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An Assessment of Diversity Competence among College Seniors: An Exploratory Study

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An Assessment of Diversity Competence among College Seniors:
An Exploratory Study

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
In partial fulfillment of the
Requirements for the degree of

Doctor of Philosophy
In
The Department of Educational Leadership, counseling, and foundations
Educational Administration

By

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Abstract

In our increasingly diverse global workforce, both employers and institutions of higher learning want to know if colleges and universities equip their students with adequate cultural competence skills. Reliable instruments to measure cultural competence levels for a general student body are not widely available, however. In this report, a self-developed 33-item instrument was designed to assess college seniors' cultural competence levels, including subscales for cultural awareness and cultural knowledge. An expert panel was selected to establish content validity. A pilot study was conducted to improve the design of survey format. The Cronbach's alpha was .770 according to the reliability test.

Six hundred and twenty-one seniors from two 4-year, selective public universities participated in this initial study. Analysis revealed statistically significant differences in cultural competence levels among students of different academic fields and demographic backgrounds, according to the results of t-tests and ANOVA. The study found that the students of liberal arts field had a higher cultural competence level than those of professional/vocational field did. The data also noted that female students had higher competence scores than their counterparts did. Asian/Pacific Island students had a lower mean score on cultural competence than the students of both African American and Biracial/Multiracial did.

Generalizing the findings of this study should be taken cautiously given that this research was limited to a sample of two public universities. Nevertheless, all findings indicated taking classes related to cultural diversity improve students' cultural competence.

Keywords: Diversity, Cultural competence, Workforce diversity, Higher education

Chapter One: Introduction

Overview

According to the U.S. Census Bureau, the U.S. labor force is changing in significant ways as more women, people of different races and ethnicities, older workers, and people with disabilities enter the workforce. It is reported that nearly seventy percent of new workers entering the US job market between 2003 and 2008 were women and ethnic minorities (Rajan, & Harris, 2003).

In 2011, the Census Bureau reported more than eleven percent of total population was persons with a disability (Bureau of Labor, 2011). This report also estimated that one out of 14 workers would be older than 65 years old and one out of 6 workers would be Hispanic in 2018 if current trends continue. American society has one of the most racially diverse workforces in the world, but the ability of workers to function successfully in these new diverse (and increasingly collaborative) work environments is uncertain (Beaubjen, 2010).

More and more, private and public institutions embrace diversity because they are convinced that training students with diversity competence can help corporate business avoid discrimination liability suits caused by cultural conflict and enhance employee productivity in the growth of a global economy and market (Beaubjen, 2010; Bisson, Stephenson, & Viguerie, 2010; Robinson, & Dechant, 1997). Nevertheless, employers continue to spend millions of dollars for diversity training every year for their employees because they are not pleased with the outcomes that higher education institutions have produced in preparing their students to enter a highly diverse workplace (Gilbert, & Ivancevich, 1999; Jayne, & Dipboye, 2004). There is continued uncertainty about the levels of diversity competence among those entering the

American workforce. This study seeks to answer the question: *What are the relative levels of cultural competence amongst college seniors of various academic majors and demographic backgrounds?*

Background of the problem

Labor force trends

Reports by researchers and consulting firms have indicated that the shifting of the American workforce has become one of the major challenges faced by corporate management in the 21st century (Hankin, 2005; Hudson Institute, 1990; Johnson, & Packer, 1987; Judy, & D'Amico, 1997; Konard, 2006).

White and male populations have historically been the majority of the American workforce (Hankin, 2005). However, a new census report reveals that more than 50 percent of the U. S. workforce is currently comprised of people other than whites and males. Business sees diversity as an opportunity for corporate performance and still expects higher education institutions to produce diverse talents for a diverse working environment.

Changing workforce demographics

According to the U.S. Census Bureau, the overall labor force participation rate has declined in recent years, but the participation rate of male in the labor force has decreased faster than that of their female counterparts. Data indicate that labor force participation of both males and females aged older than 65 has sharply increased in the past two decades compared with that of their counterparts aged 25-34 and 45-54 (Table 1.1).

In terms of the increasing rates among different age groups, the data indicate that from 1990 to 2009, both male and female members in the labor force who are older than 65 had the highest change rate when compared with the rest of the age groups from 1990 to 2009. If the trend continues, the groups of workers 65 years and older will be 10 times larger than their counterpart groups (Census Bureau, 2011). It is projected that one out of 14 workers will be older than 65 years old in 2018.

Table 1.1 Civilian Labor Force and Participation Rates: 1990, 2000, 2009, and Projected 2018

| Gender, Age, And Race | *Civilian labor force (millions) | | | | **Participation rate (percent) | | | |
|--------------------------|----------------------------------|-------|-------|-----------------|--------------------------------|------|------|-----------------|
| | 1990 | 2000 | 2009 | 2018/Projection | 1990 | 2000 | 2009 | 2018/Projection |
| Total | 125.8 | 142.6 | 154.1 | 166.9 | 66.5 | 67.1 | 65.4 | 64.5 |
| Male | 69.0 | 76.3 | 82.1 | 88.7 | 76.4 | 74.8 | 72.0 | 70.6 |
| 25 to 34 years | 19.9 | 17.8 | 18.2 | 20.2 | 94.1 | 93.4 | 90.3 | 90.6 |
| 45 to 54 years | 11.1 | 16.3 | 19.0 | 18.0 | 90.7 | 88.6 | 87.4 | 87.1 |
| 65 years and Over | 2.0 | 2.5 | 3.6 | 5.9 | 16.3 | 17.7 | 21.9 | 26.7 |
| Female | 56.8 | 66.3 | 72.0 | 78.2 | 57.5 | 59.9 | 59.2 | 58.7 |
| 25 to 34 years | 16.1 | 14.9 | 15.1 | 16.6 | 73.5 | 76.1 | 75.0 | 74.2 |
| 45 to 54 years | 9.1 | 14.8 | 17.2 | 16.3 | 71.2 | 76.8 | 76.0 | 76.6 |
| 65 years and over | 1.5 | 1.8 | 2.9 | 5.2 | 8.6 | 9.4 | 13.6 | 18.9 |
| ***Race | | | | | | | | |
| White | 107.0 | 118.5 | 125.6 | 132.5 | 66.9 | 67.3 | 65.8 | 64.5 |
| Hispanic | 10.7 | 16.7 | 22.4 | 29.3 | 67.4 | 69.7 | 68.0 | 67.3 |
| Black | 13.7 | 16.4 | 17.6 | 20.2 | 64.0 | 65.8 | 62.4 | 63.3 |
| Asian | N/A | 6.3 | 7.2 | 9.3 | N/A | 67.2 | 66.0 | 65.0 |

Note: * The civilian labor force comprises all civilians 16 years of age and over classified as employed or unemployed.

** Civilian labor force as a percent of the civilian non-institutional population

*** Prior to 2003, the Current Population Survey (CPS) only allowed respondents to report one race group. Beginning 2003, data represent person who select this race group only and exclude persons reporting more than one race.

Source: U.S. Census Bureau, Statistical Abstract of the United States: 2011
<http://www.census.gov/compendia/statab/2011/tables/11s0585.pdf>

The American work force has also become more racially and ethnically diverse than ever. The portion of the labor force that is white has increased from 1990, but, on average, the increasing rate of the white group is the smallest particularly when compared with other racial groups, Black, Hispanic, and Asian.

The Census Bureau started to collect data related to the employment status of persons with disabilities in 2008 (Table 1.2). This action was taken partly because the proportion of the U.S. population with disabilities had been on the rise in the past decade and partly because the emergence of the employment of the persons with disabilities had reached a point where it could not be ignored (Ball, et al, 2005; Bureau of Labor, 2011). According to the Bureau of Labor statistics in 2011, an average of 11.4 percent of the civilian, non-institutional population is persons with disabilities.

Table 1.2 Population and employment – With a disability: 2008, 2009, 2010, 2011

Unit: Thousand
Age: 16 years and over

| | 2008 | 2009 | 2010 | 2011 |
|--------------------------------------|---------|---------|----------|---------|
| Civilian Noninstitutional Population | 235,035 | 235,801 | 237,830 | 239,003 |
| Numbers of Disability* | 27,380 | 26,981 | 26,592** | 27,339 |
| Disability- Population Ratio (%) | 11.6 | 11.4 | 11.2 | 11.4 |
| Civilian Labor Force – | | | | |
| With a Disability* | 6,283 | 6,050 | 5,795** | 5,664 |
| Employed - | | | | |
| With a Disability* | 5,604 | 5,174 | 4,939** | 4,816 |
| Employed - Labor Force Ratio (%) | 89.0 | 85.5 | 85.2 | 85 |
| Employed - Population Ratio (%) | 20.0 | 19.2 | 18.6 | 17.6 |

Note: * This annual average is based on the numbers collected from June to December, 2008

** This annual average is based on the numbers collected from January to May, 20011

Source: The U.S. Census Bureau, the Bureau of Labor Statistics, Current Population Survey

<http://data.bls.gov/pdq/SurveyOutputServlet>

In sum, the data gathered by the U. S. census confirms that the American labor force has become highly diverse, and the White male is not a dominant proportion of the American work force any more. As “feeder pools to American business” (DeBruin et al., 2003), higher education institutions have to step up their efforts to provide an appropriate diversity competence education to their students.

Diversity competence development

The U. S. workforce is one of the most diverse in the world. Workforce diversity has become a major trend for both the business and public sectors particularly since the U.S. economy has become more globalized, and diverse work teams have become more popular in organizations (Wentling, 2012).

Workforce diversity is unavoidable, but the benefits of promoting diversity in the work place are contentious. Many companies consider that supporting diversity is the right thing to do, socially and morally. Nevertheless, the introduction of diversity into organizations has many barriers. One of the main issues is that organizational benefits of practicing diversity are inconclusive (Brown, 2004; Mannix, & Neale, 2005; Wentling, 2012).

Many theories and strategies have been devised to help top management introduce diversity the work place. Strengthening diversity competence within organizations through diversity training and talent recruitment has become a common practice to accelerate the development of workforce diversity (Beaubje, 2010; Cook, 2005; Wentling, 2012).

Diversity is considered a two-edged sword in the view of human resource management (Kravita, 2005). Diversity produces positive outputs including creativity and productivity, but it also can create conflict and distrust if proper diversity management is not in place. To eliminate

some of the negative outcomes associated with workplace diversity, diversity training is recommended by most of human resource management. The main goals of diversity training within organizations are including enhancing teamwork, improving employee productivity, and avoiding liability in discrimination lawsuits (Beaubje, 2010; Hansen, 2003; Wentling, 2012). To reinforce the positive outcomes of workplace diversity, recruiting new employees with adequate diversity competence has become a key human resource strategy supported by top managements and business schools (Bowen, Bok, & Burkert, 1999; Moran, Youngdahl, & Moran, 2009).

Recruiting employees with strong diversity competence is a crucial step for an effective diversity management. It is expected by business and public sector employers that higher education institutions will have provided their graduates with strong diversity consciousness (Brown, 2004; Heuberger, & Gerber, 1999). Despite the efforts of higher education to provide a sound diversity education for the student, business communities continue to question the effectiveness of diversity education offered by colleges and universities. There is a difference between higher education institutions and American corporations in understanding of the quality of college students' diversity preparedness (Brown, 2004).

Not only do business communities think higher education institutions should step up their support on diversity education, the general public agrees that colleges and universities have a responsibility to promote diversity initiatives in American society. A survey titled *American Commitments: Diversity, Democracy and Liberal Learning* sponsored by Association of American College and Universities (AAC&U) found that the majority of the respondents agreed that it was important for Americans to understand people who are different from themselves because American society is becoming more diverse than ever (Humphreys, 2011).

Even though the development of diversity education in higher education is still in an initial stage (Brown, & Ratcliff, 1998), many surveys report that higher education institutions have made good progress in enhancing diversity requirements on college campuses throughout the years (AACU, 2007). Diversity education has become a buzz word among higher education institutions in recent years, but most of efforts have been devoted to fields related to health care, and little attention has been given to including diversity competence in general education requirements. Few studies have been conducted on how diversity initiatives impact college students' diversity competencies development. The study proposed below seeks to use a recently developed and tested instrument to measure the diversity competencies of college seniors at two public American universities.

Review of Major Concepts

Summary of major concepts

Several major concepts will be outlined here in order to lay the groundwork for detailing the progresses for instrument development and data collection. Diversity competencies, including diversity knowledge and diversity awareness, will be reviewed from the perspective of culture because diversity competence is considered as the ability to perform in a different cultural environment (Schmitz, 2006; Trompenaars, & Hampden-Turner, 1998). The development of diversity and cultural competence education studies will be reported to validate the importance to conduct this explorative study.

Benefits to organizational diversity

Organizational studies including diversity as a topic started when many institutions faced discrimination lawsuits in the 1960s (Gilbert, & Ivancevich, 1999). Researchers beefed up their research on organizational diversity after they found that organizational diversity had emerged as a very important part of the organizational structure. Its development is associated with organization's growth and success (O'Mara, & Richte, 2006).

Hitt, Miller, and Colella (2009) defined organizational diversity as “characteristic of a group of people where differences exist on one or more relevant dimensions such as gender. ... Diversity is a group characteristic, not an individual characteristic.” (p. 40). For this study, organizational diversity refers to the co-existence of employees from various socio-cultural backgrounds within a company. Diversity includes cultural factors such as race, gender, age, color, physical ability, ethnicity, etc. (Ongori, & Agolla, 2007).

Organizational diversity can bring positive benefits to institutions from many perspectives. Based on the results of empirical studies and the review of monographs, diversity benefits in organizations can be divided into two areas, the business sector and higher education (Aguirre, & Martinez, 2007; Cunningham, 2009; Chun, & Evans, 2009; Kreitz, 2007; Mannix, & Neale, 2005; Williams, & O'Reilly, 1998).

Through proper strategies and management, organizational diversity creates positive benefits to institutions, directly or indirectly. In the business sector, if a company culture supports inclusiveness, both Kreitz (2007) and Williams and O'Reilly (1998) noted that groups of diverse cultural backgrounds produce positive impact on group process and performance. Also, workforce diversity is strongly linked to creativity and problem-solving when there is “an increase in the variety of perspectives and approaches brought to a problem and to opportunities

for knowledge sharing” (Mannix, & Neale, 2005, p 31). In the field of higher education, organizational diversity helps turn a campus into a learning environment through creating a culture of inclusiveness and interdependence; in this environment, student learning is enhanced and administrative performance improved (Aguirre, & Martinez, 2007; Chun, & Evans, 2009; Cunningham, 2009).

Cultural competence and its dimensions

In a global society, higher education institutions and business corporations cannot succeed, if their members do not have diversity competence. In general, cultural competence refers to recognition of the differences among cultural groups, and response to those differences positively, and to effective interaction across cultural groups (Lindsey, Robins, & Terrell, 1999). According to Hogan (2007), the terms *cultural competence* and *diversity competence* could be interchangeable because their principal assumptions were commonly related to combining cultural awareness and skills to interact with people of different cultural backgrounds. To avoid confusion, the term *cultural competence* will be used in this proposal study. Hogan indicated that organizations and institutions cannot be culturally competent unless employees are equipped with a good level of cultural competence.

More specifically, from the perspective of function, Diller and Moule (2005), Hogan (2007), Lum (2007), and Schmitz (2006) described cultural competence as individuals utilizing the ability of cultural awareness and skills to act and interact successfully across cultural differences. Because of different ideas and thinking patterns resulting from different cultural backgrounds, members of different groups often see things from various perspectives. Their

unique perspectives generate diverse ways to solve problems and reconcile dilemmas (Trompenaars, & Hampden-Turner, 1998).

In an organization or institution, the collaborations among people of different cultural backgrounds can be interrupted because of employees' lack of proper cultural competence. From a human resources perspective, Hogan (2007) stressed that developing models to enhance proper interaction among peers that value diversity fosters understanding among people, which is one of the basic dynamics in the development of teamwork. In this sense, cultural diversity competence becomes a foundation for a business to succeed in a highly diverse society.

Dimensions of cultural competence

Although different scholars and researchers have different theories and assumptions to define the elements of cultural competence, most of their studies can be traced back to the influence by the work of Cross, Bazron, Dennis, and Isaacs (1989). Cross was the executive director of the National Indian Child Welfare Association in Portland, Oregon. In order to improve the child care services of their institution, Cross and his associates developed cultural diversity "assumptions" for their agencies to make their child care services more effective. Based on these assumptions, they indicated that basic cultural competence should include the skills related to awareness, knowledge, and adaptation.

Cross et al. (1989) noted that a first step toward cultural competence is the development of an awareness that difference can be caused by cultures, and understanding of the impact of cultural difference starts with the development of *self-awareness*. Without self-awareness, it is impossible to appreciate the impact of other cultures. Cross et al. also indicated that *cultural knowledge* is the second key quality of cultural competence which helps enhance social worker

services because familiarizing oneself with different cultures helps the practitioners to understand certain behaviors within their cultural contexts. Many mistakes can be avoided if different behaviors and motivations are identified in advance. *Adaptation of skills* refers to accommodating cultural differences based on different environments and cultural characteristics.

In this study, the dimensions of cultural awareness and cultural knowledge will be the primary focus because they are key factors to understanding the scope of college students' diversity competence. Cultural awareness and cultural knowledge are complementary to develop an understanding of others of diverse cultural backgrounds (Adams, 1995). The step of adapting skills to enhance cultural competence suggested by Cross et al. (1989), which will not be included in this study, is based on two considerations. One is that skills as mentioned are directly related to the profession of social worker; another is that a course designed for enhancing cultural competence skills for general student body is rare.

Cultural competence education

A changing demography in society, in general, and on campus, in particular, has forced colleges and universities to review their educational goals and mission statements. Although the design of diversity education programs is varied and based on different educational philosophies, most institutions share a common belief that diversity initiatives and programs are developed to help students learn to live and work among diversity and to function successfully in this self-consciously diverse population (Bok, 2006).

Cultural competence education serves as a crucial part of quality diversity education because the goal of cultural competence education is to enable students to work effectively in cross-cultural situations in school, at work or in society (Cross, 1988). Surveys indicated colleges

and universities have increased the courses related to diversity study in their general education curriculum every year (Levine, & Cureton, 1992; National Association of Scholars [NAS], 1996; Carnegie Foundation for the Advancement of Teaching, 1992). Based on a national survey developed by AAC&U in 1998, Humphrey (1998) noted that sixty-three of colleges and universities responded that they either had a diversity requirement in place or they were in the process of designing one. A diversity requirement can refer to a course addressing diversity either in or outside of the U. S., or courses of non-Western cultures. Cultural competence courses are only offered by those fields directly related to social work and health care. Due to a disagreement on including cultural competence in a general education requirement among the stakeholders in higher education, specific courses focusing on cultural competence for general student bodies are yet to be realized (Gallegos, Tindall, & Gallegos, 2008).

Diversity education is positively associated with the growth of students' diversity competence. Diversity competence is critically important in enabling students to feel confident to interact with peers of different backgrounds. The scale of students' diversity competence can be an indicator of their cognitive development.

Purpose of Study

The discussion above describes an increasingly diverse American workforce as well as the potential this diversity has for improving organizational effectiveness. Realizing this potential, however, requires that employees possess the cultural competence to work productively on diverse teams and to productively work through conflict caused by cultural difference. There is certainly a significant role in the development of cultural competence to be

played by the college and university systems. According to a 1998 Ford Foundation Campus Diversity Initiatives Survey, while more than 72% of voters believed that the purpose of higher education is to provide students with career training (Aguirre, & Martinez, 2007), 69% also expected universities to prepare students to function in a more diverse society and workplace.

The purpose of this study is to take an initial step to understand the status of higher education institutions in preparing their students to enter diverse work places by examining their diversity competence, particularly, in the dimensions of *cultural awareness* and *cultural knowledge*.

Research Questions

The research questions guiding this investigation are provided below:

1. Are there significant differences in the diversity competence levels of college seniors based on their academic fields (liberal arts fields or professional/vocational fields)?
2. Are there differences in the cultural competence levels of college seniors based on gender, race/ethnicity, GPA, diversity-related course participation, and age?

Overview of Methodology

A self-developed instrument was designed to assess college seniors' diversity competence in the areas of diversity awareness and diversity knowledge. Students answered 33 questions relevant to demographic information, cultural knowledge, and cultural awareness. Based on the convenience sampling strategy suggested by Leedy and Ormrod (2005), two 4-year

public universities, instead of a national sample population, were be the target population of this study. Graduating seniors were selected to conduct this survey research because they were about to enter a diverse workforce and had maximum benefit from any potential university impact on their levels of multicultural competence.

An expert panel was selected to help establish content validity. A pilot study was conducted to improve the design of instrument. A reliability test, carried out through the pilot study, was utilized to check the accuracy of the instrument (Radhakrishna, 2011). Reliability of the piloted instrument was found to be .770.

A 33- items questionnaire was designed to measure the scale of cultural awareness and cultural knowledge. A descriptive study was conducted to understand the scale of college seniors' diversity competence. T-test and ANOVA were utilized to examine if there were significant differences existed among seniors based on gender, race/ethnicity, GPA, and academic field in terms of either cultural knowledge scale or cultural awareness scale. Effect size was calculated to test the strength of the differences examined by t-test between different gender and academic field.

Chapter Two: Conceptual Framework & Literature Review

Introduction

American society has one of the most diverse work forces in the world. American higher education institutions have faced the task of preparing their graduates for an increasingly diverse work place since 1970s. Reports reveal that multicultural courses or diversity study requirements for undergraduate students at American colleges and universities have greatly increased. Two studies indicated that multicultural or diversity course requirements have expanded from one third of American colleges and universities in the late 1980's to sixty-three percent in the late of 1990's (Humphreys, 1998; Levine, & Cureton, 1992). This growth indicates that American colleges and universities are addressing the importance of developing cultural competence in their graduates, and this study proposes an initial evaluation of these competencies in senior-level undergraduate students attending two public 4-year universities in the south region of the United States.

Conceptual Framework

Diversity is a relatively new concept used to study the impact of an ever-changing demographic shift in American society, higher education, and labor force. But, the evolution of the diversity movement can be traced back to the American civil rights movement of the 1950s and 1960s. Many reports imply that the support of diversity can be a proactive way to respond to a rapid change of the American population composition (Brown, 2004; Hankin, 2005; National

Urban League, 2011)). This study proposes to examine college students' cultural competence as an initial step towards understanding the role of higher education institutions in this effort.

Diversity study can be confused because different researchers have explored this new concept based on different interests, theories, and knowledge claims. The design of this study intends to build a case that cultural diversity not only benefits the financial and employee performance of businesses, it also helps enhance students' college experience. There are three core concepts used to frame this study: cultural diversity, requisite variety theory, and structural diversity.

Diversity can be referred to people having different skills, employees having different job responsibilities, or students having different areas of study. However, diversity as a main concept to frame this study is related to differences among cultural groups. The cultural groups shall include but not limited to race, gender, age, race, ethnicity, national origin and migration background; biological sex, gender identity, sexual orientation and marital or partnership status; spiritual, religious, and political belief or affiliation; physical, mental, and cognitive ability as suggested by National Association of Social Work (Lum, 2007).

The theory of requisite variety is also known as Ashby's Law. Ashby's law notes that the composition of the workforce within an organization shall reflect the variety of society outside of the organization (Ashby, 1965). Organization is benefited by a workforce composed of different cultural backgrounds because different perspectives brought out by different team members can complement one another to create better ideas or solutions. Applying the concept of information and decision-making theory, both Cox, Lobel and McLeod (1991) and Richard and Shelor (2002) found that "different opinions provided by culturally different groups make for better-quality decision."

Structural diversity serves as a concept to relate the environment to student learning and development. This concept corresponds with Chickering's theory that educational environment is the key to the success of student development (Chickering, & Reisser, 1993). Structural diversity is encompassed in bringing students from different cultural groups to campus, and provides them with opportunities to engage, to learn and to understand each other. Through interactions and engagement, students are able to develop their identities that enable them to respect people different from them, and work with them as a team (Hurtado, Milem, Clayton-Pedersen, & Allen, 1999). Structural diversity is not directly associated with the preparation of diversity competence, but it is a strong foundation to develop an effective diversity programs.

Cultural diversity

There are many interpretations and definitions of diversity. Lumby (2005) referred to "diversity" as a range of differences. Without the factor of human race, *Learner's Dictionary* (2011) refers to diversity as "the quality or state of having many different forms, types, ideas, etc." With regard to race, *Learner's Dictionary* further defines the meaning of diversity as "the state of having people who are different races or who have different cultures in a group or organization." In summary, the concept of cultural diversity refers to the idea that people are different because their cultural backgrounds are varied. People cannot work effectively within a group in which members have different cultural backgrounds if they cannot recognize the difference caused by different cultures

Requisite variety

The outcomes of practicing diversity within an organization are inconclusive, but utilizing the concept of diversity to produce an environment for people of different backgrounds to create good ideas is commonly practiced in major private and public sectors. People of different cultural backgrounds can produce more if they work together as a team. Using the concept of requisite variety, Page (2007) noted that as individuals, people can accomplish only so much because of limited ability, but, collectively, people possess incredible capacity to think differently. These differences can provide the seeds of innovation, progress, and understanding. The theory of requisite variety is also known as Ashby's Law. Molden (2011) indicated that group applications of requisite variety can generate innovative solutions to challenging problems because the team members are equipped with varied skills, education and experiences.

Structural diversity

Structural diversity builds a bridge between the development of diversity and the concept of requisite variety. "Structure diversity" refers diversity to the numerical representation of different cultural groups. Each cultural group has its share of representation based on the percentage of their populations (Hurtado et al. 1999). Combining diversity and the concept of requisite variety in the educational setting, Hurtado et al. (1999) noted that increasing the number of different racial/ethnic and gender groups on campus is an important step in the development of a diverse learning environment because a diverse campus provided students with opportunities for social interactions (Engberg, 2007)..

On the basis of the structural diversity, Gurin (2002) introduced the concepts of classroom diversity and informal interactional diversity in support of campus diversity in *Grutter v. Bollinger* (2003) case. Gurin stressed classroom diversity and informal interactional diversity

creates positive impacts on student learning. Classroom diversity refers to incorporating knowledge about diversity into the design of curriculum. Informal interactional diversity means that a diverse campus provides an environment for students to interact with others of different backgrounds. In the face of a highly diverse campus, workplace and society, to strive for success, students have to equip themselves with cultural competence through coursework, interactions with others, and activity engagement when they are on campus.

Overview of the Literature Review

The Literature Review section will be divided into four sub-sections: diversity benefits, the challenges of diversity, multiculturalism and multicultural education, and cultural competencies. The development of diversity has faced many challenges since its inception. Diversity produces many benefits at the workplace as well as on campus. The benefits of business performance and student development are two areas to be reviewed. Diverse teams do not always produce positive outcomes. The pitfalls for demographic workforces will be covered in this section. Cultural competence is a key element for a successful diversity movement. In this subsection, the dimensions of cultural competence will be explored, and the instruments to assess cultural competence will be reviewed.

Diversity Benefits

Diversity includes everyone; its definition is beyond just race and gender (Thomas, Jr., 1991). The true meaning of diversity is to value and respect difference because differences can sow the seeds for innovation and progress, and it helps lead to a better understanding to resolve

conflict (Page, 2007), and different people approach similar problems in different ways (Colvin, 1999). Diversity does not always produce good outcomes; however, many studies suggested that a diverse workforce brings positive impact on business growth and a diverse student body has more positive impact on student learning (Anthony et al., 2004; Barrington, & Troske, 2001; Carter, Simkins, & Simpson, 2003; Chang et al., 2006; Humphrey, 1998; Pelled, 1996; Villalpando, 2002).

Business performance

The demographic change in the American population has created unprecedented diversity in the American workforce (Mannix, & Neale, 2005; Mor Barak, 2000); The diversification of international market and supply chains as the backbone of global economy makes diversity a business imperative (Hymowitz, 2005). Kravitz (2005) and Wilson (1995) suggested that diversity is able to give business a competitive advantage to attract and keep talented employees and to gain market share. Empirical studies also identified positive effects of workforce diversity as follows: increased creativity enhanced decision-making and problem solving, and higher overall performance (Chatman, et al. 1998; Jehn, Northcraft, & Neale, 1999; Koepfel, 2008; Mcleod, & Lobel, 1992; Richard, et al. 2003).

The following discussion will summarize the research findings of demographic diversity on workplace effectiveness. For the purpose of this review, the characteristics of ethnicity/race, gender, and age will be included because they are more visible and frequently discussed in the study of workplace diversity (Williams, & O'Reilly, 1998)

Demographic diversity

The transformation of the American population demographics, made by women, racial/ethnic, and other minorities, have created organizations that are more heterogeneous. Mannix and Neale (2005) indicated corporate management strived to find out what outcomes the diverse workforce might generate in team processes and performance. Many scholars, collaborating with corporate businesses, have conducted research to identify the effects that diverse workforce has generated on employee's productivity and organizational performance. Even though the findings of the research has turned out to be inconclusive, there have been more positive outcomes than negative ones reported.

Demographic diversity in the workplace could bring about a positive impact on business performance. Lindsey, Robins and Terrell (1999) suggested diversity recognizes the uniqueness of the differences among team members, and diversity helps people respond to those differences in a positive and effective way.

Using an organizational simulation method, Chatman, Polzer, Barsade and Neale (1998) conducted laboratory research to test the effects of an organization's demographic composition and cultural emphasis on work process and outcomes. Two hundred fifty eight MBA students divided by 14 teams participated in this study, and they represented different nationalities, races, and genders. The task of this research was to require each team to work on a case study and a survey at the end of the simulation.

Based on the findings, Chatman et al. indicated that there is a relationship between demographic composition and organizational attributes. They also suggested that increased diversity is related to increased productivity, and the interactions between culture and

demography create an impact on work process and outcomes. Conflict was considered as a factor to increase creativity in a demographically diverse team.

Racial diversity

The study of the impact of racial diversity on group performance is far behind the trend of an increased racial diversity in the American workforce. Nevertheless, most studies suggested that the racial composition of the workforce generated direct and indirect effects on group performance and productivity.

One field test and three experimental studies are used to present the indirect effects of racial diversity on group performance through different moderators. Based on a national survey formed by five hundred thirty five banks located in 45 American states, Richard, McMillan, Chadwick, and Dwyer (2003) investigated racial diversity's effects on firm performance. Although initial data from this study indicated that there was no direct effect of racial composition on organizational performance, through further study of the association between the factors of innovation strategy, racial composition, and firm performance, Richard, et al (2003) found that a racially diverse workforce might impact a firm's performance in an indirect way. Racially diverse teams provided firms with competitive advantages and positive outcomes if the firms had innovation-focused business strategies in place.

The findings of other empirical studies also confirmed that the racial composition of the workforce had an impact on group process and performance in an indirect way. Students were invited to take part in three different experimental researches conducted by three different groups of researchers in different period of time. In the first study, a two-party Prisoner's Dilemma task was assigned to assess both individual and group response, and two measures of a collectivist,

cooperative orientation were employed to identify individualism-collectivism. Cox, Lobel and Mcleod (1991) suggested that increasing hiring of Asian, Black, and Hispanic workers would have an impact on the work process if a more cooperative approach would be adopted in organizations. Asian, Black, and Hispanic individuals embraced a more collectivist-cooperative orientation to a task than White individuals did.

In the second experimental study, a brainstorming task “Tourism Problem” was assigned to test the student subjects’ ability for creativity, and three types of performance measurement were categorized as: number of ideas, number of unique ideas and quality of ideas. Mcleod and Lobel (1992) found that increasing the ethnic diversity of team membership could help teams to increase the creativity of their problem solutions. The researchers suggested that “there are specific positive effects of ethnic diversity for work teams and organizations.....workforce diversity has the potential to provide competitive advantages.” (p. 230)

Also using college students as the subjects of their empirical research, Watson, Kumar and Michaelsen (1993) conducted a study to investigate the interaction process and performance effectiveness between culturally homogeneous and culturally diverse groups. In this study, one hundred seventy three students, divided into 36 work groups, took part in this exercise. Four group tasks were assigned within a 17-week period, and each group was required to complete a structural analysis of a case study. Watson, Kumar and Michaelsen found that the heterogeneous group outpaced the homogeneous group in improvement on process and performance because the diverse group was able to examine their own group process and performance on an ongoing basis, even though the homogeneous group outperformed the heterogeneous group in process effectiveness in the early weeks.

Other than the indirect impact on work performance, a study developed in Denmark also indentified that a racially diverse task force produced a direct impact on firm productivity. Hiller, Parrotta, Pozzoli and Pytlikova (2010) utilized a register-based employer-employee dataset to analyze the relationship of diversity in nationality, skills, and demographics on firm performance. A new dataset was designed for this research by merging three data sources: Integrated Database for Labor Market Research (IDA), a register of firms' business accounts (Regnskab), and a database of patent applications ascribed to Danish firms at EPO. The new dataset was employed to analyze firm total factor productivity and firm patenting activity. Applying the exponential of Shannon-Weaver entropy index, Hiller et al. (2010) reported that diversity in ethnicity, skills, and demographics dimensions are positively related to the firm's total factor productivity.

Although many studies suggested that the employment of a racially diverse workforce was positively associated with work process and performance, more research would be required to explore their direct impact on firm's productivity and performance. Increasing the racial composition of the workforce will bring positive impact into the workplace if corporate leaders are able to appreciate cultural diversity and develop proper strategies to support workforce diversity.

Gender diversity

Women's participation in the workforce has been a growing factor in the success of the U.S. economy since 1970s (Barsh, & Yee, 2011), and by now women have accounted for 51 percent of all people in management, professional, and related occupations (Solis, & Hall, 2010). In most of studies of workforce diversity, gender has been included as one of a set of

demographic variables. The following section will review the effects of gender on board and organizational performance.

Five empirical studies will be presented to highlight the impact that increasing woman business leaders has on corporate financial performance; the first three studies will focus on gender diversity in the U. S., and the last two studies will look into gender diversity from a global perspective. More women today have become members of senior management. Drawing the data from the 1996 to 1997 National Organizations Survey (NOS), empirical research was designed to examine the role of gender as part of a culturally diverse team as associated with organizational performance. The researcher selected five hundred and six work establishments contained in the NOS for this study because they were for-profit organizations. Data from the representative samples, including the racial composition of their workforce, social demography, market share, profitability, productivity and performance, were analyzed. A specific indicator drawn from the Racial Index of Diversity (RID) was employed, and the indicator consisted of the dimension of both gender and race. The results of this study indicated that diversity was linked to the outcomes of increased sales revenue, more customers, greater market share, and greater relative profits. After controlling the factor of race, Herring (2009) noted that gender diversity by itself was also associated with the same outcomes. Herring suggested that “diversity produces positive outcomes over homogeneity because growth and innovation depend on people from various backgrounds.” (p. 220).

The following two empirical studies will examine the effects of women’s representation on corporate boards on their corporate financial performance. The purpose of the first study was to investigate the relationship among corporate governance, board of director diversity, and firm value through an analysis on 638 of *Fortune* 1000 publicly traded companies. Board diversity is

defined as the percentage of women or minorities on the board of directors and firm value, measured by Tobin's Q, is equal to firm financial value. Data on board of director characteristics were obtained from *Significant Data for Directors 1999: Board Policies and Governance Trends* prepared by Directorship, a corporate governance consulting organization. Accounting information for the firms was taken from the COMPUSTAT database. Using both comparisons of means and regression analysis to examine the effect of board of director diversity and firm value, Carter, Simkins and Simpson (2003) found that there was a positive significant relationship between board diversity and firm value. After controlling for size, industry, and other corporate governance measures, the authors noted that the presence of women on the board was associated with improved financial performance.

Further expanding the previous study, Joy, Carter, Wagner and Narayanan (2007) conducted an empirical study to investigate the relationship between the number of women on board and firm's financial performance. Financial data and demographic information of board director from five hundred twenty public trade companies were analyzed. The financial data were obtained from the Standard & Poor's COMPUSTAT database and women board director (WBD) data were available from the *Catalyst Census of Women Boards* in 2001 and 2003. The findings of this study indicated that companies with more WBD outperformed those with less in the area of financial performances. The authors suggested that companies with three or more WBD performed better than those companies with a lesser number of WBD in terms of financial gains.

To understand how gender diversity plays out in corporate management on a global stage, Desvaux, Devillard-Hoellinger and Baumgarten (2007) conducted two types of research on two cross-sections of business. In the first study, through the evaluation of a proprietary *McKinsey*

diagnostic tool, 101 companies were selected partly because they were ranked most highly in nine organizational dimensions and financial performance, and partly because the data of their governing bodies were available. The selected companies were based in Europe, America, and Asia. Data, collected from the interview with 58,240 respondents, were analyzed and compared with the results for these companies depending on the proportion of women on their governing bodies. The finding indicated that companies with three or more women in senior management functions scored better than companies with no women at the top.

In the second study, Amazone Euro Fund, Desvaux, Devillard-Hoellinger and Baumgarten (2007) administered empirical research by selecting the 89 European listed companies with the highest level of gender diversity in top management positions. The selected participating companies were required to provide the following information: the number and proportion of women on the executive committee, their responsibilities, and the presence of more than two women on the board, or statistics on gender diversity in the annual report. After analyzing their financial performance, the results indicated that the selected companies outperformed their sector in terms of return on equity, operating results, and stock price growth. The authors suggested that companies with a higher proportion of women on their senior management teams perform best in firm value.

Women have been a growing factor in the success of the U.S. economy as a result of women's increasing participation in the job market and their increasing attainment of higher level of education (Barsh, & Yee, 2011; Solis, & Hall, 2010). The findings from the discussed research studies have revealed that women's increasing presence in the sector of business not only improves work productivity in general, it also enhances corporate functions in terms of financial performance, firm value and stock price.

Age diversity

As the baby-boom generation ages, the share of workers in the age group between 55-years-and –older will increase dramatically; the participation rates of older workers in the labor force are expected to increase (Toossi, 2009). Age diversity becomes as important as racial and gender diversity in the study of organizational psychology and behavior. More research was conducted to examine the effects of age-related difference on group process, and work performance, but few studies provided conclusive answers on the relationship between age diversity and work performance. The following sections will summarize some studies which indicate that age diversity produces indirect effects on workplace diversity.

Three field works, and two laboratory studies will be reviewed in this segment. It is assumed that frequent communication among team members of a project inside and outside their project group leads to high project performance. Using socio-metric data collected from the employees of a U. S. electronics firm, Zenger and Lawrence (1989) examined the relationship between age diversity and the frequency of technical communication. Eighty eight engineers and engineer managers, divided into 19 project teams, participated in this study. Zenger and Lawrence (1989) noted that age distributions generated more influence than other factors do on the frequency of technical communication. Technical communication was found to be positively associated with project performance.

The second field work was conducted at the Department of Agriculture in Malaysia. The purpose of this study is to examine the moderation role of age groups on the relationship between social competencies and work performance. Data were collected from 210 employees through a self-developed questionnaire. Using Moderated Multiple Regression analysis, the results revealed Age categories played significant role in moderating the relationship between social

competencies and work performance. In terms of the factor of age distribution, Tiraieyari and Uli (2011) noted that the relationship between social competencies and work performance is stronger for older employees. The authors suggested that social competencies comes with age, and older employees that posses social competencies have better abilities to improve their overall work performance.

The third field work was conducted at a large multidisciplinary nuclear research and development center in Britain. Two hundred ninety one scientists and engineers in four of 18 divisions with more than 6 months' service were asked to participate in the study. One of the purposes of this study was to explore the possible interaction of age and diversity of interest on performance and satisfaction. Three age groups were formed: 50 and over as a high age group, 35 and 50 as a middle age group, and 35 and below as a young age group. Measured by the Strong Vocational Interest Blank, related to a salary-based measure of performance, the results indicated that age demonstrated a significant relationship with extrinsic satisfaction, particularly with young and old subjects because of their high diversity of interests in general occupational areas. In terms of work performance, Arvey and Dewhirst (1979) suggested that high diversity older groups perform better while using the salary-based performance measure.

Two laboratory studies targeting two different subject respondents were used to confirm the findings revealed by the previous field works. The purpose of the first laboratory study is to investigate the roles of age and decision making experience in managerial decision making performance. Seventy nine line managers from a heavy manufacturing company were asked to provide their biographic data including age, experience in making personnel decision on the job, years of management experience, and management level. Information processing and decision making were measured by the Personnel Decision Simulation (PDS). The PDS assigned the

participant a simulated managerial decision requiring them to play the role of a business manager while making a promotion decision. The results indicated that age is associated with decision making performance. Taylor (1975) suggested that age had a dominant influence on performance in the decision making exercise partly because older decision makers took longer to reach decision and partly because they were able to analyze the value of information more precisely than were younger decision makers.

The second laboratory study set out to find out if top management team (TMT) age heterogeneity is associated with financial performance in a positive way. Companies listed on Securities and Exchange Commission (SEC) were the sample population of this study. Through the Compact Disclosure SEC Database, 1,305 firms, having all the data required for cross-sectional model, participated in this research. TMT is defined as a position with a title above the vice-president level. The financial performance measures are return-on-assets (ROA) and percentage change in sales from 1996 to 1997. The results indicated that TMT age heterogeneity has a strong positive impact on sales growth, particularly from top management team in low and moderate levels. Richard and Shelor (2002) suggested that age diversity plays an important role in TMTs for competitive advantage.

Age has become a major factor in labor market behavior because the American aging population has started to make up a large share of labor force (Hankin, 2005; Toossi, 2009). Age stereotypes remain in the business community, but most of companies have started to learn to embrace this new working population. To study the impact of age diversity on business performance in the beginning stage, but the findings of some studies discussed in this section indicate that the older workers can produce something positive more than the younger workers can do. Even though the direct effects on work performance by the older workers are yet to be

found, the results of research indicate that the quality of their social competencies, communication and decision-making skills help enhance firm's competitive advantages.

The Challenge of Diversity

Workplace diversity recaptured the attention of the American society after the decisions by the U.S. Supreme Court in the cases of *Grutter v. Bollinger* and *Gratz v. Bollinger* in 2003. These decisions found that the university's race-conscious admission policies were constitutional because they serve compelling interest in diversifying a student body. Although the term "diversity" has been positively recognized by higher education institutions and Corporate American, the development of diversity movement faces challenges in many aspects.

Pitfalls for diverse teams

Without proper handling, diversity can be a double-edge sword. The ability of diversity to bring positive results to business performance has been described above. But, if the application of diversity program is mismanaged, diversity teams may produce unanticipated problem to organizations.

To examine how competent a demographic team to perform based on different perceptions on the selection of three diverse work groups, Heilman and Welle (2006) conducted an experimental study by organizing 262 undergraduates into three study groups. Study groups are formed based on three rationales: diversity rationale, merit rationale, and scheduling convenience rationale. The first group is composed of White females and White males. The second one is made up of White females, White males and Black males. The last group primarily consists of Black males and Black females. Members of groups are asked to rate the competence

scales of their teammates after completing the assigned tasks, the result indicated that both women and Black men were perceived less competent and influential. Heilman and Welle suggested that demographic diversity did not produce positive performance outcome because the role of diversity goals in the decision of personnel selection can cause troubles for women and racial minorities in any given working environment.

Employing demographic diversity to achieve a better work performance is a desirable objective in work setting. Without cultural competence in place in a personnel decision, Heilman and Welle noted that the methods to organize diverse team could backfire, and the goal of diversity efforts would be compromised.

Demographic diversity may thwart team performance because there is a tendency for diverse groups to have communication issues based on social-identity theory (Mannix, & Neale, 2005). To examine the impact of demographic diversity on business performance, Ely (2004) conducted a field research based on the data collected from 486 retail bank branches. Data sources have three: (1) archival data on the race, gender, age, and tenure of 7,529 employees; (2) employee attitude satisfaction data from an annual survey; and (3) branch performance data used to allocate bonuses to branches. While finding no difference in performance across race and gender, tenure and age had a negative impact on both team process and business performance. For example, groups with greater age diversity were associated with low levels of cooperation and teamwork, and higher tenure diversity was linked to lower sales productivity goals and total performance scores. Ely suggested that “some forms of team work and cooperation may sometimes be at odds with a group’s capacity to leverage such differences effectively.” (p. 777)

Student Development

Not only does the practice of diversity benefit the growth of organization, it is also strongly associated with the enhancement of student learning and personal growth in higher education institutions. The support of affirmative action policies in colleges and universities has significantly increased the presence of the underrepresented groups on campus since its inception 30 years ago. Studies continue to reveal that a diversified student body generates positive impacts on the growth of student (Antonia et al., 2004; Chang et al., 2006; Cox, Lobel, & McLeod, 1991; Humphrey, 1998; Villalpando, 1994). As a result, more and more colleges and universities have systematically introduced diversity initiatives in their institutions (Aguirre, & Martinez, 2006; Maruyama, & Moreno, 2000; Levine, & Cureton, 1992). According to a national opinion poll, administrated by the Association of American Colleges and Universities (AAC&U), sixth-three percent of colleges and universities reported that they either have a diversity requirement or are in the process of developing one based on a national survey in 1998. Ninety-four percent of respondents agree that “ America’s growing diversity makes it more important than ever for all of us to understand who are different than ourselves” (Humphrey, 1998).

Campus and classroom diversity provide a structured environment for students to reflect their beliefs, to interact with others holding different perspectives, and to effectively work with people different from themselves (Gurin, 1999). The benefit of diversity to strengthen student learning and development are extensively discussed in both quantitative and qualitative methods by researchers.

Three national studies are based on the data collected from Cooperative Institutional Research Program (CIRP). The first one retrieved student data between 1985 and 1989. Astin (1993) founds that diversity is associated with various beneficial effects on students’ cognitive and affective development. The findings also revealed that diversity increases student

satisfaction in most areas of college experiences. Twenty five thousand students from 217 four-year colleges and universities were part of project. The second one was a longitudinal study to explore the long-term effects of college diversity experiences. Data were collected from three surveys targeted at white students in traditionally white institutions from 1994 to 2004. The findings indicated that ethnic and racial diversity in college campus promote the growth of white students in terms of their cross-cultural workforce competencies. The study also suggested that campus diversity creates long-term benefits to college students (Jayakumar, 2008). In Denson and Chang (2009)'s research, two student surveys were conducted at two different time points. The first-year freshmen filled in Information Form and the same group was asked to complete College Student Survey at the end of their four years. Twenty thousand one hundred and seventy eight students within 236 colleges were samples of this study. The results indicated that diversity-related efforts improve students' experiences and learning by cultivating certain behaviors and knowledge to get along with people of different cultural backgrounds, and by offering a unique educational environment.

The studies by Maruyama and Moreno (2000) and Marin (2000) were designed to understand whether diversity resulting from race-sensitive admission helps institutions to achieve their educational goals. These two studies are sponsored by American Council on Education (ACE) and AAUP.

Maruyama and Moreno noted that 1,500 full-time faculty randomly selected from Carnegie Classified Research-I institutions completed this national survey. The sample was drawn from a database of CMG Direct Corporation, a national vendor of mailing list. The findings revealed that close to 60 percent of respondents claim that campus diversity is a high priority, and 90 percent of them indicate that a diverse classroom does not decrease student

quality and intellectual substance. Employing a qualitative method, Marin (2000) utilized a multi case study of three interactive, multi-racial/multi-ethnic classrooms to understand their impact on student learning. Participants of this descriptive study were upper-class students enrolled in the courses of education, English literature, and race and ethnic issue at the University of Maryland, College Park. One-third of students in these classes comprised people of different races and ethnicities. Marin analyzed the data collected from interviews, focus groups, classroom observations document throughout semester, and she found that faculty members who recognize and use diversity as an educational tool can produce enhanced educational experience and outcomes in classes.

Hu and Kuh (2003) conducted another national study to examine the effects of interactional diversity experiences on various outcomes for racially diverse student body. Fifty three thousand seven hundred and fifty six undergraduate students enrolled full time from 124 four-year institutions completed their surveys between 1998 and 2001. Sixty-three percent of participants were female students. In terms of racial composition, seventy-seven percent were White, and the rest consists of Asian or Pacific Island, African American, American Indian, Hispanic and those who did not report their ethnic identities. The results indicated that a racially diverse campus and classroom produce benefits to the entire student body, particularly in developing students' capacity to understand human relations, and work with people of different form themselves.

Many research studies support the notion that students learn more and think deeper in a diverse educational environment (Gurin, 2007), while other provide different evidences indicating that the claim that all students are benefited by diversity is not flawless. Diversity has

become a mainstream movement in higher education in the U. S.; but, not all researchers agree the findings that the diversity proponents utilize to defend their case (Zuriff, 2002).

The opponents of diversity do not conduct their own empirical studies to defend their argument, but use rhetorical commentary to refute the findings of major empirical research developed by the major supporters of diversity. Carl Cohen, a philosophy professor at the University of Michigan, argued that racial preference admissions in colleges and universities are illegal and immoral because under the constitutional mandate that no one shall be denied the equal protection of the laws (Cohen, 1979, 1986, 2003,). Most of articles by Carl Cohen were published on COMMENTARY, a monthly magazine in which opinion and voice on American intellectual life are discussed.

Sponsored by the National Association of Scholars (NAS), Wood and Sherman (2001) published a 153-page long article to refute the claim that diversity benefits all students, which is adopted by the diversity supporters to win their court case. The article revealed that the defenders of diversity misled the Supreme Court and the public from two perspectives: diversity is directly correlated to student benefits, and the entire higher education supports the claim of diversity.

To equip students with diversity competence is a very important part of diversity education in colleges and universities in the face of the increasing diversity of the American work force and the rise of a global economy. Diversity education is expected to expand from the fields related to health care, teaching, and social work to all programs because diversity competencies and diversity related knowledge will help students to be successful in an ever increasingly diverse work place.

Multiculturalism

Although the concept of multiculturalism can be understood in many ways, it is widely agreed that multiculturalism motivates the development of diversity. Multiculturalism primarily studies the issues related to race/ethnicity, and gender, while the groupings covered by diversity studies go beyond race/ethnicity, and gender (disability, sexual orientation, age, etc.).

Multiculturalism & Affirmative Action (AA)

The concept of multiculturalism emerged in the beginning of 20th century resulted from a demographic changes brought up by various movement related to immigration trends, the increase in rights of both race and gender in Western countries including USA (Kincheloe, & Steinberg, 1997). Multiculturalism gained more momentum in the American society following the development of the civil and women rights movement.

To correct racial and gender inequality in American institutions, two governmental measures, affirmative action and equal employment laws, were passed in the 70's and 80's to remedy the harm caused by racial and gender discrimination and to prevent them from happening in the future (Kelly, & Dobbin, 1998). As a result, *women* and minority in the *labor force increased their numbers* significantly. Following the implementation of affirmative action practices over employment, colleges and universities started adopting the same principles and guidelines to admit more female and minority students (Bickel, 1998).

Affirmative action policies have benefitted blacks and other minorities socially and economically since its introduction, but its ultimate goal to reach fairness for all people has constantly drawn debate and criticism. The emergence of multiculturalism intends to correct its

flaw by asserting that the rights and identities of both majority and minority are preserved (Collins, 2011).

Multiculturalism & Diversity

Multiculturalism and diversity are two different concepts because they have different roots of origins. Nevertheless, these two concepts are also connected by cultural groups and cultural competencies. Definitions for multiculturalism can be widely different as each individual views this phenomenon from a different lens and perspective. Rosado (1997) defines multiculturalism as:

Multiculturalism is a system of beliefs and behaviors that recognizes and respects the presence of all diverse groups in an organization or society, acknowledges and values their socio-cultural differences, and encourages and enables their continued contribution within an inclusive cultural context which empowers all within the organization or society. (p. 3)

Utilizing the American civil rights movement and affirmative action policy as a backdrop, multiculturalism can be associated with race and gender more than other dimensions of diversity.

Before the civil rights movement, the meaning of diversity was related to differences in geography, religion, and class (Anderson, 2011). In the years of the Regan administration, the concept of diversity started to replace multiculturalism as a key method to defend affirmative action when its legal foundation was frequently challenged (Kelly, & Dobbin, 1998). The introduction of diversity into the American institutions, which embraced the goal of multiculturalism in correcting an ongoing social inequality and its coverage of cultural groups, went beyond race/ethnicity and gender (Collins, 2011).

In the early 1990s, the concept of diversity became a powerful social movement in promoting the view that workforce diversity was socially and morally responsible. Not only does diversity help increase creativity while it avoids possible discrimination lawsuits (Anderson, 2011).

Multicultural education

The term of multiculturalism and multicultural education are interchangeably applied in the educational setting. When multiculturalism is regarded as an ideology to promote social equality and cultural pluralism, multicultural education is treated as a tool to prepare students for an ever-changing diverse and democratic society.

Multicultural education grew out of the turbulence during the civil rights movement in the 1960s (Banks, 2001; Gollnick, 1992). The development of multicultural education was prompted by ethnic and women groups as more female and minority entered the workplaces and colleges because of the enforcement of affirmative action policies in the 1970s (Collins, 2011).

Multicultural education has been one of the buzzwords in the educational reform in several decades, but a consensus on its definition and goal is yet to be reached. Studies indicated that multicultural education and diversity education share the same impact on students in terms of enhancing their civic engagement and learning experiences (Banks, 2001; Dwyer, 2006; Engberg, 2007; Gay, 2011; Hurtado, Engberg, & Ponjuan, 2003; Umbach, & Kuh, 2006; Villalpando, 2002). According to Dwyer's (2006) research, a multi-ethnic campus and multicultural curriculum were the key factors supporting the development of these student benefits.

Democratic outcomes

Higher education has always been regarded as a place in which college students learned to function in a democratic society. Democratic outcomes may include the enhancement of civic responsibility, and the development of pluralistic skills. The emergence of multicultural education is to provide students with a multicultural democracy when the American society has become more culturally pluralistic, socially stratified, and racially divided (Gay, 2011).

As a part of a national research project “Preparing Students for a Diverse Democracy”, three studies were developed to assess students’ exposure to diversity, in both classroom and through interactions with diverse peers. Freshmen in the fall of 2000 from 10 public universities participated in this project. Their first year survey focused primarily on their pre-college experiences; the follow-up survey in 2002 addressed the impact of the college experience. The project was endorsed by the American Association for Higher Education, the Association of American Colleges and Universities, and the American Council on Education. The goal of this project was to help revitalize higher education's mission to prepare a diverse student body for future democratic citizenship (Bridgeland, Milano, & Rosenblum, 2011).

Based on the survey entered by 4,403 students, female (68%) and White (70.8%), Hurtado, Engberg and Ponjuan (2003) noted that there are changes in students’ capacity to assume another’s point of view, or beliefs. They also indicated that students create more social awareness after engaging in wide variety of activities including a diversity of readings and materials as well as those courses that include an intensive experiential component. Hurtado, Engberg and Ponjuan (2003) stressed that each of these skills and dispositions are important to citizenship in a pluralistic democracy.

In the second study, Engberg (2007) found that structural diversity had an important role in promoting positive interactions across race and students' cumulative exposure to diversity experiences had an impact on their pluralistic orientation. Participations were 4,697 students from nine public universities. Of which, 49 percent were female, 69 percent were White.

Utilizing the same project population, Engberg and Hurtado (2011) confirmed that increased structural diversity creates positive interactional consequences for all race. They also found that students' informal interactions across race have a positive impact on their later pluralistic development. In this recent study, 4,697 students from 10 public universities participated in this research. Among all students, 68 percent were female, 71 percent were White.

This collection of studies indicates that a multicultural learning environment enhances student's capacity to cope with members of society of different cultural backgrounds and to participate in a pluralistic democracy. A diverse campus provides students with opportunities to engage and cooperate with people who are different from theirs in terms of belief, value, or worldview

Multicultural curriculum

Banks (2001) stressed that multicultural curriculum should not focus on any single course, or activity; instead, it should be combined into a wide variety of programs and practices. Gay (2011) suggested that the aim of a multicultural curriculum is to provide a setting in which students can reflect and connect their experiences and perspectives with others. Higher education institutions have transformed their curriculum to incorporate diversity and inclusiveness. Many studies suggest that the introduction of multicultural curriculum results in a more rigorous

educational experience for today's college students (Gay, 2011; Humphreys, 2011; Umbach, & Kuh, 2006; Villalpando, 2002).

Multicultural curriculum benefits students' learning experiences in many aspects. The major benefits include enhancing the satisfaction of students' overall college experiences (Umbach, & Kuh, 2006), improving students' school performance, and helping students gain better understanding of people from different cultural backgrounds (Gay, 2011)

Two studies conducted 12 years apart concluded that multicultural curriculum enhances students' college experiences. Analyzing the data drawn from Cooperative Institutional Research Program (CIRP), Villalpando (1994) noted that 15,600 students (White, African American, Hispanic American, and Asian American) entered the program at their freshmen year, and they were contacted four-year later. The study reveals that students who reported high level of satisfaction with college were those who reported that they were positively affected by faculty's use of instructional methodology that included content related to racial and ethnic issues as well as research or writing addressing women, ethnicity or race.

In Umbach and Kuh's (2006) study, the authors examined the data extracted from the National Survey of Student Engagement (NSSE). After comparing the results through a self report survey between students from 4-year colleges and universities and Liberal Arts College, Umbach and Kuh found that students of Liberal Arts College, who engaged in diversity-related activities including taking multicultural courses, were more satisfied with their college experiences. They also claimed that they gained a better understanding of people from different cultural backgrounds

In terms of school performance, an experimental study developed by Fleming and others (2004) at the University of Minnesota noted that the utilization of culturally relevant materials

might assist students in learning to read and to transfer reading skills from culturally relevant to standard test materials. Based on the results of pre and posttests consisting of culturally relevant materials and standard form, the authors found that multicultural curriculum exercises enhanced the performance of African American students.

Multicultural curriculum embodies the concept of multiculturalism on campus. The findings of previous studies revealed that multicultural curriculum helped students learn better, as well as enhanced their college experiences. A well designed multicultural curriculum can not only expand students' cultural boundaries beyond theirs, it also can empower students by exploring their own cultural identities.

Cultural Competence

Like the emergence of multiculturalism study as a field of study, cultural competence research also grew out of the age of the Civil Rights Movement. In the early 1970s, social work educators started to introduce the concept of cultural competence to enhance social work professionals' capacities in dealing with different ethnic groups. Within 20 years, cultural competence movement had reached beyond the fields of both public health and social work (Lum, 2007) to academic affairs and the student population in general. The term of cultural competence refers to people who can effectively deal with others of different cultural backgrounds. Those capacities can be conceptualized in various dimensions: knowledge, awareness, and skill. Being culturally competent is imperative for students to be successful when entering a diverse work environment.

Cultural competence dimensions

Cultural competence study is a fairly new area in the study of social science. There is no consensus with regards to what cultural competence dimension includes, but scholars and researchers define the dimension of diversity competence based on their various training backgrounds and research interests.

The majority of empirical studies focusing on cultural competence come out of the fields of social work and health care, where interest in multicultural competence has been more prominent. The research targeting at the general population college students in general is much thinner.

Summary of cultural competence studies

From the perspective of function, Schmitz (2006) defined cultural competence as “the ability to reduce the risks and maximize the opportunity inherent in cultural differences and similarities.” (p. 4). Schmitz also indicated that cultural competence is an outcome of a continuous learning process, and the learning process includes the build-up of self-awareness, other awareness, cultural knowledge, etc.

Although different scholars and researchers have different views on the sets of capabilities included in cultural competence, some common grounds can be found. Using nursing students as their study subjects, White (2003) and Sealey (2003) indicated that multicultural curriculum is needed to train students to work with clients from different backgrounds. Cultural awareness and cultural knowledge are two major areas that schools should teach. In the field of counseling psychology, Hardy and Laszloffy (1995), and Murphy, Park and Lonsdale (2006) stressed that it is important to evaluate the capacities of counseling students in counseling

Table 2.1 Key empirical studies on cultural knowledge and cultural awareness competencies

| Author(year) | Subject | Educational setting |
|----------------------------------|--|---|
| White, 2003 | Implementing the multicultural education perspective into the nursing education curriculum | -the field of health care - nursing students |
| Hall, & Theriot, 2007 | An exploratory study evaluating the effectiveness of an innovative model for teaching multicultural social work education | - the field of social work - social work undergraduates |
| Sealey, 2003 | Cultural competence of faculty of baccalaureate nursing programs | -the field of health care - nursing school faculty |
| King, & Howard-Hamilton, 2003 | An assessment of multicultural competence | -higher education -college student personnel, student affairs staff, and diversity educators |
| Murphy, Park, & Lonsdale, 2006 | Marriage and family therapy students' change in multicultural counseling competencies after a diversity course | -the field of counseling psychology -graduate students |
| Green et al., 2005 | The multicultural counseling inventory: A measure for evaluating social work student and practitioner self-perceptions of their multicultural competencies | - the field of social work - social work students and practitioners |
| Hardy, & Laszloffy, 1995 | The cultural genogram: Key to training culturally competent family therapists | -the field of counseling psychology -the family therapists |
| Wakefield, Talbert & Pense, 2006 | A Descriptive Study on the preparation of Student Teachers to Work with Diverse Population | -student teachers from agricultural education institutions |

cultural awareness, counseling cultural knowledge and others. Also, in the school of social work, Hall and Theriot (2007), and Green et al. (2005) employed two different instruments to identify social work students' competence levels in primarily cultural awareness and cultural knowledge.

Based on the collection of published papers (Table 2.1) as discussed previously, cultural awareness and cultural knowledge are represented two of the most popular dimensions in studying cultural competence. The dimension of cultural awareness and cultural knowledge will be the lens through which this study examines college student's cultural competence.

Cultural competence instrument

Following the tremendous growth of attention focusing on cultural competence issues in counseling and diversity education, interest in measurement tools to assess the effectiveness of diversity programs has been on the rise. While cultural competence is considered a new area of research interest in higher education, there is no agreed-upon best instrument to test the scale of multicultural competence.

There are many instruments developed to evaluate different cultural competence programs. This section selects five instruments for further introduction because the design of these instruments has some things in common that they all assess the dimensions of cultural knowledge and cultural awareness (Kumas-Tan et al., 2007); they are the key part of this explorative study (Table 2.1).

Review of key cultural competence instruments

Multicultural Counseling Inventory, Multicultural Counseling Awareness, Knowledge, and Skills Survey, Multicultural Counseling Awareness Scale, and Multicultural Competence in

Student affairs-Preliminary 2 are conceptually drawn from Sue et al.'s (1982) position paper in which the authors stress that cross-cultural counseling competencies should include cultural awareness, knowledge, and skills.

Cultural competence instrument for counseling education

Multicultural Counseling Inventory was introduced by Sadowsky, Taffe, Gutkin, and Wise in 1994, and consisted of four factors: Multicultural counseling knowledge (11 items), multicultural counseling awareness (10 items), multicultural counseling knowledge (11 items), and multicultural counseling relationship (8 items). One study reveals that a mean Cronbach's alpha of .87 has been reported for its entire scale (Sadowsky et al., 1998).

Multicultural Counseling Awareness, Knowledge, and Skills Survey was designed by D'Andrea, Daniels, and Heck in 1991, and was composed of three subscales: multicultural counseling awareness (20 items), Multicultural counseling knowledge (20 items), and Multicultural counseling skills (20 items). This self reported scale is primarily used to evaluate the effectiveness of Multicultural counseling training. The coefficient alphas for the total scale is not found; the coefficient alphas for the subscale ranged from .75 to .96 (D'Andrea, Daniels, & Heck, 1991).

Multicultural Counseling Awareness Scale was developed by Ponterotto, Sanchez and Magids in 1991 and was a bi-dimensional structure consisting of awareness (12 items), and knowledge/skill (29 items). Ponterotto et al. (2002) reported a full scale coefficient alpha of .93 for this original instrument.

While the Multicultural Counseling Inventory, Multicultural Counseling Awareness, Knowledge, and Skills, and Multicultural Counseling Awareness Scale (MCAS: B) are

frequently discussed in cultural competence measurement (Ponterotto, Rieger, Barrett, & Sparks, 1994; Constantine, & Ladany, 2001), they are popular in the field of counseling psychology. Nevertheless, they are not suitable for the assessment of general student population for the following two reasons. These instruments are crafted to test those who have had cultural competence training or classes. The item of questionnaire is written to cater for the counseling professional based on the needs of this specific profession.

Cultural competence instrument for student affairs

The Multicultural Competence in Student affairs-Preliminary 2 (MCSA-P2) was developed as an assessment tool to evaluate the multicultural competence of student affairs practitioner in the setting of higher education. This 34-item instrument is to measure a single domain of multicultural competence, instead of assessing separated constructs of awareness, knowledge and skill. Pope and Mueller (2000) noted that the level of internal consistency for the MCSA-P2 is a coefficient alpha of .91 after testing 190 student affairs practitioners, faculty, and graduate students. Pope and Mueller suggested that the MCSA-P2 is still an instrument in development, and it cannot be used to assess readiness for students for the decision of their education needs.

Cultural competence instrument for student population

The Office of Assessment at University of Nebraska Kearney (UNK) in 2007 designed an instrument for the purpose of examining the impact of diversity programs on students in terms of

Table 2.2 Summary of key cultural competence instruments

| Instrument | Author(s) | Publish date | Measurement | Coefficient alpha | Target |
|--|---|--|---|--|--|
| Multicultural Counseling Inventory (MCI) | Sodowsky, G. R., Taffe, R. C., Gutkin, T. B., & Wise, S. L. | 1994 | -40 items -Multicultural counseling skills, knowledge, and relationship, -multicultural Awareness | Total scale: .90 | -Counseling students -social work professional |
| Multicultural Counseling Awareness, Knowledge, and Skills (MAKSS) Survey | D'Andrea, M., Daniels, J., & Heck, R. | -First developed in 1991 -Revised in 2003 | -60 items -Multicultural counseling awareness, knowledge, and skills | Awareness: .75 Knowledge: .90 Skills: .96 Total scale not found | -Counseling students -Health care Professional |
| Multicultural Counseling Awareness Scale (MCAS:B) | Ponterotto, J. G., Sanchez, C. M., & Magids, D. M. | 1991 | -41 items- Multicultural awareness, Multicultural Knowledge/ skills | Total scale: 70 | -Counseling students -school counselors |
| Multicultural Competence in Student affairs- Preliminary 2 (MCSA-P2) | Pope et al. | 1997 | -34 items -Multicultural awareness, Multicultural knowledge, and Multicultural skills | Total scale: 91 | -Student affairs personnel -Student affairs students |
| UNK instrument | University of Nebraska Kearney | 2007 | -48 items- Perceived knowledge - Attitude/Awareness -Interaction | Total scale: unknown | - Student required to take diversity courses - Student required to take diversity courses |

their cultural knowledge, attitude/awareness, and behaviors. This 48-item survey is composed of three subscales: Interaction subscale (15 items), attitude/awareness subscale (18 items), and perceived knowledge subscale (15 items) (University of Nebraska Kearney, 2011). It is used to test the effectiveness of general studies program diversity objective and the cultural diversity course requirement. The Office of Assessment did not conduct any test to measure the coefficient alphas scale of their instrument.

The Summary of Literature Review

Diversity education has replaced multicultural education to promote diversity benefits by expanding the dimension of cultural groups. Diversity has created positive impacts on student life on campus in both direct and indirect ways; while, culturally diverse groups outperforming homogeneous in productivity and creativity in business have been frequently discussed. Team heterogeneity can be a double-edged sword if diverse teams are mismanaged or team members are not equipped with proper cultural competence.

Diversity initiatives are well supported by most higher education institutions, but the development of cultural competence education is still limited to the fields related to health care and social work. Researches' focusing on cultural competence is in an initial stage and reliable instruments to test college student's cultural competence are yet to develop. Cultural awareness and cultural knowledge are two indisputable elements of cultural competence. A self-reported instrument to measure college student's cultural awareness and cultural knowledge has been completed for this study, and the results of the study can be quite significant in two perspectives: They can be used as a benchmark to understand the status of diversity and cultural competence

education in higher education institutions; they also can help to identify which group of students does better in cultural competence preparation between the field of professional/vocational and the field of liberal arts.

Chapter Three: Methodology

Introduction

According to the Census Bureau (U.S. Census Bureau, 2011), more than half of the U. S. work force is comprised of women, minorities, people with disabilities, and people older than 65 years of age. Based on the predication by the US Interim projections, the non-White population will surpass the White population, and become the majority of the American society by 2050. American corporations understand that their survival heavily relies on how they maneuver their operations in such a highly diverse market place. Consequently, DeBruin, Maynard, Mach, and Silver (2003) noted that higher education institutions realized that their success is defined by their roles as “talent pools” to meet the needs of business and other professions. DeBruin, Maynard, Mach, and Silver also indicated that for college graduates proper diversity competence is key to harness a successful career.

Voluminous reports on the shift of the American population and labor force have been released by concerned scholars and demographers (Hankin, 2005; Hudson Institute, 1990; Johnson, & Packer, 1987; Judy & D’Amico, 1997; Konard, 2006). Many studies focusing on the benefits of diversity have been conducted by researchers (Antonia et al., 2004; Barrington, & Troske, 2001; Carter, Simkins, & Simpson 2003; Chang et al., 2006; Humphrey, 1998; Pelled, 1996; Villalpando, 2002). But, research on the diversity competence of college students is lacking. This exploratory study was developed to understand the multicultural competence of a

general population of college seniors and to examine overall levels of cultural competence as well as differences based on gender, race, or GPA.

Research Design

Empirical studies on the benefits of diversity in business and higher learning are abundant; but, little has been published regarding the level of cultural competence possessed by the general college student population. Cultural competence is considered a key quality to aid students in all disciplines to reap diversity benefits. This study was devoted to filling this void, and it was designed to find out the levels of diversity competence including the dimensions of cultural awareness and cultural knowledge possessed by college seniors.

This is an exploratory, quantitative research study utilizing a self-developed questionnaire. Descriptive statistics were utilized to understand college seniors' diversity competence. ANOVA and t-tests were conducted to find out if there were any significant differences among college seniors based on gender, race/ethnicity, GPA, age, and area of study.

The seniors at two 4-year public universities were the sample population for this survey research. A self-developed instrument was employed to assess college seniors' diversity competence in the areas of cultural awareness and cultural knowledge.

Review of Research Questions

The purpose of this study was to take an initial step to understand the status of higher education institutions in preparing their students to enter diverse work places by examining their

diversity competence, particularly, on the dimensions of cultural awareness and cultural knowledge. Two research questions developed to achieve the goal of this study are described as follows.

The first research question of this study is “Are there differences in the competence levels of college seniors based on their academic majors (liberal arts or professional/vocational fields)”. The role of higher education in shaping the American workforce has become more important than ever (Bridgela, Milano, & Rosenblum, 2011). Based on the Center for Education Statistics, college majors can be divided into two categories based on the outlook of employment – professional fields and arts and science fields. Professional fields encompass business/management, education, engineering, health professional, public affair/social services. Arts and Sciences fields are comprised of biological sciences, combination (math, computer and physical sciences), social sciences, humanities, psychology. Surveys have indicated that college students having just graduated from professional fields have higher employment rates than those who earn their degrees from arts and sciences fields (Cahalan et al., 1993; NACE, 2011; Porter, 1986). Considering the employment outlook discrepancy, this study set out to find out whether there is a difference in terms of cultural competence preparation between students from professional fields and arts and sciences fields.

The second question of this study is “Are there differences in the cultural competence levels of college seniors based on gender, race/ethnicity, GPA, diversity-related course participation, and age?” Personal backgrounds were examined in two major areas: Demographic information including gender and race/ethnicity and student information including student status, GPA level, and diversity courses and activities participation.

Participants

The participants in the study were senior undergraduate students enrolled in two 4-year public universities, instead of a national sample population. Selecting seniors as the participants for this study was due to two reasons: the first one is that seniors shall have had ample opportunities to access (or not to access) classes related to cultural diversity and multiculturalism, cross-cultural activities, and interaction with faculty, staff, and peers from different cultural backgrounds. Another rationale for the sample is that the college seniors are ready to enter workplaces; therefore, the study of their diversity competence is needed and necessary.

The purpose of this study was to understand college seniors' diversity competence across the nation. Instead of drawing a national sample on a random basis, the seniors at two 4-year public universities in the south were selected as the sample population in the consideration of practicality. This survey study was developed based on the following sampling strategy.

Sampling strategy

A non-probability sampling technique was employed for this quantitative study. A convenience sampling strategy was employed in deciding the selection of two 4-year public universities as the sample institutions for this survey research. According to Leedy and Ormrod (2005), convenience sampling is a non-probability sampling technique; convenience sampling does not seek a representative subset of a population as a probability sampling method does. Emmanuel (2012) indicated that convenience sampling is a good option to study a population where the population is too large, too hard or too expensive to access. Convenience sampling is considered one of the most common sampling techniques in social science research.

Sample Recruitment

Two 4-year public universities in the south were selected as the study sites for the on-line survey. Although neither universities offers diversity-specific course to their students, the students are given opportunities to take classes related to global and cross-cultural issues which include Foreign Language, Foreign History, Anthropology, Women or Gender Studies, International Studies, and Human/Cultural Geography. Three thousand seven hundred eighty four seniors were invited to take part in the cultural competence perception study. In terms of the selection of a sample size to conduct a research, Gay and Airasian (2003) suggested that at least 300 members is an adequate size for a population of around 1,500.

Instrument Development

Many instruments are available for the measurement of diversity competencies, but most of them are designed to target students or practitioners in the fields of counseling psychology and health care. Instruments developed for college students can be found, but they are designed specifically for the evaluation of students' diversity competencies after taking diversity courses as instructed. The aforementioned survey designs for pre and post-test purposes are not applicable for this study because the results of their validity and reliability studies are unknown.

As discussed in the previous chapter, five instruments were selected for further analysis because their key competence dimensions include cultural knowledge and cultural awareness (Kumas-Tan et al., 2007). Multicultural Counseling Inventory (MCI), Multicultural Counseling Awareness, Knowledge, and Skills (MAKSS) Survey, and Multicultural Counseling Awareness Scale (MCAS: B) were designed for the fields of counseling psychology and social work.

Although they are considered reliable instruments to test the domain of cultural competence according to the values of their Cronbach's coefficient alpha (see Table. 2.2), they are not a good fit to be used for the assessment of general student population based on two observations. First, the aforementioned instruments are specifically crafted to test individuals who have had cultural competence training or classes. The second observation is that the items within the questionnaire are written to test those who are either counseling or social work professionals based on the criteria of their professions.

The Multicultural Competence in Student Affairs-Preliminary 2 (MCSA-P2) was specifically developed as an assessment tool for the student affairs practitioner in the setting of higher education. It was reported that the MCSA-P2 had a coefficient alpha of .91 based on one of many studies. The MCSA-P2 is not recommended for this study partly because it was specifically designed to measure the cultural competence of student affairs practitioners, and partly because it is still regarded as an instrument in development, and it is not ready for the assessment of students' education needs, as indicated by its author (Pope, & Mueller, 2000).

The *UNK* survey instrument serves as an on-campus survey tool to assess the effectiveness of varied diversity related classes at the University of Nebraska Kearney. It was designed to measure students' diversity competence before and after taking the designed courses. The *UNK* survey instrument cannot be considered as an option for this study because the internal consistence of this instrument has not been tested according to the Office of Assessment at the University of Nebraska Kearney.

Self-developed instrument

A self-developed instrument was designed to examine the scale of diversity competencies based on the working definition used for this research and the description of diversity knowledge and diversity awareness stated by Pope and Reynolds (1997). In terms of working definition, diversity knowledge refers to the capacity to understand the cultural elements of selected cultural groups, and diversity awareness refers to the sensitivity to one's own and others' culture.

As described by Pope and Reynolds, diversity knowledge consists of the information that individuals have about other cultures; For example, in Chinese culture, the dragon symbolizes the emperor in China. Diversity knowledge competence is assessed based on the following characteristics:

Knowledge of diverse cultures and oppressed groups, knowledge about how different cultural characteristics including, but not limited to, gender, race and ethnicity, nationality, sexual orientation, age, religion, disability; etc affect individuals and their experiences, information about the nature of institutional oppression and power, and knowledge about institutional barriers which limit to success for members of oppressed groups (Pope and Reynolds, 1997, p. 271).

Cultural awareness consists of the attitudes, beliefs, values, assumptions, and self-awareness, and they are necessary to deal with people who are culturally different from one self. Diversity awareness competence is evaluated based on the following characteristics:

A belief that differences are valuable and learning other cultures is necessary, an acceptance of other world views and perspectives, a willingness to self-examine, awareness of one's own cultural heritage and how it affects ones' world view, values, and assumptions, a personal commitment to justice and social change, and awareness of

one's own behavior and its impact on others (Pope and Reynolds, 1997, p. 271).

Conceptual sources

Diversity awareness, diversity knowledge, and diversity skill are three dimensions of diversity competence mentioned by many researchers and their studies (see Table 2.2), but only diversity awareness and diversity knowledge are suggested for assessment on a regular basis. The dimensions of diversity skill will be excluded from this study based on two reasons. First, Petersen (1988) indicated that cultural skill cannot be developed without a strong foundation of cultural awareness and knowledge. He also mentioned that skills are difficult to measure. The line between diversity skills and other social or communication skills is blurry. This explains why researchers usually combine diversity skill and professional skill in their evaluation of diversity skills competence in the fields of their studies such as health care, social work, or counseling psychology. Second, Robinson and Bradley (1997) noted that cultural awareness and cultural knowledge training can occur prior to cultural skills training in enhancing undergraduate students' professional development. They suggested that cultural awareness and cultural knowledge are two key capacities to cultivate a skilled counselor.

In the present study, only the dimensions of cultural knowledge and cultural awareness were examined for the assessment of students' diversity competence scale. Items developed for the constructs of diversity knowledge and diversity awareness were based on the diversity competence literature (e.g. Pope & Reynolds, 1997) and were revised and reworded to ensure their effectiveness to collect data for the purpose of this study (Beaudry, & Davis, 2003).

Instrument design

Considering that most cultural competence instruments were designed for either students or practitioners in the fields of health care and counseling psychology, or for students having recently taken diversity related courses, there was clearly a need to design an instrument to test a general student population. The data collected from this instrument were utilized to examine the cultural competence of college seniors in two dimensions: cultural awareness and cultural knowledge. The questions on the instrument exploring the sensitivity to one's own and others' culture were used to examine the cultural awareness competence of the subjects, and the questions querying the capacities to understand the cultural element of the selected cultural groups were used to examine the cultural knowledge competence of the subjects.

This self-administered instrument, divided into three sections, is composed of 33 items. Of which, eight is used to collect personal information from the participants, eleven is used to examine their cultural knowledge competence, and another 14 items were to investigate their cultural awareness competence. A 6-point Likert-type scale is used to rate the level of cultural knowledge and cultural awareness. The options ranged from "Strongly Disagree" to "Strongly Agree" The questions (See Appendix 1) were organized according to three sections: personal information, cultural awareness and cultural knowledge. One example of questions to test cultural awareness scale is "I am aware of how my cultural heritage has influenced the way I think", and another example to test cultural knowledge scale is "I understand the cultural values and religious beliefs of other cultures".

Validity Study

A content validity was determined to ensure that items listed on the questionnaire represented the content and measure they were intended to measure (Rubio, et al., 2011). The content validity study consists of a panel of experts and a pilot test. A panel of experts was utilized to review the design of the instrument and to provide comments to improve the wording of survey items. This panel consisted of four members: three members from the University of New Orleans (UNO), and a fourth member from the faculty outside of UNO (Table 3.4). The field work was conducted via an on-line pilot test. Twenty-three college seniors were asked to complete the questionnaire sent to them by email, and to provide their comments on the clarity of the survey design.

Recommendations by expert panel

The expert panel review was conducted in the middle January and early February in 2012. Comments on the design of instrument were divided into three areas: personal information section, cultural awareness section, and cultural knowledge section. In the section of Personal Information, the item # 3 on race/ethnicity should include White/Caucasian, African American/Black, Hispanic/Latino, Asian/Pacific Island, Native American, Biracial/Multiracial, and other. For item # 5, the number of actual grade point averages (i.e. 3.0-4.0, 2.5-3.0...etc.) replaced letter grades. The questions which dealt with both items # 6 and #7 needed rewording. In the section Cultural Knowledge, item #8 needed to be deleted or changed. SES, a strong cultural variable, was added. Item #1 needed to be reworded. In terms of the selection of Likert scale, a 6-point scale was recommended for consideration.

Table 3.1 Pane Expert List

| Name | Employer | Publication |
|------------------|---------------------------|---|
| Dr. Zarus Watson | University of New Orleans | <p>LeBeauf, I. R., Watson, Z. E., & Maples, M. (2007). Relationship between status of racial identity development and supervisory behaviors within heavy industry. <i>Journal of Employment Counseling</i></p> <p>Watson, Z. E., Herlihy, B. R., & Pierce, L. A. (2006). Forging the links between multicultural competence and ethical counseling practice: A historical perspective. <i>Counseling & Values, 50</i>, 99-108.</p> <p>Herlihy, B. R. & Watson, Z. E. (2006). Gender issues in career counseling. In D. Carpuzzi & M. D. Stauffer (Eds.). <i>Career Counseling: Foundations, Perspectives, and Applications</i>. New York, NY., Pearson Education, Inc.</p> <p>Herlihy, B. R., & Watson, Z. E. (2004). Assisted Suicide: Multicultural and Ethical Issues. In K. Carpuzzi (Ed.), <i>Assisted Suicide</i>. Allyn & Bacon. New York.</p> <p>Herlihy, B., & Watson, Z. E. (2003). Ethical Issues and Competence in Multicultural Counseling. In F. D. Harper & J. McFadden (Eds.), <i>Culture and counseling: New approaches</i> (pp. 363-378). Boston: Allyn & Bacon.</p> <p>West-Olatunji, C. A., & Watson, Z. E. (1999). A Community-as-Client Mental Health Needs Assessment: Use of Culture-Centered Theory and Research. <i>Community Psychologist, 32</i>(1), 36-38.</p> |

Table 3.1, Continued

| | | |
|-------------------------------------|----------------------------------|--|
| <p>Dr. Yvelyne Germain-McCarthy</p> | <p>University of New Orleans</p> | <p>Germain-McCarthy, Y & Owens, K. (2005). <i>Mathematics and Muliti-Ethnic Students</i>. New City, N. Y.: Eye on Education, Inc. (196 pp.).</p> <p>Germain-McCarthy, Y. (2003). "Bringing the NCTM Standards to life: Exemplary practices in multicultural settings." (2003). Paper presented at Annual meeting of the National Council of Teachers of Mathematics, April, San Antonio, TX.</p> |
| <p>Dr. Barbara Herlihy,</p> | <p>University of New Orleans</p> | <p>Herlihy, B., & Watson, Z. E. (2002.) Ethical issues and competence in multicultural counseling. In F. D. Harper & J. McFadden (Eds.), <i>Culture and counseling: New approaches</i> (pp. 363-378). Boston: Allyn & Bacon.</p> <p>Hollander, J.K., Bauer, S., Herlihy, B., & McCollum, V. (2006). Beliefs of board-certified substance abuse counselors regarding multiple relationships. <i>Journal of Mental Health Counseling</i>.</p> <p>Herlihy, B. R., Watson, Z. E., & Paturneau-Hatchett, M. (in press). Ethical concerns in diagnosing culturally diverse clients. In Hatherleigh Press (Ed.). <i>Hatherleigh medical education</i>. Long Island, NY.</p> |

Table 3.1, Continued

| | | |
|------------------------------|---------------------------------------|---|
| <p>Dr. Damion R. Cummins</p> | <p>University of Louisiana-Monroe</p> | <p>Cummins, D., Tanaka, H., & Hall, S. (2009, October). Beyond Multicultural Class: Incorporating Multicultural Concepts Across Counselor Education Curriculum. Presentation to the annual convention of the Association for Counselor Education and Supervision, San Diego, CA.</p> <p>Cummins, D., Tanaka, H., & Lee, H. (2008, October). Infusing Multicultural Concepts Across Counselor Education Curriculum. Presentation to the annual convention of the Southern Association for Counselor Education and Supervision, Houston, TX.</p> <p>Cummins, D. (2008, June). Counseling Multicultural Clients. Presentation to multicultural class at the University of Louisiana-Monroe, Monroe, LA.</p> <p>Cummins, D. (2007, March). Counseling with Special Populations, 504 Accommodations. Presentation to practicum students at the University of New Orleans, New Orleans, LA.</p> |
|------------------------------|---------------------------------------|---|

With regard to the control of social desirability bias, the expert panel had the following suggestions: replacing the original 4-point Likert scale with a 6-point Likert scale, providing concise instructions to help respondents to answer the questionnaire, rewording the language of the instrument, and mixing questions with the combination of positive and negative format.

Pilot test

A pilot test was conducted to test the reliability of this new self-administered instrument. Twenty college students, enrolled in a four-year university in the South, volunteered themselves

and participated in this study through “Qualtrics” survey software between April 11 and April 24 in 2012. The participants did not raise any concern with regard to the design of instrument. The average time for completion was about 10 minutes. An internal consistency study was conducted to assess the reliability of questions measured on an interval/ratio scale (Radhakrishna, 2011). According to the results of the reliability statistics, the Cronbach’s Alpha of this test was .770. This value indicated that the design of this self-administered instrument is acceptable (Field, 2009). The University of New Orleans Institutional Review Board (IRB) approved this study on September, 2012.

Sampling Plan

Based on the convenience sampling strategy, two 4-year public universities in the South were selected as the study sites for the on-line survey. Three thousand seven hundred eighty four seniors were invited to take part in the cultural competence perception study and a web survey was selected because it was the most effective method to reach the subjects. According to the administrators of both universities, each student has a designated email address, and the address is considered as the primary account for students’ on-campus communication.

A low response rate is a common challenge for an on-line survey and researchers and survey experts provide varied tactics to overcome this shortcoming (Dillman, Smith, & Christian, 2009; Sue, & Ritter, 2007; Jensen, 2011). Suggestions to maximize response rates include tailoring surveys for different participants, offering gift incentives, and sending reminder emails. They are considered the key areas to increase the response rate. With regard to the first question, employment of a field test and a pilot test ensured that the survey participants were pleased with the design of both Web format and questionnaire. Additionally, a pre-notice email message was

arranged before the distribution of the web survey. Reminder emails were sent after the distribution of the survey. A \$100 gift card and a random drawing were used as a prize to motivate the participants to complete their surveys. “Qualtrics” software was employed to perform this web survey.

Data Collection

Two 4-year public universities in the southern U. S. were selected as the study sites for the on-line survey. The names of these two universities were not mentioned in the study to protect schools’ identities. Six hundred twenty one participants out of 3,784 senior students completed their cultural competence perception surveys, and the number of participants indicated that confidence level of this sampling plan reached 95% according to Zemke and Kramlinger (1982). The on-line survey began November 19, 2012, and ended December 2, 2012. Three emails were sent to the students to invite and encourage their participation within two weeks.

Data Analysis

A self-administered questionnaire was utilized to collect data to answer two major research questions of this study. In terms of selecting analysis tools for independent samples, t-test is appropriate to test for statistical significance in the means for two mutually exclusive groups, while analysis of variance is appropriate for testing for statistical significance when there are three or more groups. To answer the first research question, “Are there differences in the competence levels of college seniors based on their academic majors (liberal arts fields or professional/vocational fields),” the t-test was utilized to understand if there was a difference in

terms of diversity competence preparation between male and female students, and between students studying in either liberal arts (i.e. biological and physical sciences, math, social sciences, humanities, psychology.) or professional/vocational (i.e. business/management, education, engineering, health professional, public affair/social services fields). ANOVA was employed to explore the second research question, “Are there differences in the competence levels of college seniors based on their ethnicity, or grade point average?” Effect size was calculated to test the strength of the differences between two independent variables after a t-test is conducted.

Chapter Four: Findings

Introduction

As the results of its immigrant history and current immigration policies, the United States has become one of the most diverse nations in the world in terms of religion, race or ethnicity (National Urban League, 2011). The future of the United States relies on how well the people from these different cultural groups learn to get along with each other. Cultural competence is the key element to making America's diversity an advantage rather than a deficiency (Ingram, 2001), and higher education will have an important role to play in the development of this competence.

This chapter presents findings based on data collected from 621 college seniors through an electronic survey at two 4-year universities located in the southern United States. Descriptive statistics provide the average of mean cultural competence scores and the demographic profile of the survey participants. Of the participants, 227 were male students, and 394 were female students. T-test and ANOVA were employed to ascertain whether there were significant differences among different variables in the cultural competence scores according to the following variables: gender, age, ethnicity/race, GPA, and the area of study.

Research Questions Review

The purpose of this study is to further understand the comparative levels of cultural competence among college seniors. Cultural competence was examined along the dimensions of

cultural awareness and cultural knowledge. Two research questions developed to achieve the goal of this study:

Research Question 1: “Are there differences in the competence levels of college seniors based on their academic majors (liberal arts or professional/vocational fields)?”

Research Question 2: “Are there differences in the cultural competence levels of college seniors based on gender, race/ethnicity, GPA, diversity-related course participation, and age?”

Response Rate

Two 4-year universities in the southern U. S. were selected as the study sites for the electronic survey. Three thousand seven hundred eighty four seniors were invited to take part in the cultural competence perception study; 2,661 were from university X and 1,123 from university Y. The participation of each institution was earned with the condition that all efforts would be made to keep the institution names confidential. The first invitation email was sent on November 19, 2012; a reminder email was delivered one week later; a thank-you note with a final reminder was sent on December 2, 2012. After two weeks, the survey was closed. Among the 3,784 seniors invited, 718 students entered the on-line survey, and 621 of them completed the survey. The response rate was 16.4%. Of the 621 participants, 482 were from University X (a public university in an urban setting) and 139 were from University Y (a public university in a small town setting). As indicated in the Methodology section, a convenience sampling approach was utilized. Consequently, the participants from the universities were treated as a single group during analysis, and there was no plan for a campus to campus analysis. The table demonstrating the figures of the response rate is provided below (see Table 4.1).

Table 4.1 Response Rate of On-line Survey

| Initial invitation | Survey Respondents | Usable Response | Response Rate |
|--------------------|--------------------|-----------------|---------------|
| 3,784 | 718 | 621* | 16.4% |

* Of 621 participants, 482 are from university X and 139 are from university Y

Descriptive statistics

Description of Sample Participants

Six hundred twenty-one college seniors from two universities completed their on-line survey. Among them, there were 227 male students and 394 female students. In terms of age, 56% of students were in the range between 18 and 24 years old, and the remaining 44% were 25 years old or older. Sixty-six percent of participants were White/Caucasian and 34% of participants were made up of the rest of other groups. Ninety-three percent of students reported they were either US citizens or permanent residents; the rest of 7% said they were international students. In terms of academic performance, 57% of students had a GPA of 3.00 and higher, and the rest of students had a GPA of 2.99 and below. Among all participants, 26% of them were enrolled in the college of liberal arts, 21% were in the college of science, 28% were in the college of business, 10% were in the college of education, another 10% were enrolled in the college of engineering including computer science, and 5% were in the college of nursing. Divided by the area of study used in answering research question 1, 47% of students belonged to liberal arts field, and the remaining of 53% belonged to professional/vocational field. The detailed description of participants' characteristics is provided in Table 4.2.

Table 4.2 Personal Information of Sample Participants

| Subject | <i>n</i> | % |
|--|----------|----|
| Gender | | |
| Male | 227 | 37 |
| Female | 394 | 63 |
| Age | | |
| Under 17 | 0 | 0 |
| 18 – 20 | 7 | 1 |
| 21 – 24 | 343 | 55 |
| 25 – 30 | 143 | 23 |
| 31 – 35 | 56 | 9 |
| 36 or older | 72 | 12 |
| Race/Ethnicity | | |
| White/Caucasian | 408 | 66 |
| African American/Black | 77 | 13 |
| Hispanic/Latino | 48 | 7 |
| Asian/Pacific Island | 62 | 10 |
| Native American | 2 | 0 |
| Biracial/Multiracial | 14 | 2 |
| Other | 10 | 2 |
| Nation of Origin | | |
| Domestic student (US citizen/Permanent Resident) | 578 | 93 |
| International Student | 43 | 7 |
| Grade Point Average (GPA) | | |
| 1.99 or below | 9 | 1 |
| 2.00 – 2.50 | 81 | 13 |
| 2.51 – 2.99 | 175 | 28 |
| 3.00 – 3.59 | 239 | 38 |
| 3.60 - 4.00 | 117 | 19 |
| Area of Study | | |
| -Liberal Arts Field- | | |
| College of Liberal Arts | 164 | 26 |
| College of Science | 129 | 21 |
| Sub-total (Liberal Arts) | 293 | 47 |
| -Professional/Vocational Field- | | |
| College of Business | 172 | 28 |
| College of Education & Human Development | 64 | 10 |
| College of Engineering (incl. Computer Science) | 63 | 10 |
| College of Nursing and Health Sciences | 29 | 5 |
| Sub-total (Professional/Vocational) | 328 | 53 |
| Diversity-Related Courses Taken | | |
| 0 | 104 | 17 |
| 1 – 2 | 223 | 36 |

Table 4.2, continued

| | | |
|-----------|-----|----|
| 3 – 4 | 180 | 29 |
| 5 – 6 | 54 | 9 |
| 7 or more | 60 | 10 |

Demographic comparison between the participants and national student population

Three thousand seven hundred and eighty four college seniors from two 4-year universities were invited to participate in the study based on a convenience sampling strategy. The make-up of the sample population is quite close to the national average (see Table 4.3). Based on the data of personal information collected from the on-line survey, 621 students completed their surveys. Female students account for 63% of this study’s total sample population, compared to a ratio of 55% college enrollment of female students (National Center for Education Statistics, 2011).

Table 4.3 Comparison of Participant’s Characteristics
(Sample population v. National student population)

| Subject | Female | Male | White | Black | Hispanic | Asian/ Pac island/ Am. Indian. | Biracial/ Multi- racial | Other | Inter- national | Age 25 and under |
|----------|--------|------|-------|-------|----------|--|-------------------------------|-------|--------------------|------------------------|
| National | 55% | 45% | 62.3% | 14.3% | 12.5% | 7.5% | N/A | N/A | 3.4% | 42% |
| Sample | 63% | 37% | 66% | 13% | 7% | 10% | 2% | 2% | 7% | 56% |

Source: 1. Cultural competence survey, personal information. (2012)
2. U.S. Department of Education / National Center for Education Statistics, Digest of Education Statistics(2011).

Correspondingly, 37% of this study’s sample was male, compared with a 45% college enrollment rate nationally. In terms of racial/ethnic background, White students completing the

survey account for 66% of the total sample population, compared to 62% college enrollment of white student nation-wide. Age-wise, 56% of the sample population fall into the age ranged from 18 to 25, against the national average of 42% (see Table 4.3).

Table 4.3 provides a profile to compare characteristics between the sample population and national student population. It appears that the sample population is slightly more white and female and less Hispanic than national numbers, but this does not limit the potential significance of this study, partly because the sample population has a large sample with representation from many demographic groups, and partly because the analysis is not attempting to make national generalizations.

Discussion of descriptive statistics of cultural competence scales

A 6-point Likert-type scale was employed to rate the level of cultural competence of the participants. The data indicated that the mean score of overall cultural competence reached 4.65 (see Table 4.4). It is difficult to judge the value of 4.65 by itself. However, using a 6.0 scale as an indicator of the highest scale, the score of 4.65 passes the half-way mark of 3.0, and is beyond the 77th percentile of a scale of 6.0.

The data also indicate that the mean scores of both cultural awareness competence and cultural knowledge competence are very close to the mean score of cultural competence. Mean scores on the cultural awareness subscale are close to mean scores on the cultural knowledge subscale (see Table 4.4). The results show that students had generally similar scores in both awareness competence and knowledge competence and that if students have high scores in either cultural awareness competence or cultural knowledge competence, they will have high scores in overall cultural competence.

Table 4.4 Summary of Descriptive Statistics by Cultural Awareness and Cultural Knowledge

| Cultural Awareness Competence | | |
|---|-------------|-----------|
| <u>Item</u> | <u>Mean</u> | <u>SD</u> |
| 8. My cultural heritage has influenced the way I think | 4.17 | 1.32 |
| 9. I am always conscious of the cultural knowledge I use when interacting with people of varying cultural backgrounds | 4.56 | 1.12 |
| 10. I have examined my own identity | 4.90 | 1.07 |
| 11. I can be a friend of someone culturally different from myself | 5.67 | 0.68 |
| 12. I am never able to recognize my own biases regarding others | 4.62 | 1.06 |
| 13. My own background (in terms of gender, ethnicity, religion, etc.) affects how I view myself | 4.19 | 1.35 |
| 14. I am sensitive to situations (on campus, or in other areas) that are not welcoming to members of certain groups | 4.49 | 1.37 |
| 15. I become more aware of cultural differences when I interact with people from a culture that is unfamiliar to me | 4.96 | 0.95 |
| 16. I have trouble recognizing intolerance among my peers | 4.71 | 1.13 |
| 17. I look forward to serious discussion with others whose beliefs different from my own | 4.43 | 1.28 |
| 18. I am aware of my initial reactions toward persons from different cultural backgrounds | 4.64 | 0.96 |
| 19. I have opportunities to interact with people from other cultural and ethnic groups | 5.14 | 0.90 |
| 21. I plan to have academic course work, fieldwork experiences, or research projects related to culturally diverse groups in the future | 3.50 | 1.65 |
| 22. My past (or future) employment brought (or will bring) me into contact with diverse cultural groups | 5.15 | 1.02 |
| Average | 4.65 | 0.51 |
| Cultural Knowledge Competence | | |
| 23. I am unfamiliar with race and ethnic relations in the U.S. | 4.60 | 1.32 |
| 24. I know about issues related to gender in the U.S. | 4.86 | 0.97 |
| 25. I am unfamiliar with the barriers that people with disabilities face | 4.48 | 1.30 |
| 26. I understand the cultural values and religious beliefs of other cultures | 4.58 | 0.92 |
| 27. I am not knowledgeable about issues related to sexual orientation (homosexuality, heterosexuality, bi-sexuality, transgender, etc) | 4.53 | 1.44 |
| 28. I am familiar with terms “prejudice” | 5.36 | 0.93 |
| 29. I have limited knowledge of term “cultural diversity” | 4.96 | 1.14 |
| 30. Older people do not tend to face discrimination in society | 5.05 | 1.08 |
| 31. I am not knowledgeable about arts and crafts of other cultures | 3.94 | 1.34 |
| 32. I understand term “affirmative action” | 4.85 | 1.11 |
| 33. An individual’s socio-economic status is related to the development of their values | 4.01 | 1.38 |
| Average | 4.66 | 0.58 |

Table 4.4, continued

| Overall Cultural Competence | | |
|-----------------------------|------|------|
| Average | 4.65 | 0.46 |

The cultural competence survey was divided by two parts: cultural awareness and cultural knowledge. Fourteen items were designed to assess students’ cultural awareness. Six hundred twenty-one students completed the surveys, and the mean score of cultural awareness was 4.65. Out of 14 items, item #11 (I can be a friend of someone culturally different from myself), item #19 (I have opportunities to interact with people from other cultural and ethnic groups), and #22 (My past (or future) employment brought (or will bring) me into contact with diverse cultural groups) had the highest mean scores, 5.67, 5.14 and 5.15, respectively (see Table 4.4). Item #21 (I plan to have academic coursework, fieldwork experiences, or research projects related to culturally diverse groups in the future) has the lowest mean score, 3.50 (see Table 4.4), this means score may be explained by the difficulty students fare in attempting to predict.

Eleven items were devised to assess students’ cultural knowledge. Out of 11 items, item #28 (I am familiar with term “prejudice”) and #30 (Older people do not tend to face discrimination in society) had the highest mean scores, and they are 5.36, and 5.05, respectively (see Table 4.4). These two items indicate that college seniors are well informed of the existence of “prejudice” in present day, and “age” prejudice has become another major issue that people cannot ignore (Cuddy, Norton, & Fiske, 2005). Item #31(I am not knowledgeable about arts and crafts of other cultures) has the lowest mean score, 3.94 (see Table 4.4), and it implies that there is a need to increase students’ opportunities to learn arts and crafts of other cultures.

Cultural Competence Differences by Academic Field

A two-tailed t-test was conducted to probe for difference in cultural competence between liberal arts majors and professional/vocational majors in terms of their overall cultural competence, and two sub-areas: cultural awareness and cultural knowledge. The result indicates that liberal arts majors ($M = 4.69$, $SD = .45$) had significantly higher overall cultural competence scores than professional/vocational majors ($M = 4.62$, $SD = .46$), $t(619) = 2.12$, $p = .04$ (two-tailed). The outcome also notes that liberal arts majors ($M = 4.71$, $SD = .56$) had significantly higher cultural knowledge scores than professional/vocational majors ($M = 4.61$, $SD = .60$), $t(619) = 2.24$, $p = .03$ (two-tailed). Nevertheless, in terms of the mean difference of cultural awareness between liberal arts and professional majors, the data reveal that the difference is not significant (see Table 4.5).

These results indicate that although the mean scores of liberal arts majors were only slightly higher than those of professional/vocational majors, these differences proved to be significant in two categories: overall cultural competence and cultural knowledge competence. The significance was further supported by the calculation of effect size listed in Table 4.16.

This study found that students from the liberal arts field had higher mean scores than the overall average scores of students from professional fields in all three scales. The statistical analyses indicated that the score differences were significant. The discussion of their differences will be explored in the following chapter.

Table 4.5 T-test Analysis of Cultural Competence on Academic Field

| Variable | <i>n</i> | <i>M</i> | <i>SD</i> | <i>t</i> | <i>df</i> | <i>p</i> |
|---------------------------|----------|----------|-----------|----------|-----------|----------|
| Cultural Competence Scale | | 4.65 | | | | |
| Liberal Arts Field | 293 | 4.69 | .45 | 2.12 | 619 | .04 |
| Professional Field | 328 | 4.62 | .46 | | | |
| Cultural Awareness Scale | | 4.65 | | | | |
| Liberal Arts Field | 293 | 4.68 | .50 | 1.37 | 619 | .17 |
| Professional Field | 328 | 4.63 | .52 | | | |
| Cultural Knowledge Scale | | 4.66 | | | | |
| Liberal Arts Field | 293 | 4.71 | .56 | | | |
| Professional Field | 328 | 4.61 | .60 | 2.24 | 619 | .03 |

Cultural Competence Differences by Other Independent Variables

In this section, t-test analysis was used to examine differences in the cultural competence levels of college seniors according to gender. Mean scores of scales in cultural competence, cultural awareness, and cultural knowledge were analyzed. ANOVA tests were employed to examine differences in the cultural competence levels of college seniors according to race/ethnicity, age and GPA. Mean scores of scales in cultural competence, cultural awareness, and cultural knowledge were utilized for analysis. Tukey HSD and LSD were used to determine

whether those variables were statistically significantly different from each other when comparing their mean scores based on the outcomes of their ANOVA tests.

Cultural competence differences between female and male students

A two-tailed t-test was conducted to probe for differences in cultural competence, cultural awareness and cultural knowledge according to gender. The results indicate that female students' mean scores were higher than those of their male counterparts in all three measures. The outcome also notes that female students ($M = 4.70$, $SD = .44$) had a statistically significantly higher overall cultural competence scale than male students ($M = 4.57$, $SD = .47$), $t(619) = 3.37$, $p = .00$ (two-tailed).

Table 4.6 t-test Analysis of Cultural Competence According to Gender

| Variable | <i>n</i> | <i>M</i> | <i>SD</i> | <i>t</i> | <i>df</i> | <i>p</i> |
|----------------------------------|----------|----------|-----------|----------|-----------|----------|
| Cultural Competence Scale | | | | | | |
| Female | 394 | 4.70 | .44 | 3.37 | 619 | .00 |
| Male | 227 | 4.57 | .47 | | | |
| Cultural Awareness Scale | | | | | | |
| Female | 394 | 4.71 | .49 | 3.50 | 619 | .00 |
| Male | 227 | 4.56 | .52 | | | |
| Cultural Knowledge Scale | | | | | | |
| Female | 394 | 4.69 | .56 | 2.14 | 619 | .03 |
| Male | 227 | 4.59 | .61 | | | |

On the cultural awareness scale, the outcome reveals that female students ($M = 4.71$, $SD = .49$) had a statistically significantly higher score than male students ($M = 4.56$, $SD = .52$), t

(619) = 3.50, $p = .00$ (two-tailed). On the cultural knowledge scale, the outcome reveals that female students ($M = 4.56$, $SD = .56$) had a significantly higher score than male students ($M = 4.59$, $SD = .61$), $t(619) = 2.14$, $p = .03$ (two-tailed) (see Table 4.6).

This t-test analysis revealed that female students had higher mean scores than the overall average scores and the average scores of male students in all three scales. Further, the report indicated that the score differences between female students and their counterpart male students were statistically significant in the scale of the overall cultural competence and two other subscales: cultural awareness and cultural knowledge.

Cultural competence differences on race/ethnicity

Descriptive statistics were utilized to compare the mean score of White/Caucasian, African American/Black, Hispanic/Latino, Asian/Pacific Islander, Native American, Biracial/Multiracial and others (see Table 4.7). Biracial/Multiracial students achieved the

Table 4.7 Comparison of Mean Differences on Race and Ethnicity

| Race/ Ethnicity | White/ Caucasian | African American/ Black | Hispanic/ Latino | Asian/ Pacific Islander | Native American | Biracial/ Multi- racial | Others | Total |
|--------------------------------|---------------------|-------------------------------|---------------------|-------------------------------|--------------------|-------------------------------|--------|-------|
| # | 408 | 77 | 48 | 62 | 2 | 14 | 10 | 621 |
| Cultural Competence Mean | 4.65 | 4.80 | 4.58 | 4.51 | 4.60 | 4.91 | 4.63 | 4.65 |
| Cultural Awareness Mean | 4.64 | 4.81 | 4.63 | 4.56 | 4.43 | 4.77 | 4.51 | 4.65 |
| Cultural Knowledge Mean | 4.66 | 4.79 | 4.51 | 4.45 | 4.82 | 5.11 | 4.79 | 4.66 |

highest mean scores in both cultural competence scale and cultural knowledge competence scale; while, Asian/Pacific Islander students had the lowest scores in those two categories. With respect to the cultural awareness competence, African American/Black students had the highest scores, and Asian American students had the lowest scores from the identified groups.

A one-way ANOVA test was conducted to examine for statistically significant differences in terms of three different competence scales (see Table 4.8). The results indicate that there are statistically significant differences for the overall cultural competence among the seven variables, $F(6, 614) = 3.40, p = 0.00$. The data also show that there are significant differences for the cultural knowledge competence among the seven variables, $F(6, 614) = 4.02, p = 0.00$. Both

Table 4.8 ANOVA Test on Race and Ethnicity

| Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence | | | | | |
|---|---------------|-----------|-------------|------|------|
| | Sum of Square | <i>df</i> | Mean Square | F | Sig. |
| Cultural Competence | | | | | |
| Between Groups | 4.17 | 6 | .70 | 3.40 | .00 |
| Within Groups | 125.48 | 614 | .20 | | |
| Total | 129.65 | 620 | | | |
| Cultural Awareness | | | | | |
| Between Groups | 3.08 | 6 | .51 | 2.02 | .06 |
| Within Groups | 155.97 | 614 | .25 | | |
| Total | 159.04 | 620 | | | |
| Cultural Knowledge | | | | | |
| Between Groups | 7.95 | 6 | 1.32 | 4.02 | .00 |
| Within Groups | 202.43 | 614 | .33 | | |
| Total | 210.39 | 620 | | | |

of the overall cultural competence and the cultural knowledge competence had *p* values smaller than the .05 level (see Table 4.8). Among all seven variables, Post hoc comparisons using the Tukey HSD test indicated that the mean score for the African American/Black participants was significantly higher than the scores of Asian/Pacific Islander and the mean score for

Biracial/Multiracial participants was significantly different from the Asian/Pacific Islanders, respectively (see Appendix 3).

Cultural competence differences and student age

Descriptive statistics were also compiled to compare the mean scores for students age groups (these ranged from 18 – 20, 21 – 24, 25 – 30, 31 – 35, and to 36 or older) (see Table 4.9). The findings indicate that the oldest group of students had the highest mean scores in both cultural competence and cultural knowledge competence; additionally, the 18 – 20 year-old students had the lowest scores in those two categories. This provides a strong indication that age is a key factor in multicultural competence among college seniors. Surprisingly, with respect to the cultural awareness competence, 18 – 20 year-old students had the highest scores, and 21 – 24 year-old students had the lowest scores. No data from this study can be used to explain why the

Table 4.9 Cultural Competence by Student Age

| Age | 18 – 20 | 21 – 24 | 25 – 30 | 31 – 35 | 36 or older | Total |
|--------------------------|---------|---------|---------|---------|-------------|-------|
| # | 7 | 343 | 143 | 56 | 72 | 621 |
| Cultural Competence Mean | 4.58 | 4.61 | 4.69 | 4.69 | 4.74 | 4.65 |
| Cultural Awareness Mean | 4.75 | 4.62 | 4.68 | 4.72 | 4.66 | 4.65 |
| Cultural Knowledge Mean | 4.36 | 4.59 | 4.69 | 4.81 | 4.83 | 4.66 |

outcomes that 18 – 20 year-old students have the lowest scores in both cultural competence scale and cultural knowledge competence scale, while having the highest scores in the cultural awareness competence. However, it is speculated that this age group’s interpretation on the questions with regard to cultural awareness was statistically significantly different from that of their counterpart student groups.

A one-way ANOVA test was conducted to test the observed difference for statistical significance (see Table 4.10). The results indicate that there are significant differences for the overall cultural competence among the five age groups, $F(4, 616) = 2.53, p = 0.04$. There are also statistically significant differences for the cultural knowledge competence among the five variables, $F(4, 616) = 4.64, p = 0.00$. Both of their p values were smaller than .05 level (see Table 4.10). Among all five variables, Post hoc comparisons using LSD test indicated that the mean scores of both students aged 31 -35 and aged 36 or older were significantly different than those of age 21 -24 (see Appendix 4).

Table 4.10 ANOVA Test on Age

| Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence | | | | | |
|---|---------------|-----------|-------------|------|------|
| | Sum of Square | <i>df</i> | Mean Square | F | Sig. |
| Cultural Competence | | | | | |
| Between Groups | 2.10 | 4 | .52 | 2.53 | .04 |
| Within Groups | 127.56 | 616 | .21 | | |
| Total | 129.66 | 620 | | | |
| Cultural Awareness | | | | | |
| Between Groups | .75 | 4 | .19 | .73 | .57 |
| Within Groups | 158.29 | 616 | .26 | | |
| Total | 159.04 | 620 | | | |
| Cultural Knowledge | | | | | |
| Between Groups | 6.12 | 4 | 1.53 | 4.61 | .00 |
| Within Groups | 204.27 | 616 | .33 | | |
| Total | 210.39 | 620 | | | |

Cultural competence differences and GPA

Descriptive statistics were compiled to compare the mean scores on all three independent variables according to student grade point average (GPA). The GPA variable was segmented into 5 ranges (1.99 or below, 2.00 – 2.50, 2.51 – 2.99, 3.00 – 3.59, and 3.60 – 4.00), and the descriptive statistics were in Table 4.11. Interestingly, while students with GPAs of 1.99 or below have the highest mean scores on all three scales, students with GPAs of 2.00 – 2.50 have the lowest scores in the overall cultural competence scale; students with GPAs of 2.51 – 2.99 have the lowest scores in the cultural awareness competence scale; students with GPAs of 3.60 – 4.00 have the lowest scores in the cultural knowledge competence scale.

Table 4.11 Cultural Competence by GPA

Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence

| GPA | 1.99 or below | 2.00 – 2.50 | 2.51 – 2.99 | 3.00 – 3.59 | 3.60 – 4.00 | Total |
|--------------------------|---------------|-------------|-------------|-------------|-------------|-------|
| # | 9 | 81 | 175 | 239 | 117 | 621 |
| Cultural Competence Mean | 4.98 | 4.62 | 4.63 | 4.66 | 4.68 | 4.65 |
| Cultural Awareness Mean | 4.91 | 4.61 | 4.60 | 4.66 | 4.73 | 4.65 |
| Cultural Knowledge Mean | 5.07 | 4.63 | 4.67 | 4.66 | 4.62 | 4.66 |

Unlike other analysis, the distribution of score differences on GPA does not demonstrate any consistent pattern. Students of 1.99 or below have the highest mean scores on all three scales, while, students of 2.00 – 2.50 have lower scores in all three scales. No data from this study can

be used to explain why a slight different in GPA can cause such a large difference in scores. Further studies can be developed to research in this gap.

A one-way ANOVA test was conducted to determine if the differences are significant or not on student GPA in terms of the three different competence scales (see Table 4.12). The outcomes of the test did not support the notion that students having the lowest GPA have the highest mean scores in all three competence scales because it found that there was no statistically significant difference of mean scores on student GPA in the overall measure of cultural competence, the cultural awareness competence and the cultural knowledge competence. The *p* values of all three scales were larger than the .05 level (see Table 4.12). Among all five variables, Post hoc comparisons using the Tukey HSD test also indicated that the mean scores of five GPA segments were not statistically different (see Appendix 5).

Table 4.12 ANOVA Test of GPA

| Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence | | | | | |
|---|---------------|-----------|-------------|------|------|
| | Sum of Square | <i>df</i> | Mean Square | F | Sig. |
| Cultural Competence | | | | | |
| Between Groups | 1.29 | 4 | .32 | 1.55 | .19 |
| Within Groups | 128.37 | 616 | .21 | | |
| Total | 129.66 | 620 | | | |
| Cultural Awareness | | | | | |
| Between Groups | 1.98 | 4 | .50 | 1.94 | .10 |
| Within Groups | 157.06 | 616 | .26 | | |
| Total | 159.04 | 620 | | | |
| Cultural Knowledge | | | | | |
| Between Groups | 1.76 | 4 | .44 | 1.30 | .27 |
| Within Groups | 208.63 | 616 | .34 | | |
| Total | 210.39 | 620 | | | |

Few studies were developed to examine the relationship between cultural competence and GPA. Few data were found to explain why researchers did not intend to include the factor of

GPA into their study. In this study, GPA was not considered as a strong factor because the statistical results indicated the scores on GPA were not statistically significantly different.

Cultural competence and diversity-related courses taking

The final relationship that was part of the original data analysis plan was a comparison between levels of cultural competence and the number of diversity-related courses taken by study participants. This includes courses such as foreign language, foreign history, anthropology, women’s or gender studies, international studies, or any other courses related to cultural diversity. Participants were asked to select a category representing the number of diversity-related courses: zero, 1-2, 3-4, 5-6, or 7 more (see Table 4.13).

Table 4.13 Comparison of Mean Differences on Course Completion

Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence

| Course Completion | 0 | 1 -2 | 3 – 4 | 5 – 6 | 7 or more | Total |
|--------------------------|------|------|-------|-------|-----------|-------|
| # | 104 | 223 | 180 | 54 | 60 | 621 |
| Cultural Competence Mean | 4.49 | 4.59 | 4.71 | 4.84 | 4.86 | 4.65 |
| Cultural Awareness Mean | 4.40 | 4.59 | 4.76 | 4.87 | 4.94 | 4.65 |
| Cultural Knowledge Mean | 4.59 | 4.58 | 4.72 | 4.80 | 4.76 | 4.66 |

Not surprisingly, students taking seven or more courses had the highest mean scores on both the cultural competence scale and the cultural awareness competence scale. Students taking zero diversity-related courses had the lowest scores in those two categories. With respect to the

cultural knowledge competence, students taking 5 - 6 courses had the highest scores, and students taking 1 – 2 courses had the lowest scores.

A one-way ANOVA test was conducted to examine the observed for statistical significance (see Table 4.14). There are significant differences for each of the three scales. With respect to overall cultural competence, the results of ANOVA tests reached .05 significance level, $F(4, 616) = 11.45, p = 0.00$, $F(4, 616) = 16.16, p = 0.00$, and $F(4, 616) = 3.29, p = 0.01$, respectively (see Table 4.14).

Table 4.14 ANOVA Test of Course Completion and Cultural Competence

| Variable: Cultural Competence, Cultural Awareness and Cultural Knowledge Competence | | | | | |
|---|---------------|-----------|-------------|-------|------|
| | Sum of Square | <i>df</i> | Mean Square | F | Sig. |
| Cultural Competence | | | | | |
| Between Groups | 8.97 | 4 | 2.24 | 11.45 | .00 |
| Within Groups | 120.68 | 616 | .20 | | |
| Total | 129.66 | 620 | | | |
| Cultural Awareness | | | | | |
| Between Groups | 15.10 | 4 | 3.78 | 16.16 | .00 |
| Within Groups | 143.94 | 616 | .23 | | |
| Total | 159.04 | 620 | | | |
| Cultural Knowledge | | | | | |
| Between Groups | 4.40 | 4 | 1.10 | 3.29 | .01 |
| Within Groups | 205.98 | 616 | .33 | | |
| Total | 210.39 | 620 | | | |

Among all five levels, Post hoc comparisons using the Tukey HSD test indicated that the mean scores for students who had taken at least three diversity-related courses were significantly different than those of students who took less than three (see Appendix 6). The largest difference takes place between students who took seven or more courses and those who took no course at all.

The results of ANOVA test revealed that the more courses the students have taken, the better the scores they can get. The score differences between students taking different numbers of courses related to diversity were statistically significant. Taking the number of classes related to cultural diversity is a key contributor to the performance of student' cultural competence.

Cultural competence differences on gender in academic majors

Besides the t- test to examine cultural competence according to gender based on an overall participants, another two-tailed t-test was conducted to probe for differences in cultural competence based on the participants' academic fields of study, liberal arts and professional/vocation. The second t-test was intended to find out if academic major had an impact on students' cultural competence according to gender.

Table 4.15 t-test Analysis of Cultural Competence on Gender, by Academic Field

| Variable | <i>n</i> | <i>M</i> | <i>SD</i> | <i>t</i> | <i>df</i> | <i>p</i> |
|-------------------------------|----------|----------|-----------|----------|-----------|----------|
| Liberal Arts Field | | | | | | |
| Female | 189 | 4.74 | .44 | 2.12 | 292 | .04 |
| Male | 104 | 4.62 | .46 | | | |
| Professional/Vocational Field | | | | | | |
| Female | 205 | 4.67 | .48 | 2.57 | 326 | .01 |
| Male | 123 | 4.53 | .44 | | | |

In the field of liberal arts, the result indicated that female students ($M = 4.74$, $SD = .44$) had a significantly higher overall cultural competence scale than male students ($M = 4.62$, $SD = .46$), $t(292) = 2.12$, $p = .04$ (two-tailed). In the field of professional/vocational, the result indicated that female students ($M = 4.67$, $SD = .48$) had a significantly higher overall cultural

competence scale than male students ($M = 4.53$, $SD = .44$), $t(326) = 2.57$, $p = .01$ (two-tailed) (see Table 4.15).

The results of all t-tests indicate that female students' competence scores were higher than their counterparts, male students. The differences were confirmed to be statistically significant based on both p value and the measure of effect sizes (see Table 4.16).

Effect sizes of academic major and gender

Effect size was calculated to test the strength of the differences between two independent variables after a t-test is conducted. Pearson's correlation coefficient, r and Cohen's d are used to measure effect size in this study because they are the most common measures (Field, 2005).

Based on the table of correlation coefficients and Cohen's values (see Table 4.16), the differences between participants from the liberal arts field and professional/vocational field in the scales of cultural competence, cultural awareness and cultural knowledge are positive. Also note that the differences between female students and male students in the scales of cultural competence, cultural awareness and cultural knowledge are positive. Their differences appear to be positive because the effect sizes of all measures are larger than 0 (Field, 2005).

Summary

Data collected from 621 on-line survey participants were analyzed to answer two research questions: "Are there differences in the competence levels of college seniors based on their academic majors (liberal arts or professional/vocational fields)?" and "Are there differences in the competence levels of college seniors based on their different personal backgrounds?"

Table 4.16 Effect sizes by Academic Major and Gender

| Variable | <i>n</i> | <u>Academic Major</u> <i>r / d</i> | <u>Gender</u> <i>r / d</i> |
|---------------------------|----------|---------------------------------------|-------------------------------|
| Cultural Competence Scale | 621 | 0.08 / 0.15 | 0.14 / 0.28 |
| Cultural Awareness Scale | 621 | 0.05 / 0.10 | 0.15 / 0.30 |
| Cultural Knowledge Scale | 621 | 0.09 / 0.17 | 0.09 / 0.17 |

Source: Effect Size Calculators by University of Colorado Springs,
<http://www.uccs.edu/~lbecker/>

The descriptive statistics provides a detailed description for the characteristics of the sample participants. The analysis of the participant population revealed that the characteristics of the sample participants reflected that of a national student population. Outcomes of t-test and ANOVA are listed to indicate that the cultural competence scales are significantly different among most of variables. Effect size was calculated to test the strength of the differences examined by t-test between different gender and academic field. Interpretation of the findings will be discussed in the following chapter.

Chapter Five: Discussion of Findings

Introduction

The American workplace has rapidly become more diverse in recent years as a result of demographic changes and globalization of business. American higher education institutions are expected to play a leading role in preparing their college graduates for the workplace. One increasingly important aspect of workforce preparation is providing students with adequate cultural diversity competence for today's highly diverse work environments. The study sheds light on the cultural competence of college seniors through analysis of data collected from an on-line survey. This chapter will discuss the implications of the findings described above in Chapter Four, present the limitations of this research, and provide some suggestions for future research.

The relationship between academic major and cultural competence

America's companies expect higher education institutions to prepare their graduates for diverse workplaces (Brown, 2004). The findings of the study reveal that the students in professional/vocational fields are slightly behind those in liberal arts fields in terms of their competence scores: the mean differences are 0.07 (on a scale of 0 – 6) in cultural competence, and 0.1 (on a scale of 0 – 6) in cultural awareness (see Table 4.5). Even though the difference between their mean scores is small, the differences are statistically significant in both cultural competence and cultural knowledge.

Factors that contribute to the observed difference in cultural competence between the students of liberal arts programs and professional/vocational programs are inevitably multiple.

Nevertheless, there are some reasons to look towards course-taking as a factor. Based on a study exploring the perceptions of preparation for diversity among undergraduate hospitality majors, Bryant, Hunter and Williams (2007) found that classroom experiences that encourage interactions among people of different cultural backgrounds enhanced students' diversity competencies. Malinovska (2011) stressed that colleges should provide engineering students with more opportunities to learn foreign languages and cross-cultural communication skills.

As was noted in chapter 4, the more courses related to cultural diversity the students have, the better the competence score the students can get. The statistical test also notes that students taking more courses related to cultural competence are significantly higher in cultural competence than those taking fewer classes related to cultural diversity (non-Western history, foreign language, anthropology, etc. (See Appendix 6)). Thus, one explanation for the observed differences in competence scores between liberal arts students and professional/vocational ones might be the differences in diversity-focused course-taking between the two groups. This study did not gather data to determine causation. However, it is plausible that liberal arts students had higher competence scores due to interest and/or knowledge that pre-dated their course-taking. It is also plausible that both groups of students entered the college setting with equivalent levels of multicultural competence and diversity-focused course taking or some other aspect of pursuing a liberal arts degree was a cause of the observed differences. This will be an important area of future research and is also discussed in the future research section below.

Cultural competence differences separated by academic majors may have to do with students' pre-disposition to interests in multiculturalism, and they may also have something to do with college experiences. Umbach and Kuh (2006) reported that the students attending colleges focusing on liberal arts learning had more opportunities to engage in diversity-related activities

and made greater gains in understanding people of different cultures. In their study, Umbach and Kuh stressed not the size of institution or the density of a structural diverse campus, but the arrangement of diversity related activities that cultivate students' cultural diversity experiences. They further explained that diversity related activities could refer to the discussion of diversity related articles in the classroom, or creating student activities calling for the participation of students of different cultural backgrounds. In agreement with Umbach and Kuh's findings, Seifert et al. (2008) indicated that college's liberal arts experiences produced positive outcomes on students' growth. They further stated that a liberal arts oriented curriculum and student service programs not only promote the development of students' intercultural effectiveness, they also shore up students' openness for diversity challenges.

In summary, the findings in this study revealed that students in or with liberal arts majors tend to have higher cultural competence scores than their professional/vocational counterparts. Many elements may contribute to this result, but the data collected from this study indicated that taking courses related to cultural diversity is positively correlated with cultural competence scores, and that liberal arts majors took more such courses, and thus, predictably, had higher overall competency levels. To bridge the gap between these two academic fields in terms of their cultural competence levels, both administrators and faculty in the fields considered or characterized as professional/vocational should review their current curriculum and add necessary courses by which the student's cultural competence can be improved.

The relationship between cultural competence and gender

The data described in chapter four also showed that female students had higher competence scores than their male counterparts in terms of overall cultural competence, and on both subscales: cultural awareness competence, and cultural knowledge competence. On a scale

of 0 to 6, the mean differences was 0.13 in cultural competence, 0.15 in cultural awareness, and 0.1 in cultural knowledge, respectively (see Table 4.5). The competence scores collected in Table 4.16 also indicated that female students had a higher competence scores than their counterparts male students in cultural competence in both academic fields. On a scale of 0 to 6, the mean difference in liberal arts field is 0.12, and 0.14 in professional/vocational field, respectively (see Table 4.16). Even though the difference of their mean scores are small, t-test results indicate that their differences are statistically significant.

While statistically significant differences by gender were found here, not all studies related to cultural competence concurred with this finding because different instrument designs and data collection methods produce different outcomes in terms of assessment scores. In a study to examine the intercultural sensitivity between female and male students at a secondary school in Finland, Holm, Nokelainen and Tirri (2009) found that female students rated their intercultural sensitivity higher than male counterparts. The authors attributed the difference to the factor of empathy that females have more positive attitude towards people from other cultures. In another on-campus study to assess the effectiveness of diversity –related courses on undergraduate students’ cultural competence levels, the Office of Assessment at the University of Nebraska Kearney (UNK) found that female students out-rated their male students in the scales of interaction and attitude in coping with people of different cultural backgrounds after completing the required classes (UNK, 2011). The results of the above two studies corroborate the results found here. Nevertheless, the findings of two other studies revealed that males had higher scores in some subjects related to cultural competence, and that female scored higher in other subjects. In a study to understand gender differences in medical students’ perceptions of their knowledge and beliefs related to the need of cultural training, Jones, Rowland and Ziegler (2012) found that

male students rated themselves more culturally competent than female students, while females believed that culturally competent issues were more important. In a similar study to investigate cultural competencies of park and recreation professionals, Anderson and Stone (2005) indicated that female staffs scored significantly higher than males on three scales: Value Cultural Awareness, Desire to learn Language Skills, and Value Cultural Training. However, male staff members scored higher on Possess Cultural Competence Skills and Acceptance of Cultural Differences. The review of different studies related to cultural competence indicates that males and females are significantly different in assessment scores under different studied scales, but it is hard to judge who has a better cultural diversity competence just based on the scores.

The results of this study indicated that there are significant differences between female and male in terms of their cultural competence scores. The outcomes of statistical analyses also revealed that female students scored higher than their male counterparts in overall cultural competence regardless of their academic fields. As a result, it can be speculated that female students, in general, have a higher cultural competence levels. Even this speculation cannot be concluded considering that this is a perception study based on a convenience sampling strategy, the findings can still be a reliable source to inform higher education educators that there is room to improve students' cultural competence, which is considered an important quality to help students succeed in a global economy (Deardorff, 2011). To bring male students' cultural competence level up to their female counterparts should be one of the main objectives in the consideration of overhauling the current diversity strategies or programs in colleges and universities.

Although an examination of the association between cultural competence and work performance for females is not included here, it is recommended that future research be

conducted in this area. The relationship between these two factors can help build an agreement in supporting diversity education development between corporate community and higher education. It was reported that the presence of female senior management improved the companies' financial output (Carter, Simkins, & Simpson, 2003; Desvaux, Devillard-Hoellinger, & Baumgarten, 2007). The role of cultural competence in enhancing female employees' management and organizational skills should be further explored.

The Relationships between Cultural Competence and Race/Ethnicity, Age, GPA, and Course Completion

This section examines the data collected from ANOVA tests to understand research question 2: *Are there differences in the diversity competence levels of seniors based on their gender, race/ethnicity or grade point average (GPA)?* Means scores in overall cultural competence, cultural awareness competence, and cultural knowledge competence were utilized to explore the relationships between cultural competence and different independent variables. The findings of other studies related to cultural competence assessment were used to support the discussion on the relationships between cultural competence and different demographic variables.

The relationship between cultural competence and race/ethnicity

One of the intentions of the study was to understand the cultural competence levels among different races and ethnicities given that the U. S. is one of the most diverse nations and has a correspondingly diverse student population in higher education (see Table 5.1). Also, in studying organizational behavior and business performance, many studies suggested that the employment of racially diverse workforce was positively associated with work process and

performance (Hiller, Parrotta, Pozzoli, & Pytlikova, 2010; Richard, McMillan, Chadwick, & Dwyer 2003). But it stands to reason that this increasing racial diversity will only bring positive impact into the workplace if members of a diverse workforce are equipped with adequate cultural competencies (Richard et al, 2003; Hiller et al, 2010).

Table 5.1 Population breakdown by race/ethnicity

| | White/ Caucasian | African American/ Black | Hispanic/ Latino | Asian/ Pac island | American Indian | Biracial/ Multi- Racial | Other | Total |
|-----------------------------|---------------------|-------------------------------|---------------------|-------------------------|--------------------|-------------------------------|-------|-------|
| General US Population | 63.4% | 13.1% | 14.7% | 5.2% | 1.2% | 2.3% | - | 100% |
| US Higher Education | 63% | 14% | 12% | 7% | 1% | - | 3% | 100% |

Source: 1. U.S. Quickfacts from the U.S. Census Bureau, 2011.

<http://quickfacts.census.gov/qfd/states/00000.html>

2. U.S. Department of Education, National Center for Education Statistics. (2010).

Racial/Ethnic Concentration of Higher Education.

http://nces.ed.gov/programs/coe/indicator_hec.asp

Few previous studies have explored cultural competence between different races and ethnicities. Most focused on differences between non-white students and white students, and they found the former group had higher scores than the latter group when comparing their mean scores in the studies related to cultural competence (Anderson, & Stone, 2005; University of Nebraska Kearney, 2011; Walls, 2009). This study expanded the previously studied groups from two groups to seven groups.

The descriptive results of a one-way ANOVA test indicated that Biracial/Multiracial participants had the highest mean score in both overall cultural competence and cultural knowledge competence; while, African Americans had the highest mean score in cultural

awareness competence (see Table 4.8). Although the outcome of the test noted that there was difference among all seven categories in Race/Ethnicity, the only statistically significant differences were found in the mean score on cultural competence between African American and Asian/Pacific Islander, and between Biracial/Multiracial and Asian/Pacific Island based on Post hoc comparisons (see Appendix 3). Biracial/Multiracial's high cultural competence score is associated with previous findings that multiracial students had more cross-racial groups in their friendship network than other student groups do by Ying et al. (2001). This should not come as a surprise as multiracial students commonly work across cultural differences within their own families from the time they are born.

In terms of the low score of Asian/Pacific Islanders, Ying and others stated that Asian American's socialization model stopped them from cross-racial connection. This is anecdotally supported by the author having witnessed a high degree of in-group socialization among Asian/Pacific Islander students on at least one of the campuses studied here. Limited interactions with students of other cultural backgrounds may contribute to the low scores observed here.

The impact of racial diversity on group performance is an unresolved issue. Some studies indicate that the employment of a racial diverse workforce was positively associated with work process and productivity (Richard, McMillan, Chadwick, & Dwyer, 2003; Hiller, Parrotta, Pozzoli, & Pytlikova, 2010), but others argued that a racial diverse team at workplace may not produce positive outputs on company performance (Ely, 2004; Heilman, & Welle, 2006). The role of cultural competence in enhancing group performance in a diverse work team requires a further study as suggested by Heilman and Welle (2006) that without a cultural competence in place, the organization of a diverse workforce could backfire.

The relationship between cultural competence and age

Students' age was strongly associated with their cultural competence according to the analysis of a one-way ANOVA test based on five age groups from 18 – 20, 21 – 24, 25 – 30, 31 – 35, and to 36 or older. The findings of the test revealed that older groups have higher mean scores than those of younger groups in both cultural competence and cultural knowledge competence (see Table 4.9).

Although studying the relationships between cultural competence and age are rare, two studies found can be good references to support the findings of this study. The first study was developed based on an on-campus survey conducted at the University of Nebraska Kearney (UNK). The purpose of this survey was to examine student' cultural competence levels on three subscales: Interaction scale, Perceived Knowledge scale, and Attitude scale. Students were divided into four groups by age from 18 or younger, 19 – 21, 22 – 25 to 26 or older (University of Nebraska Kearney, 2011). The second study developed by Walls (2009) was to measure social work students' multicultural competence levels based on the Multicultural Awareness-Knowledge-Skills Survey. In this survey, student age groups were categorized in two ways: younger and older. The younger group was defined as 18 – 25, and the older group was defined as 26 and older. The findings from both surveys indicated that older students had higher mean scores than their younger counterparts.

Older students having higher cultural competence level can be attributed to, but not limited to longer life experiences, taking more classes or activities related to cultural diversity, or pre-disposition to interest in different cultures. Walls speculated that older students' higher competence scores may be associated with their longer life experiences, even though the score

difference between the older group and the younger group was not statistically significant. In the case of UNK survey, the findings revealed that there was an age factor showing that the oldest group had a higher competency score than the older group did, and the older group had a higher one than the group next to them. Their differences were statistically significant. Also, the results indicate that there was consistency that higher grade level groups had higher competence scores than lower grade level groups. The UNK claimed that taking cultural diversity courses was the key contributor to the higher scores of the higher grade level groups. Matching the student age group with each grade level group, it can be speculated that taking cultural diversity courses can be a key factor to help the older student groups achieve higher competence scores.

Age as a factor in identifying students 'cultural competence levels is found based on the results of this research study. Research supports the notion that age difference is associated with the levels of cultural competence in the setting of higher education, even though no conclusion can be drawn based on the findings of few studies. However, the quality of age linked to a higher competence to enhance work productivity was regularly studied by different researchers. Studies indicated that age difference produced positive outcomes in workplaces, and their findings implied that the age difference associated with, quality of social competencies, better communication skills and decision-making, helped enhance firm's competitive advantages (Tiraieyari, & Uli, 2011; Richard, & Shelor, 2002; Arvey, & Dewhirst, 1979).). A similar effect might be at play here in that older students have a higher cultural competence as the results of maturity and life experiences.

The relationships between cultural competence and Grade Point Average (GPA)

Using the factor of GPA to predict academic outcomes including but not limiting to dropout, matriculation, or graduation rates has been common in the setting of higher education. No significant relationship was found between GPA levels and cultural competence levels. Although the results of an ANOVA analysis indicated that the mean scores of different GPA ranges were different, their differences were not statistically significant (see Table 4.11 and 4.12).

Previous research has arrived at inconclusive findings on the relationship between GPA and cultural competence or cultural beliefs. In a study to understand the relationship between academic achievement and intercultural sensitivity, Holm, Nokelainen and Tirri (2009) found that higher achieving groups of students had higher intercultural conceptions than their counterparts average achievement group of students. The relationship between academic achievement and intercultural sensitivity was significantly positive. The participants of this study were 7th, 8th, and 9th grade students from two secondary schools in Finland.

However, in a study to examine the relationships between race/ethnicity, GPA, and cross-racial engagement, Ying et al. (2001) indicated that GPA did not predict the relationship between the factor of race/ethnicity and a low cross-racial engagement. The participants in this case were graduate psychology students.

While GPA continues to be an important variable in the study of student development and learning, quite interestingly, this study did not find statistically significant differences in student cultural competence levels according to GPA. While analysis using GPA is likely warranted when determining policies for student retention and completion, the data presented here suggests that when making policies to enhance student cultural competence, GPA may not be the most relevant factor.

The relationships between cultural competence and courses related to diversity

Number of classes related to cultural diversity taken was statistically significantly associated with the scores of cultural competence scales according to the result of an ANOVA test (see Table 4.4). The results indicate that students taking three classes or more related to cultural diversity have mean scores higher than the average score of three subscales: overall cultural competence, cultural awareness competence and cultural knowledge competence (see Table 4.13). The more courses the students have taken, and the better the scores they can get. Taking number of classes related to cultural diversity is a key contributor to the performance of student' cultural competence.

The positive relationship between cultural competence level and taking course related to cultural diversity were supported by several studies. Research conducted by University Nebraska Kearney (2011) and Walls (2009) discovered that senior-level students out-rated their counterparts, lower-level students, in mean scores in cultural competence assessment studies. The findings of the UNK study indicated that the senior-level group outscored their freshmen-level counterparts because they had taken two required cultural diversity courses. Walls also indicated that senior-level students outscored entry-level students, and social work students outscored non-social work students. She stated that curriculum related to cultural competence had a significant role in enhancing students' cultural competence level.

In sum, besides the findings of this study, other research also found that taking courses related to cultural diversity enhanced students' cultural competence levels (Bryant, Hunter, & Williams, 2007; Malinovvska, 2011; Morris , & McClure, 2011). Researchers have associated students' high cultural competence with taking courses related to cultural diversity, but few studies have further explored the relationship between the design of diversity curriculum and

cultural competence level. A cultural diversity curriculum may include but should not be limited to studies related to ethnicity, gender, religion, foreign history and language, anthropology, and sociology. Although this study does not have data to determine causation, the findings reveal that number of classes related to cultural diversity are associated with students' cultural competence levels. The more courses related to cultural diversity the students have attended, the higher the competence score the students can reach.

Summary of discussion

The results of the analyses revealed that the students of liberal arts field had a higher mean score than those of professional/vocational field did in terms of cultural competence scale. The data also noted that female students had higher competence scores than their counterparts did in terms of cultural competence, cultural awareness competence, and cultural knowledge competence. Asian/Pacific Islander students had a lower mean score on cultural competence than the students of both African American and Biracial/Multiracial did.

Additionally, the data indicated that older students had higher mean scores than younger ones in terms of cultural competence and cultural knowledge competence. GPA was found to have an insignificant relationship with cultural competence. Finally, this study corroborated previous evidence of positive relationship between cultural competence levels and diversity-related course taking.

Limitations of study

The results of the statistical analysis answer the research questions, indicating that there are differences in the competence levels of college seniors based on their academic majors (liberal arts or professional/vocational fields), and there are differences in the competence levels of college seniors based on their different personal backgrounds. Nevertheless, there are some deficiencies in this study as a result of subjective judgment, time concerns and resource constraints. The limitations of study are to be discussed below.

Studying cultural competence assessment for a general college population, instead of focusing on a single profession, is a relatively new endeavor (Green et al., 2005; Hall, & Theriot, 2007; Murphy, Park, & Lonsdale, 2006; Sealey, 2003; and White, 2003). No direct comparisons between different studies in cultural competence levels can be made due to lack of research focusing on the same population. Nonetheless, in defining this research as an exploratory study, the findings of this study can serve as a baseline for comparison by other researchers in exploring the same area in the future.

Generalizing the findings of this study should be taken cautiously given that this research was designed to identify college seniors' cultural competence at a single point in time. Additionally, a convenience sampling strategy at two state universities, instead of a random strategy at a national scale, was utilized to select the participants for this exploratory research study. Due to a single point in time design, this study could not examine the impact of course-taking more deliberately. Now that course-taking has proven to be an important factor, future studies will either need to use pre-post design or a panel design (w/ freshman and seniors for example) to try to account for the course-taking impacts. The study was also limited to a sample

of two public universities in the same state, and did not include private universities, community colleges, or public universities in other states or with other demographic make-ups.

Implications for policy and practice

This research provides a basic understanding of the scope of college seniors' cultural competence through a self-report study in the dimensions of cultural awareness and cultural knowledge. Although the results of the study cannot be generalized because it is a cross-sectional study, it can be utilized as a foundation to trace the progress in promoting cultural competence in colleges and universities.

The students in liberal arts fields have higher cultural competence scales than those in professional/vocational field. More students switched their majors from liberal arts fields to professional/vocational fields in recent years (Brint, 2002). From the perspective of preparing students to be workers with adequate cultural competencies, colleges and universities shall step up their efforts to raise the cultural competence level of the students in professional/vocational majors. The first step they can take is to review their current curriculum and set up a faculty committee to oversee the development of diversity initiative.

This study also sheds lights on the fact that there is room to improve students' cultural competence. To bring male students' cultural competence level up to their female counterparts, male students should be encouraged to take more classes or take part in activities related to cultural diversity. These programs will help them build their cultural awareness capacities and increase their cultural knowledge competence. Also, colleges and universities should initiate programs to motivate entry-level students to engage in activities that can raise their interest in

multiculturalism. Cultural competence assessment can start with freshmen classes. Follow-up evaluations can not only help colleges understand the progress of student's cultural competence levels, the outcomes also can aid the college administrators to review their diversity programs.

This study found that taking classes related to cultural diversity was the key contributor to strengthen students' cultural competence, even though no data could determine the association between type of courses and cultural competence level, and the effectiveness of number of classes. However, in research study to understand the role of classes related to multiculturalism in enhancing social work students' cultural competence, Walls (2009) found that students taking only one class "Minority Groups" had a higher score than those without taking that class. Another example, in an on-campus survey, University of Nebraska Kearney (2011) indicated students had higher cultural competence scores after completing two cultural diversity requirements. All findings pointed to a direction that students can improve their cultural competence, if schools offer them opportunities to do so.

Cultural competence is considered as an important quality to help students succeed in a global economy (Deardorff, 2011). Besides the efforts that higher education institutions should consider to step up, American companies should also review their human resource policies. To fully utilize the potential of college graduates, they should strengthen their orientation or training programs to help the new comers to convert what they have learned in colleges into a good practice to contribute to their workplaces.

Recommendations for future studies

Cultural competence study has become popular in recent years in the fields of social work (Hall, & Theriot, 2007), counseling psychology (Murphy, Park, & Lonsdale, 2006), education (Wakefield, Talbert, & Pense, 2006) and disciplines related to human services (Sealey, 2003). Cultural competence research for a general student population faces challenges partly because there is no consensus on attributes used to measure the concept of cultural competence, and partly because a reliable instrument is hard to find. This study paves the way for researchers who are interested in exploring the subject of cultural competence for a general student population in the settings of higher education. The more studies that researchers produce, the more information can be collected to formulate policies and programs to enhance college students' cultural and diversity-related competencies.

Descriptive study provides a distribution of scores among different variables. T-test and ANOVA shed lights on how significant of these different scores are. This study found that there were statistically different mean scores between students in Liberal Arts majors who had higher competence scores than students in Professional/Vocational majors, between female students and male students, between different ethnicities and ages, but no data can determine causation relationship. To understand the factors contributing to the differences in competence scores can help educators develop effective diversity initiatives to boost students' cultural competence. Quasi-experimental study can be a right tool to determine the true factors through the arrangement of different treatments. The results of different treatments can help researchers identify the aspects of a diversity course that really influences students' scores. Longitudinal research is also suggested because it helps track the progresses of students' cultural competence

development. Collecting the scores freshman come in with can help understand the impact of the pre-college preparation on students' cultural competence development. The data sheds lights on how scores change over a student's years in college. For a new instrument, factor analysis shall be considered when conducting a pilot study because the report of the analysis can help researchers fine-tune the design of instrument. An effective instrument helps increase response rate and enhance measurement.

Furthermore, cultural competence research can be extended from higher education institutions to business enterprises or non-profit organizations. The effectiveness of cultural competence or diversity related projects can be accurately assessed based on the inputs provided by the participants and the data developed by the research. Cultural competence can be further linked to the study of employee performance and productivity. Models can be designed to examine the association between cultural competence scales with employees' work performance.

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Appendix

Appendix 1 Cultural Competencies Self-Assessment Survey (proposed)

| Sections | Items | |
|----------------------|--|--|
| | <p>Note: For this exercise, <u>diversity</u> refers to the idea that the population living within the U. S. is comprised of people from differing cultural and ethnic backgrounds. The factors of diversity may include, but not limited to race/ethnicity, gender, age, religion, disabilities and sexual orientation.</p> | |
| Personal Information | <ol style="list-style-type: none"> 1. What is your sex? <ul style="list-style-type: none"> <input type="radio"/> Male <input type="radio"/> Female 2. What is your age? <ul style="list-style-type: none"> <input type="radio"/> Under 17 <input type="radio"/> 18 - 20 <input type="radio"/> 21 - 25 <input type="radio"/> 26 – 30 <input type="radio"/> 31 – 35 <input type="radio"/> 36 or older 3. What is your primary race/ethnicity? <ul style="list-style-type: none"> <input type="radio"/> White/Caucasian <input type="radio"/> African American/Black <input type="radio"/> Hispanic/Latino <input type="radio"/> Asian/Pacific Island <input type="radio"/> Native American <input type="radio"/> Biracial/Multiracial <input type="radio"/> Other 4. Which of the following best fits your situation? <ul style="list-style-type: none"> <input type="radio"/> Domestic student (US citizen/Permanent Resident) <input type="radio"/> International Student | |

| | | |
|--|---|--|
| | <p>5. What is your GPA?</p> <p><input type="radio"/> 2.0 or below</p> <p><input type="radio"/> 2.1 – 2.5</p> <p><input type="radio"/> 2.6 – 2.9</p> <p><input type="radio"/> 3.0 – 3.5</p> <p><input type="radio"/> 3.6 - 4.0</p> <p>6. Have you ever attended any of the following diversity-related campus events, or similar activity? (Such as Diversity Week Series, International Night, Black Heritage Week, Cultural Tea Hour, or any other events related to cultural diversity)</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p>If your answer is Yes, please specify:</p> <p><input type="radio"/> Diversity Week Series</p> <p><input type="radio"/> International Night</p> <p><input type="radio"/> Black Heritage Week</p> <p><input type="radio"/> Cultural Café</p> <p><input type="radio"/> Africa Night</p> <p><input type="radio"/> Nepalese Night</p> <p><input type="radio"/> Paper Lantern Night</p> <p><input type="radio"/> Japanese Night</p> <p><input type="radio"/> Safe Space Training.</p> <p><input type="radio"/> Other meetings or events related to cultural diversity</p> <p>7. Have you ever had the opportunity to take taken any of the following diversity-related courses or similar programs? (Such as Foreign Language, Foreign history, Anthropology, Women or Gender Studies, International Studies, or any other courses related to cultural diversity)</p> | |
|--|---|--|

| | | |
|---------------------------|---|--|
| | <p>Yes O No</p> <p>If your answer is Yes, please specify:</p> <p>O Foreign Language</p> <p>O Foreign history</p> <p>O Anthropology</p> <p>O Women or Gender Studies</p> <p>O International Studies</p> <p>O Sociology</p> <p>O Urban Planning</p> <p>O Other courses related to cultural diversity</p> <p>8. What is your area of study?</p> <p>O College of Liberal Arts</p> <p>O College of Science</p> <p>O College of Business</p> <p>O College of Education & Human Development,</p> <p>O College of Engineering (including Computer Science)</p> | |
| <p>Cultural Awareness</p> | <p>Note: Please indicate level of agreement with respect to each of the following statements. Respond based on your personal perceptions. There is no right or wrong answer.</p> <p>1 2 3 4 5 6</p> <p>Strongly disagree O O O O O Strongly agree</p> <p>1. My cultural heritage has influenced the way I think (Lum, D., 2005).</p> <p>2. I am always conscious of the cultural knowledge I use when interacting with people of varying cultural backgrounds</p> | <p>Characteristic domains (Pope & Reynolds, 1997)</p> <p>1.A willingness to self-examine</p> <p>2.Awareness of one's own cultural heritage</p> |

| | | |
|--------------------|--|--|
| | <p>(D'Andrea, M., Daniels, J. & Heck, R. 2011).)</p> <ol style="list-style-type: none"> 3. I have examined my own identity (Lum, D., 2005). 4. I can be a friend of someone culturally different from my self 5. I am never able to recognize my own biases regarding others (Simma Lieberman Associates, 2011). 6. My own background (in terms of gender, ethnicity, religion, etc.) affects how I view myself (University of Nebraska Kearney, 2011). 7. I am sensitive to situations (on campus, or in other areas) that are not welcoming to members of certain groups 8. I become more aware of cultural differences when I interact with people from a culture that is unfamiliar to me (Cultural Intelligence Center, 2005) 9. I have trouble recognizing intolerance among my peers (University of Nebraska Kearney, 2011). 10. I look forward to serious discussion with others whose beliefs different from my own 11. I am aware of my initial reactions toward persons from different cultural backgrounds 12. I have opportunities to interact with people from other cultural and ethnic groups (Lum, D., 2007). 13. I plan to have academic course work, fieldwork experiences, or research projects related to culturally diverse groups in the future (Lum, D., 2007). 14. My past (or future) employment brought (or will bring) me into contact with diverse cultural groups. | <ol style="list-style-type: none"> 3. A willingness to self-examine 4. An acceptance of other perspectives 5. A willingness to self-examine 6. Awareness of one's own behavior and its impact on others 7. A personal commitment to justice and fairness 8. A belief that differences are valuable 9. A willingness to self-examine 10. A belief that learning other cultures is necessary 11. A willingness to self-examine 12. A belief that learning other cultures is necessary 13. A belief that learning other cultures is necessary 14. I believe my ability to deal with differences is valuable |
| Cultural Knowledge | <p style="text-align: center;">1 2 3 4 5 6</p> <p>Strongly disagree O O O O O O Strongly agree</p> <ol style="list-style-type: none"> 1. I am unfamiliar with race and ethnic relations in the U.S. (University of Nebraska Kearney, 2011). 2. I know about issues related to gender in the U.S. (University of Nebraska Kearney, 2011). 3. I am unfamiliar with the barriers that people | <ol style="list-style-type: none"> 1. Information about the nature of institutional oppression 2. Knowledge about how gender affects individuals |

| | | |
|--|--|--|
| | <p>with disabilities face (Edmonds Community College, 2011).</p> <ol style="list-style-type: none"> 4. I understand the cultural values and religious beliefs of other cultures (Cultural Intelligence Center, (2005) 5. I am not knowledgeable about issues related to sexual orientation (homosexuality, heterosexuality, bi-sexuality, transgender, etc) (University of Nebraska Kearney, 2011). 6. I am familiar with terms “prejudice” (Holcomb-McCoy, C., 2011). 7. I have limited knowledge of term “cultural diversity” 8. Older people do not tend to face discrimination in society 9. I am not knowledgeable about arts and crafts of other cultures (Cultural Intelligence Center, 2005) 10. I understand term “affirmative action” 11. An individual’s socio-economic status is related to the development of their values (Edmonds Community College, 2011). | <ol style="list-style-type: none"> 3. knowledge about institutional barriers which limit to success for members of oppressed groups 4. Knowledge of diverse cultures 5. Knowledge about how sexual orientation affects individuals 6. Knowledge of oppressed groups 7. Knowledge of diverse cultures 8. Knowledge of oppressed groups 9. Knowledge of diverse cultures 10. Knowledge of diverse cultures and oppressed groups 11. Knowledge about how socio-economic status affects individuals |
|--|--|--|

Note: ¹ Instruments are contributed to the development of the current Cultural Competencies Self-Assessment Survey

Note: 1. Cultural Intelligence Center, (2005), The Cultural Intelligence Scale (CQS)
Retrieved from www.linnvandyne.com/papers/The%20CQS.pdf

2. D’Andrea, M., Daniels, J. & Heck, R. (2011). Scoring instructions multicultural counseling awareness, knowledge, and skills (MAKSS) survey. Retrieved from ¹
www.cart.rmcdenver.com/instruments/multicultural_awareness.pdf

3. Edmonds Community College, (2011). Student Diversity Survey. Retrieved from
<http://www.edcc.edu/diversity/divst/Diversity%20Surveys/default.php>

4. Holcomb-McCoy, C. (2011). The Multicultural Counseling and training Survey – Revised. Retrieved from www.j.b5z.net/i/u/2135872/i/MCCTS-R.doc

5. Lum, D. (2005). *Culturally competence, Practice Stages, and Client Systems: A Case Study Approach*. Cultural Competencies Practice Self-Assessment. Belmont, CA: Thomson Brooks/Cole.

6. Lum, D. (2007). *Culturally competence practice: A framework for understanding diverse groups and justice issues*. Social Work Cultural Competencies Self-Assessment. Belmont, CA: Thomson Brooks/Cole.

7. Simma Lieberman Associates, (2011). Diversity Competencies for Managers. Retrieved from www.Simmalieberman.com/articles/diversitycompetence.htm

8. University of Nebraska Kearney, (2011). Assessment. Retrieved from <http://www.unk.edu/academicaffairs/assessment.aspx?id=17478>

9. Pope, R. L. & Reynolds, A. L. (1997). Student affairs core competencies: Integrating

Appendix 2 Cultural Competence Survey Questionnaire

Dear student:

Thanks for taking your time to participate in this survey research. This questionnaire is designed to assess diversity competence of college seniors. Your participation is voluntary. If you are under 18 years of age, please do not complete this questionnaire. Upon the completion of the survey, you have a chance to win a \$100 Barnes & Noble gift certificate. If you wish to continue, please go to next page.

[Consent Form]

Dear student:

The purpose of this study is to help researchers have a better understanding of how college seniors perceive their diversity competence. Should you choose to participate, you will be asked to complete a 33-item questionnaire.

The results of the survey may be included in a research study that may be published, but there is no way your name will be identified because only group results will be revealed.

Your participation is voluntary. You may choose not to participate or to stop completing the survey at any time; there will be no penalty, (it will not affect your grades). Your input will be reported in aggregate form and your response will be kept completely confidential.

If you agree to the terms of this consent form, please select “I agree” below. If not, you may select “I disagree”

- I agree
- I disagree

Instructions: Please note that for this exercise, diversity refers to the idea that the population living within the U. S. is comprised of people from diverse cultural backgrounds. The factors of culture may include, but not limited to race/ethnicity, gender, age, religion, disabilities and

sexual orientation. Please select the response that most accurately reflects your perception. Please keep in mind that there is no right or wrong answer.

1. What is your sex?

- Male
- Female

2. What is your age?

Under 17 18 - 20 21 - 24 25 - 30 31 - 35 36 or older

3. What is your primary race/ethnicity?

- White/Caucasian
- African American/Black
- Hispanic/Latino
- Asian/Pacific Island
- Native American
- Biracial/Multiracial
- Other

4. Which of the following best fits your situation?

- Domestic student (US citizen/Permanent Resident)
- International Student

5. What is your GPA?

1.99 or below 2.00 - 2.50 2.51 - 2.99 3.00 - 3.59 3.60 - 4.00

6. Which of the following university you are enrolled?

- University of New Orleans
- Southeastern Louisiana University

7. What is your area of study?

- UNO College of Liberal Arts / SELU College of Arts, Humanities and Social Sciences
- UNO College of Science / SELU College of Science and Technology
- UNO & SELU College of Business
- UNO & SELU College of Education & Human Development,
- UNO & SELU College of Engineering (including Computer Science)
- SELU College of Nursing and Health Sciences

Please indicate level of agreement with respect to each of the following statements. Respond based on your personal perceptions. There is no right or wrong answer.

8. My cultural heritage has influenced the way I think.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

9. I am always conscious of the cultural knowledge I use when interacting with people of varying cultural backgrounds.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

10. I have examined my own identity.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

11. I can be a friend of someone culturally different from myself.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

12. I am never able to recognize my own biases regarding others.

| | | | | | |
|-------------------|----------|-------------------|----------------|-------|----------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|-------------------|----------|-------------------|----------------|-------|----------------|

13. My own background (in terms of gender, ethnicity, religion, etc.) affects how I view myself.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

14. I am sensitive to situations (on campus, or in other areas) that are not welcoming to members of certain groups.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

15. I become more aware of cultural differences when I interact with people from a culture that is unfamiliar to me.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

16. I have trouble recognizing intolerance among my peers.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

17. I look forward to serious discussion with others whose beliefs are different from my own.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

18. I am aware of my initial reactions toward persons from different cultural backgrounds.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

19. I have opportunities to interact with people from other cultural and ethnic groups.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

20. How many college courses have you completed related to culturally diverse groups?

0 1-2 3-4 5-6 7 or more

21. I plan to have academic coursework, fieldwork experiences, or research projects related to culturally diverse groups in the future.

Strongly Disagree Disagree Somehow Disagree Somehow Agree Agree Strongly Agree

22. My past (or future) employment brought (or will bring) me into contact with diverse cultural groups.

Strongly Disagree Disagree Somehow Disagree Somehow Agree Agree Strongly agree

23. I am unfamiliar with present day race and ethnic relations in the U.S.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

24. I know about issues related to gender in the U.S.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

25. I am unfamiliar with the barriers that people with disabilities face.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

26. I understand the cultural values and religious beliefs of other cultural groups.

Strongly Disagree Disagree Somewhat Disagree Somewhat Agree Agree Strongly Agree

27. I am not knowledgeable about issues related to sexual orientation (homosexuality, heterosexuality, bi-sexuality, trans-gender, etc).

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

28. I am familiar with term "prejudice".

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

29. I have limited knowledge of term "cultural diversity".

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

30. Older people do not tend to face discrimination in society.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

31. I am not knowledgeable about arts and crafts of other cultures.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

32. I understand term "affirmative action".

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

33. An individual's socio-economic status is related to the development of their values.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
| <input type="checkbox"/> |

Thank you very much for completing this survey. If you like to participate in a lucky draw of a \$100 gift certificate, please click "Yes".

- Yes
- No

Please fill the form to enter the lucky draw of a \$ 100 Barnes & Noble gift certificate. If you have any question concerning the lucky draw, please contact the investigator, Danny Chiang, at lchiang1@uno.edu or Dr. Beabout at bbeabout@uno.edu

First name

Last name

Email address

Survey Powered By

Appendix 3 Multiple Comparisons on Race and Ethnicity

Dependent Variable: Mean of Cultural Competence

| (I) Q3 | (J) Q3 | Mean Differences (I-J) | Std. Error | Sig. | 95% Confidence Interval for Mean | |
|--------------------------------------|----------------------------|------------------------|---------------|--------------|----------------------------------|---------------|
| | | | | | Lower Bound | Upper Bound |
| Turkey HSD White/ Caucasian | African American/Black | -0.1524 | 0.0562 | 0.097 | -0.3186 | 0.0137 |
| | Hispanic/Latino | 0.0711 | 0.0690 | 0.947 | -0.1329 | 0.2752 |
| | Asian/Pacific Island | 0.1370 | 0.0616 | 0.284 | -0.0453 | 0.3193 |
| | Native American | 0.0486 | 0.3205 | 1.000 | -0.8993 | 0.9966 |
| | Biracial/Multiracial | -0.2657 | 0.1229 | 0.318 | -0.6291 | 0.0978 |
| | Other | 0.0166 | 0.1447 | 1.000 | -0.4114 | 0.4447 |
| | African American/ Black | White/Caucasian | 0.1524 | 0.0562 | 0.056 | -0.0137 |
| | Hispanic/Latino | 0.2235 | 0.0831 | 0.103 | -0.0224 | 0.4695 |
| | Asian/Pacific Island | 0.2894* | 0.0771 | 0.004 | 0.0612 | 0.5176 |
| | Native American | 0.2010 | 0.3238 | 0.996 | -0.7568 | 1.1588 |
| | Biracial/Multiracial | -0.1133 | 0.1314 | 0.978 | -0.5018 | 0.2753 |
| | Other | 0.1690 | 0.1520 | 0.924 | -0.2805 | 0.6186 |
| Hispanic/Latino | White/Caucasian | 0.0711 | 0.0690 | 0.947 | -0.2752 | 0.1329 |
| | African American/Black | -0.2235 | 0.0831 | 0.103 | -0.4695 | 0.0224 |
| | Asian/Pacific Island | 0.0659 | 0.0869 | 0.947 | -0.2752 | 0.1329 |
| | Native American | -0.0225 | 0.3262 | 1.000 | -0.9876 | 0.9426 |
| | Biracial/Multiracial | -0.3368 | 0.1373 | 0.179 | -0.7430 | 0.0694 |
| | Other | <u>-0.0545</u> | <u>0.1571</u> | <u>1.000</u> | <u>-0.5194</u> | <u>0.4104</u> |
| | Asian/Pacific Island | White/Caucasian | -0.1370 | 0.0616 | 0.284 | -0.3193 |
| | African American/Black | -0.2894 | 0.0771 | 0.004 | -0.5176 | 0.0612 |
| | Hispanic/Latino | -0.6590 | 0.0869 | 0.989 | -0.3230 | 0.1912 |
| | Native American | -0.8840 | 0.3248 | 1.000 | -1.0491 | 0.8724 |
| | Biracial/Multiracial | -0.4027 | 0.1338 | 0.043 | -0.7984 | 0.0070 |
| | Other | -0.1204 | 0.1541 | 0.987 | -0.5761 | 0.3353 |
| Native American | White/Caucasian | -0.0486 | 0.3205 | 1.000 | -0.9966 | 0.8993 |

| | | | | | | |
|----------------------|------------------------|---------|--------|-------|---------|--------|
| | African American/Black | -0.2010 | 0.3238 | 0.996 | -1.1588 | 0.7568 |
| | Hispanic/Latino | 0.0225 | 0.3263 | 1.000 | -0.9426 | 0.9876 |
| | Asian/Pacific Island | 0.0884 | 0.3248 | 1.000 | -0.8724 | 1.0491 |
| | Biracial/Multiracial | -0.3143 | 0.3417 | 0.969 | -1.3252 | 0.6966 |
| | Other | -0.0320 | 0.3502 | 1.000 | -1.0679 | 1.0039 |
| Biracial/Multiracial | White/Caucasian | 0.2657 | 0.1229 | 0.318 | -0.0978 | 0.6291 |
| | African American/Black | 0.1132 | 0.1314 | 0.978 | -0.2753 | 0.5018 |
| | Hispanic/Latino | 0.3368 | 0.1373 | 0.179 | -0.0694 | 0.7430 |
| | Asian/Pacific Island | 0.4027 | 0.1338 | 0.043 | 0.0070 | 0.7984 |
| | Native American | 0.3143 | 0.3417 | 0.969 | -0.6966 | 1.3252 |
| | Other | 0.2823 | 0.1872 | 0.740 | -0.2714 | 0.836 |
| Other | White/Caucasian | -0.0166 | 0.1447 | 1.000 | -0.4447 | 0.4114 |
| | African American/Black | -0.1690 | 0.1520 | 0.924 | -0.6186 | 0.2805 |
| | Hispanic/Latino | 0.0545 | 0.1571 | 1.000 | -0.4104 | 0.5194 |
| | Asian/Pacific Island | 0.1204 | 0.1541 | 0.987 | -0.3353 | 0.5761 |
| | Native American | 0.0320 | 0.3502 | 1.000 | -1.0039 | 1.0679 |
| | Biracial/Multiracial | -0.2823 | 0.1872 | 0.740 | -0.8360 | 0.2714 |

*. The mean difference is significant at the 0.05 level.

Appendix 4 Multiple Comparisons on Age

Dependent Variable: Mean of Cultural Competence

| | | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | | |
|----------------|--------|-----------------------------|---------------|--------|-------------------------|----------------|-------|
| (I) Q2 | (J) Q2 | | | | Lower Bound | Upper Bound | |
| Tukey HSD | 18-20 | 21-24 | -.02379 | .17374 | 1.000 | -.4991 | .4515 |
| | | 25-30 | -.10414 | .17615 | .976 | -.5861 | .3778 |
| | | 31-35 | -.17786 | .18243 | .866 | -.6770 | .3212 |
| | | 36 or older | -.15437 | .18016 | .912 | -.6473 | .3385 |
| | 21-24 | 18-20 | .02379 | .17374 | 1.000 | -.4515 | .4991 |
| | | 25-30 | -.08035 | .04530 | .390 | -.2043 | .0436 |
| | | 31-35 | -.15407 | .06559 | .131 | -.3335 | .0254 |
| | | 36 or older | -.13057 | .05899 | .176 | -.2920 | .0308 |
| | 25-30 | 18-20 | .10414 | .17615 | .976 | -.3778 | .5861 |
| | | 21-24 | .08035 | .04530 | .390 | -.0436 | .2043 |
| | | 31-35 | -.07372 | .07173 | .843 | -.2700 | .1225 |
| | | 36 or older | -.05023 | .06576 | .941 | -.2301 | .1297 |
| | 31-35 | 18-20 | .17786 | .18243 | .866 | -.3212 | .6770 |
| | | 21-24 | .15407 | .06559 | .131 | -.0254 | .3335 |
| | | 25-30 | .07372 | .07173 | .843 | -.1225 | .2700 |
| | | 36 or older | .02349 | .08108 | .998 | -.1983 | .2453 |
| 36 or older | 18-20 | .15437 | .18016 | .912 | -.3385 | .6473 | |
| | 21-24 | .13057 | .05899 | .176 | -.0308 | .2920 | |
| | 25-30 | .05023 | .06576 | .941 | -.1297 | .2301 | |
| | 31-35 | -.02349 | .08108 | .998 | -.2453 | .1983 | |
| LSD | 18-20 | 21-24 | -.02379 | .17374 | .891 | -.3650 | .3174 |
| | | 25-30 | -.10414 | .17615 | .555 | -.4501 | .2418 |
| | | 31-35 | -.17786 | .18243 | .330 | -.5361 | .1804 |

| | | | | | | | |
|-------------|-------------|--|----------|--------|------|--------|--------|
| | 36 or older | | -.15437 | .18016 | .392 | -.5082 | .1994 |
| 21-24 | 18-20 | | .02379 | .17374 | .891 | -.3174 | .3650 |
| | 25-30 | | -.08035 | .04530 | .077 | -.1693 | .0086 |
| | 31-35 | | -.15407* | .06559 | .019 | -.2829 | -.0253 |
| | 36 or older | | -.13057* | .05899 | .027 | -.2464 | -.0147 |
| 25-30 | 18-20 | | .10414 | .17615 | .555 | -.2418 | .4501 |
| | 21-24 | | .08035 | .04530 | .077 | -.0086 | .1693 |
| | 31-35 | | -.07372 | .07173 | .304 | -.2146 | .0672 |
| | 36 or older | | -.05023 | .06576 | .445 | -.1794 | .0789 |
| 31-35 | 18-20 | | .17786 | .18243 | .330 | -.1804 | .5361 |
| | 21-24 | | .15407* | .06559 | .019 | .0253 | .2829 |
| | 25-30 | | .07372 | .07173 | .304 | -.0672 | .2146 |
| | 36 or older | | .02349 | .08108 | .772 | -.1357 | .1827 |
| 36 or older | 18-20 | | .15437 | .18016 | .392 | -.1994 | .5082 |
| | 21-24 | | .13057* | .05899 | .027 | .0147 | .2464 |
| | 25-30 | | .05023 | .06576 | .445 | -.0789 | .1794 |
| | 31-35 | | -.02349 | .08108 | .772 | -.1827 | .1357 |

*. The mean difference is significant at the 0.05 level.

Appendix 5 Multiple Comparisons on GPA

Dependent Variable: Mean of Cultural Competence

| (I) Q5 (J) Q5 | | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | | | |
|---------------|---------------|-----------------------|---------------|---------|-------------------------|-------------|--------|-------|
| | | | | | Lower Bound | Upper Bound | | |
| Tukey HSD | 1.99 or below | .36593 | .16040 | .152 | -.0729 | .8047 | | |
| | 2.00-2.50 | .35205 | .15603 | .161 | -.0748 | .7789 | | |
| | 2.51-2.90 | .32515 | .15500 | .222 | -.0989 | .7492 | | |
| | 3.00-3.59 | .29846 | .15791 | .324 | -.1336 | .7305 | | |
| | 3.60-4.00 | | | | | | | |
| | 2.00-2.50 | 1.99 or below | -.36593 | .16040 | .152 | -.8047 | .0729 | |
| | | 2.51-2.90 | -.01388 | .06135 | .999 | -.1817 | .1540 | |
| | | 3.00-3.59 | -.04077 | .05869 | .958 | -.2013 | .1198 | |
| | | 3.60-4.00 | -.06746 | .06598 | .845 | -.2480 | .1131 | |
| | | | | | | | | |
| | | 2.51-2.90 | 1.99 or below | -.35205 | .15603 | .161 | -.7789 | .0748 |
| | | | 2.00-2.50 | .01388 | .06135 | .999 | -.1540 | .1817 |
| | | | 3.00-3.59 | -.02690 | .04542 | .976 | -.1512 | .0974 |
| | | | 3.60-4.00 | -.05359 | .05451 | .863 | -.2027 | .0956 |
| | | | | | | | | |
| | | 3.00-3.59 | 1.99 or below | -.32515 | .15500 | .222 | -.7492 | .0989 |
| | | | 2.00-2.50 | .04077 | .05869 | .958 | -.1198 | .2013 |
| | | | 2.51-2.90 | .02690 | .04542 | .976 | -.0974 | .1512 |
| | | | 3.60-4.00 | -.02669 | .05151 | .986 | -.1676 | .1142 |

| | | | | | | |
|---------------|------------------|---------|--------|------|--------|-------|
| 3.60- 4.00 | 1.99 or below | -.29846 | .15791 | .324 | -.7305 | .1336 |
| | 2.00- 2.50 | .06746 | .06598 | .845 | -.1131 | .2480 |
| | 2.51- 2.90 | .05359 | .05451 | .863 | -.0956 | .2027 |
| | 3.00- 3.59 | .02669 | .05151 | .986 | -.1142 | .1676 |

*. The mean difference is significant at the 0.05 level.

Appendix 6 Multiple Comparisons on Courses Completion

Dependent Variable: Means of Cultural Competence

| | | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | | |
|--------------|---------|-----------------------------|---------------|--------|-------------------------|----------------|--------|
| (I) Q20 | (J) Q20 | | | | Lower Bound | Upper Bound | |
| Tukey HSD | 0 | 1-2 | -.10137 | .05256 | .303 | -.2452 | .0424 |
| | | 3-4 | -.22589* | .05452 | .000 | -.3750 | -.0767 |
| | | 5-6 | -.35352* | .07424 | .000 | -.5566 | -.1504 |
| | | 7 or more | -.37567* | .07176 | .000 | -.5720 | -.1794 |
| | 1-2 | 0 | .10137 | .05256 | .303 | -.0424 | .2452 |
| | | 3-4 | -.12452* | .04435 | .041 | -.2459 | -.0032 |
| | | 5-6 | -.25215* | .06713 | .002 | -.4358 | -.0685 |
| | | 7 or more | -.27430* | .06437 | .000 | -.4504 | -.0982 |
| | 3-4 | 0 | .22589* | .05452 | .000 | .0767 | .3750 |
| | | 1-2 | .12452* | .04435 | .041 | .0032 | .2459 |
| | | 5-6 | -.12763 | .06868 | .341 | -.3155 | .0603 |
| | | 7 or more | -.14978 | .06598 | .156 | -.3303 | .0307 |
| | 5-6 | 0 | .35352* | .07424 | .000 | .1504 | .5566 |
| | | 1-2 | .25215* | .06713 | .002 | .0685 | .4358 |
| | | 3-4 | .12763 | .06868 | .341 | -.0603 | .3155 |
| | | 7 or more | -.02215 | .08303 | .999 | -.2493 | .2050 |
| 7 or more | 0 | .37567* | .07176 | .000 | .1794 | .5720 | |
| | 1-2 | .27430* | .06437 | .000 | .0982 | .4504 | |
| | 3-4 | .14978 | .06598 | .156 | -.0307 | .3303 | |
| | 5-6 | .02215 | .08303 | .999 | -.2050 | .2493 | |

*. The mean difference is significant at the 0.05 level.

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VITA

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