2003). This instrument was chosen for the present study based on validity studies involving the IDI (Hammer et al., 2003; Paige, Jacobs-Cassuto, Yershova, & DeJaeghere, 2003). The IDI has been vetted using factor analyses, construct and content validity rating, and reliability. The IDI is based on 20 years of inductive research from sociologists at the University of Minnesota who have surveyed over 8,000 people from over 30 countries testing (Hammer et al., 2003). Using Confirmatory Factor Analysis on 591 respondents from diverse backgrounds, it was established that the six stages of the mono-cultural/intercultural continuum met or exceeded standard reliability criteria for individual and group psychometric diagnosis. Confirmatory factor analysis is a branch of statistics that measures whether data fit a hypothesized measurement model: in this case, does the IDI effectively measure the DMIS? Furthermore, there were no significant differences among ages, education, ethnicity, or gender. According to Hammer et al. (2003), the IDI is a robust measure of the cognitive states described in the DMIS, and the instrument is generalizable across cultures.

The IDI was not developed specifically for the FL educational public, but its use clearly serves a purpose when one considers one of the goal areas of the National Standards for Foreign Language Learning (National Standards,

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2006). With the delineation of these national standards, a renewed emphasis on culture—its teaching and learning—came to the forefront of FL education. The Cultures goal area addresses the products and practices of other cultures as well as requiring an exploration of the “why” underpinning these artifacts and behaviors. It is this “why”—denoted as *perspectives*—that is at the heart of culture and, as such, is essential to understand or, at the very least, acknowledge. Several leaders in the FL field have underscored the importance of developing this intercultural competence as a given to be included by educators (Schulz, Lalande, Dykstra-Pruim, Zimmer-Loew, & James, 2005):

If, indeed, intercultural awareness and cultural competence are to be an outcome of FL learning, the FL teaching profession needs to engage in a systematic, meaningful effort to include such competence in its curricular goals and assessments. (p. 174)

Thus, intercultural competence has become a key issue in many areas. In the business arena, companies with overseas branches and clients have a real stake in assuring that their personnel are able to make connections with their clients on both professional and personal levels. To do this, intercultural competence must be fostered. In general educational environments, teachers in multicultural school locales can profit by cultivating their intercultural competence in order to work with very diverse student populations. And, of course, in foreign language-specific settings, the pressure is on to justify the time and expense of additional FL coursework and study abroad programs that are offered to students.

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## Justification for and usage of the IDI

As this study is concerned with the development of intercultural competence in a FL educational setting, the following discussion deals primarily with background studies that employed the IDI to measure this competence in FL learning situations. Nevertheless, many other studies supporting the successful use of the IDI in business contexts as well as in general educational environments have been published (e.g., Anderson et al., 2006; Lundgren, 2007; McAllister & Irvine, 2000; Nero, 2009). In addition, an extensive bibliography of studies spanning several disciplines and professional practice venues has been compiled for reference (Hammer, 2012).

Due to the increasing insistence of stakeholders to justify the cost of FL programs and in particular study abroad opportunities in both time and money, several studies have been conducted in an attempt to corroborate the claims made in defense of these programs. Two broad categories of studies emerge: those investigating the impact of duration of study abroad programs in general and those scrutinizing component parts of such programs in order to pinpoint more precise reasons for gains in intercultural competence such as language proficiency, prior intercultural awareness instruction, and on-sight pedagogical

interventions (Engle & Engle, 2004; Paige, Cohen, & Shively, 2004). In the first category of studies, the preponderance of data shows that, in essence, the longer the better in terms of in-country immersion (Engle & Engle, 2004; Jackson, 2008; Medina-López-Portillo, 2004; Vande Berg, Connor-Linton, & Paige, 2009). The studies included a pretest and posttest design using the IDI, and the duration of study in-country ranged from four weeks up to a year. Though on the whole these studies did not yield statistically significant differences in terms of movement along the intercultural competence scale, as measured by the IDI—a quantitative instrument—the data did show mostly positive movement along the intercultural competence continuum when gauged by qualitative instruments such as journals, surveys, and interviews.

In the second category of studies—those delving into more specifics of the study abroad programs and curricula—the data showed more positive results. Investigations here involved explicit efforts to promote intercultural competence awareness on a variety of levels and through numerous means. The studies included a pretest/posttest design using the IDI and incorporated varied methods of highlighting intercultural awareness throughout. Explicit efforts were made to engage the subjects with the target culture, to provide them with proactive learning interventions that would cause them to interact with that culture, and have them reflect on their interactions (Durocher, 2007; Engle & Engle, 2004; Nero, 2009; Paige, Cohen, & Shively, 2004; Vande Berg et al., 2009). These efforts encompassed preparation time before traveling abroad in addition to time spent in-country during the study abroad program per se. Pre-departure activities included reflective journaling (Jackson, 2008), participation in a series of intercultural training tasks that targeted specific stages of the DMIS (Durocher, 2007), and the implementation of course materials whose intent was to enhance study abroad participants' cultural and language experience through a systematic strategy-based approach (Page, Cohen, & Shively, 2004). Some examples of in-country interventions include a commitment to target language (TL) use in the form of a language pledge, weekly language partner exchanges, and required regular community service (Engle & Engle, 2004). The data showed that these explicit and purposeful tasks of cultural mentoring, cultural learning interventions, and developmental cultural reflections all resulted in an increase in intercultural competence and a positive shift along the IDI scale. Nevertheless, this movement along the IDI scale needs to be fostered by a series of external forces, such as pre-departure instruction, an on-site faculty mentor, continual reflection in the form of journals, and post-debriefing with interviews. It would appear that developing intercultural competence requires more than merely dropping students into an immersion environment and hoping intercultural interactions will be noticed, will take place, and will be internalized as part of an ongoing reflective process (Engle & Engle, 2004; Jackson, 2008; López-Medina-Portillo, 2004; Nero, 2009; Page, Cohen & Shively, 2004).

## **Procedures and Results**

Subjects for the study were randomly drawn from four different groups of students: freshmen, seniors, juniors and seniors who had completed a 3-week

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immersion abroad, and finally seniors who were Foreign Area Studies (FAS) majors who had studied abroad for one semester. For the freshmen group, an underlying assumption is that the random sample was representative of the entire class, which, based on historical language placement data, has taken an average of two semesters of foreign languages in high school. Travel abroad experience was not collected for the freshmen but was assumed to be low. The senior group was controlled to ensure that there were no FAS majors or participants in our study abroad programs, although it is possible the participants could have had other personal international travel experience. The third group was composed of junior and senior cadets who had participated in a 3-week language or cultural immersion program abroad. The last group was controlled to ensure that only FAS majors with study abroad experience were included. The FAS major can be viewed as the most global and intercultural of majors at USAFA— it requires in-depth area studies of distinct regions around the globe along with advanced foreign language study. From the randomized groupings, researchers solicited volunteers to participate in the various assessment components of the study. Researchers felt that mandating participation in the survey would have reduced the validity of the responses. The volunteers for each of these groups completed the IDI; score results are noted in Table 2. These scores were then associated to the corresponding stages of the DMIS.

**Table 2. IDI Average Results by Group (N=326)**

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Freshmen	80.1 (n=54)
Seniors	84.2 (n=67)
Juniors and seniors with short term immersion experience	82.1 (n=191)
Foreign Area Studies seniors with study abroad experience	88.6 (n=14)

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As can be seen in Table 2, the freshmen cohort scored an 80 on the DMIS, which put them in the Defense stage of development. This cohort is characterized by an inability to recognize differences (Denial) with other cultures, or is even hostile to other cultures (Defense). The senior cohort scored an 84, also in the Defense stage of development but closer to minimization than Denial. The third group, with an average score of 82 is still in the Defense stage of development and closer to Denial than Minimization. Finally, the cadets who spent considerable time abroad and were majoring in Foreign Area Studies had an average of 89, which places them in the Minimization stage of development. A Student t-test was conducted to evaluate the mean differences between the groups. The difference between the freshmen and seniors was found to be statistically significant ( $t=1.96$ ,  $p<10$ ). The differences between the juniors and seniors with short term experience and the freshmen and senior groups were not statistically significant. The difference between FAS majors and freshmen and between FAS majors and

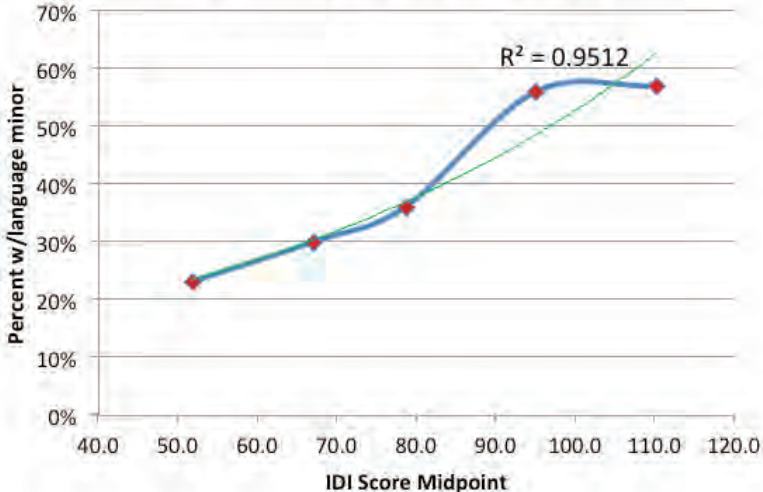


seniors with short term immersion was statistically significant ( $t=1.96, p<.10$ ), but the difference between FAS majors and seniors was not.

Minimization is an important step in building intercultural competence. In Minimization there is recognition of cultural differences on a superficial level such as food and dress, but the underlying mindset at this stage of the DMIS continuum is the view that, although there are superficial differences between cultures, people are really more alike than different. In minimization their world view is “protected” by attempting to subsume difference into familiar categories—“deep down we’re all the same.” Minimization is the stage where students are on the “cusp” of acceptance, and with some effort they can be moved to the right of the DMIS continuum to achieve acceptance, because they are at least “open” to the idea of difference.

Additional analyses of results from the IDI explored differences in scores among students with short-term immersion experience who had or had not pursued a language minor. These analyses directly addressed the third research question concerning the impact of advanced language courses on the development of intercultural competence. Scores of students were parsed and placed along a continuum, according to the IDI scales of measurement (e.g., Denial, Defense, Minimization). The percentage of students in each group who were language minors was then plotted. Figure 6 illustrates the findings, showing a correlation of  $r=+.9753$  (and a coefficient of determination of  $R^2=+.95$ ).

**Figure 6. IDI Scores & Proportion of Foreign Language Minors**



This strong correlation suggests that students pursuing more advanced foreign language studies (as indicated by a minor in foreign languages at USAFA) had greater intercultural competence as measured by the IDI.

**Future directions**

The natural follow-on to this effort is to dig deeper into other factors that might have an impact on a student’s development of intercultural competence. An initial



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review of additional data collected after the summer of 2012 indicates that students who participate in language immersion programs after studying that language in a classroom environment have a richer and more complete international experience than cadets who study abroad without prior foreign language experience. The researchers also intend to follow up with the cadets surveyed as freshmen to determine the extent to which their intercultural competence increased during their four years at USAFA and other factors and experiences that contributed to that growth.

## Limitations of the Study

The unique environment of the Air Force Academy may limit the generalizability of the results of this study. However, the approach used to assess intercultural competence (collection and examination of indirect and direct data) is certainly applicable to other institutions trying to evaluate the impact of their programs and curriculum on the intercultural competence of their students. Another limiting factor of this study is the small sample size, particularly of students who have traveled abroad. Future research efforts will aim at increasing the sample size for all four groups and will examine the link between intercultural competence and a diverse learning environment.

## Conclusion

In an increasingly interconnected world, intercultural competence is an extremely important skill to develop for a multitude of settings, situations, and goals. It is also clearly a complex concept that is difficult to operationalize, track, and measure. This study used an innovative triangulation strategy to assess intercultural competence through the use of indirect and direct data. This use of qualitative and quantitative data broadens the approach researchers can use to examine and analyze the evidence of intercultural competence garnered through the various measures employed. The results of this study suggest that intercultural competence can be defined, facilitated, and measured effectively. However, the results also underscore the need for further research to identify the best approach and instruments to assess intercultural competence and the factors that contribute to its development.

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*In an increasingly interconnected world, intercultural competence is an extremely important skill to develop for a multitude of settings, situations, and goals. It is also clearly a complex concept that is difficult to operationalize, track, and measure.*

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