

California State University, Northridge

The Impact of Cultural Competency Education on Students of a  
Radiography Program in a Baccalaureate-Degree-Granting Public Institution

A Dissertation submitted in partial fulfillment of the requirement  
For the Degree of Doctor of Education in Educational Leadership

By

Doris Abrishami

August 2018

The dissertation of Doris Abrishami is approved:

---

Dr. William De La Torre

---

Date

---

Professor Anita Slechta

---

Date

---

Dr. Gregory Knotts, Chair

---

Date

California State University, Northridge

## Acknowledgment

So many individuals provided support and encouragement throughout my journey as a doctoral student. I am delighted to show gratitude to my parents for always believing in me and always encouraging me to be the best that I can be. Also many thanks to my husband Mehran, my children Rebecca, Benjamin, Daniel, and Jacob for being in my life. You all made so many sacrifices so that I can find the strength to finish this long journey. I love you all.

I would like to thank my committee members who provided their support and guidance as my dissertation developed to a final document. My sincere appreciation to Dr. Greg Knotts, my dissertation Chair, who gave me the best advice and guidance that any doctoral student could have. His knowledge and wisdom made this dissertation inspiring and meaningful. I want to thank my committee members, Dr. William De La Torre and Professor Anita Slechta who made such valuable contributions toward my dissertation. I am grateful for the insights, knowledge, and continuous support that they provided. It was a pleasure working with all of you.

Lastly, I would like to thank my mentors, Dr. Lawrence Andre and Professor Anita Slechta. It was because of your continuous support that I obtained my degree and completed this dissertation. You were always available to give high affirmations even when I didn't believe in myself. You never let me give up and for that, I am always grateful. This dissertation is a promise to hold your high ethical standards and to pay your valuable life lessons forward to my students...

## Dedication

This dissertation is dedicated to my wonderful children and my loving husband. Their support and encouragement made this journey possible and brought this project to completion.

This dissertation is also dedicated to my parents and all the hard working immigrants who came to this country to find a better life. I hope that this dissertation provides inspiration to all health care professionals to treat every patient with dignity and respect.

## Table of Contents

Signature page.....	ii
Acknowledgment.....	iii
Dedication .....	iv
List of Tables .....	viii
List of Figures.....	ix
Abstract.....	x
Chapter One: Introduction.....	1
Purpose.....	4
Research Questions.....	6
Theoretical and Conceptual Framework.....	6
Chapter Two: Literature Review.....	10
National Standards to Address Cultural Competence.....	13
State-wide Standards to Address Cultural Competence.....	15
Cultural Competency in Health Professional Programs.....	16
Cultural Competency Models.....	19
Bennet Model.....	19
Purnell Model.....	19
Cross Model.....	20
Theoretical Framework.....	23
Medical Imaging Profession.....	23
Chapter Three- Methodology.....	28

Program’s Framework and Cultural Competency Content.....	29
Research Design and Tradition.....	30
Research Tradition.....	31
Data Collection Methods.....	32
Research Setting and Context.....	35
Research Sample.....	36
Data Sources.....	36
Data Collection Procedures and Instruments.....	37
Jefferson Scale of Empathy.....	37
Student Interviews.....	38
Faculty and Clinical Instructor Focus Groups.....	39
Data Analysis.....	40
Roles of the Researcher.....	42
Researcher Bias.....	42
Chapter Four: Results.....	45
Program Content Analysis.....	46
Knowledge.....	46
Skills.....	51
Attitudes.....	53
Chapter Five: Discussions.....	62
Attitude-Centered Model.....	64
Conclusion and Recommendations.....	64
References.....	68

Appendix A: National CLAS Standards.....	72
Appendix B: Draft Email Solicitation to Student Participants.....	74
Appendix C: Draft Email Solicitation to Faculty Participants.....	75
Appendix D: Informed Consent.....	76
Appendix E: Interview Protocol.....	82
Appendix F: Focus Group Protocol.....	85

## List of Tables

Table 1.2 -Radiography Program Cultural Competency Content.....	30
Table 1.3-Data Collection Methods.....	32
Table 1.4-Radiography Program Cultural Competency Content Analysis.....	46

## List of Figures

Figure 1.1-Theoretical Framework.....	23
Figure 1.5-The Attitude-Centered Cultural Competency Model.....	64

## Abstract

# The Impact of Cultural Competency Education on Students of a Radiography Program in a Baccalaureate-Degree-Granting Public Institution

By

Doris Abrishami

Doctor of Education in Educational Leadership

Health care professionals have the ethical obligation to become knowledgeable in any capacity that can benefit the well-being of a diverse patient population. A patient-centered care approach that responds to patients' unique needs and reduces health disparities among diverse patient populations can be achieved by training culturally competent health care professionals. Cultural competency is a continuum and has many different levels. Culturally competent health care professionals may not know everything about people who are culturally different from them, but they must know how to become knowledgeable and create a positive environment that is welcoming to all patients. This study explores the effects of cultural competency education on students of a radiography program in a baccalaureate-degree-granting public institution as well as providing direction on institutional and curricular improvement.

## **Chapter One: Introduction**

*For the health care professionals who have worked in the Emergency Departments and trauma centers throughout the nation, this may be a familiar scenario: paramedics bring in a semi-conscious patient wearing nothing but old, dirty, and smelly clothes. He is left on a gurney in a room, cold and hungry for hours before anyone can pay him any attention, many pass by his room but no one enters the smelly room to give him a warm blanket.....*

According to the 2015 U.S. Census Bureau's national population projections, the United States is expected to become more racially and ethnically diverse in the coming years. The Hispanic population is projected to increase from 55 million in 2014 to 119 million in 2060, which is an increase of 115 percent. In fact, by the year 2060, 29 percent of the United States is projected to be Hispanic. In 2014, the Asian population accounted for 5.4 percent of the total population and this group is projected to almost double, accounting for 9.3 percent of the total population in 2060. At this time the non-Hispanic White population is the "majority" group, but in 2060, it is projected to be only 44 percent of the population. This moment has been described as the point at which the United States will become a "majority minority" nation. Therefore, as our nation becomes more diverse in the next few decades, there will be a critical need for knowledge and mutual understanding among all groups which can lead to what is defined as cultural competency across populations (Colby & Ortman, 2015).

Terry Cross and his colleagues (1989) have defined one cultural competency model as, "a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals and enables those professionals to work effectively in

cross-cultural situations” (p. 7). One of the significant points of the research by Cross and his colleagues is that cultural competency should be viewed as a developmental process for all professionals. This developmental process begins in the classroom and can be integral to a professional’s education. Although cultural competency can be introduced by one lecture, a workshop, or even a semester of course content, this concept may not be fully developed until the individual goes through years of education, self-evaluation, and knowledge-seeking practices. In short, cultural competency is a continuum and a lifelong practice that includes many stages, starting from its lowest level of cultural destructiveness to the highest level of cultural proficiency (Cross et al., 1989).

As the United States becomes more diverse and our global interaction increases, there seems to be a great need for all generations to be educated in cultural competency. As global citizens, every generation needs to understand that the world is becoming more diverse and all generations must be equipped with the tools to interact with people who are different from them. The health care industry is one of the areas where diverse people interact with each other, so there is a crucial need for cultural competency and diversity education. The differences in health status, health care access, or quality of the health care that different populations receive can contribute to health disparities (Rose, 2013).

Researchers have identified many factors that can contribute to these health disparities. For example, health care professionals’ lack of cultural awareness and knowledge about multicultural health care environments, in addition to bias, stereotyping, and prejudice have been identified as contributing factors to health disparities (Shaya & Gbarayor, 2006). Future health care professionals need to obtain the knowledge, promote the diversity awareness,

and become competent in their clinical practices so that they can provide an unbiased service to all their patients regardless of their background and diversity.

The 2002 Institute of Medicine (IOM) report, *Unequal Treatment*, indicated that racial and ethnic minorities in the U.S. experience lower quality health care than non-minorities. The authors of the IOM report define health disparities as, “racial or ethnic differences in the quality of healthcare that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention” (Smedley, Stith, & Nelson, 2002, p. 32). After analyzing hundreds of research and statistical data regarding the health care experiences of minority populations in the United States, the report suggested that racial biases and prejudices that exist among health care providers can play a significant role in the presence of health disparities. To reduce the health disparities that exist among the U.S. population, one of the recommendations made by the authors of the IOM report emphasized education and training of all current and future health care professionals in cross cultural health issues (Smedley et al., 2002).

A comprehensive health care education that can instill cultural awareness, sensitivity, and empathy can not only change the health care environment to reduce racial biases and embrace diversity of our nation, but it can also improve health access and quality for all racial and ethnic minorities. The recent introduction of The Affordable Care Act, also known as the “health care law” has made it possible that everyone can obtain fair access to health care providers (U.S. Department of Health and Human Services, 2016). At the initial implementation of The Affordable Care Act, more minorities and people who did not have access previously, were able to afford health care. Therefore, we can predict that there will be a greater magnitude of commitment for all health care professionals to become competent

and be able to interact with a more culturally diverse population than they have encountered before. However, the new federal administration's points of view and policies may result in repealing or modifying the "health care law" and force many to lose their health care benefits.

### **Purpose**

There is a plethora of research that examines cultural competency education and training on medical, nursing, and pharmacy students. There are numerous studies about nursing students' perception of cultural competence and many studies that deal with integration of cultural competency in nursing and medical schools (Brennan & Cotter, 2008; De Leon Siantz, 2008; Khanna & Cheyney, 2009; Musolino et al., 2010; Onyoni & Ives, 2007). However, there is little research conducted to identify the impact of cultural competency curriculum and training in radiography schools specifically. Each year, approximately 400 million imaging procedures are performed in the United States (ASRT, 2018). The number of Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) has tripled from 1997 to 2006 (Smith-Bindman et al., 2008). The medical imaging procedures help provide accurate diagnosis and quality medical information for physicians and their patients. For example, screening mammography can prevent breast cancer, a disease that kills over 45,000 women every year (ASRT, 2018). The medical imaging industry and the professionals working in this field have a major impact on the holistic process of care for patients that need imaging procedures. Therefore, to help the future medical imaging professionals, radiography educators need to know how to develop content and curriculum in the areas of cultural competency, diversity, and sensitivity.

To provide guidance and promote high standards of patient care for the imaging profession, the American Registry of Radiologic Technologists (ARRT) has developed “Standards of Ethics.” This document provides 10 codes of ethics and numerous rules of ethics which provide the professional radiographers with directions on how to maintain high standards of patient care throughout their careers. The third code of ethics of this document states, “The radiologic technologist delivers patient care and service unrestricted by the concerns of personal attributes or the nature of the disease or illness, and without discrimination on the basis of sex, race, creed, religion, or socio-economic status” (ARRT, 2017, p. 1). Considering the vital role that medical imaging plays in the health care industry, it is imperative that medical imaging programs provide pedagogical and practical educational opportunities for students in the area of cultural competency so that the future imaging technologists be able to provide an unbiased care for populations that are becoming more diverse in the near future.

If all patients, despite having a different race, ethnicity, or culture, can receive the best quality care, we can reduce or possibly end the existing health disparities in our health care system. Radiography students will be the future imaging professionals and this study investigated how cultural competency training and knowledge can improve our radiography students’ patient care skills and practices. This study has identified the positive effects of cultural competency education and training on students of radiography at University of Westside which is a baccalaureate-degree-granting public institution. The results of this research have manifested recommendations such as: curricular changes, pedagogical innovations, and advances in institutional policies within this specific radiography program.

## **Research Questions**

This study is designed to address the following questions:

1. What impact does the curriculum of a radiography program have on students' perspectives about cultural competency?
2. What pedagogical approaches influence cultural competency education in radiography programs?
3. What clinical practices and skills impact cultural competency education in radiography programs?

## **Theoretical and Conceptual Framework**

This study is explored from the social constructivism point of view. Social constructivism tradition requires the researcher to focus and be actively involved with the reality of the participant's environment (Bloomberg & Volpe, 2016). Cultural competency can be taught by a variety of methods in classrooms. However, until radiography students have the ability to apply their understandings in the real world while interacting with real patients, there is no guarantee that those pedagogical approaches have been successful.

In the year 2000, The American Association of Medical Colleges (AAMC) integrated and evaluated cultural competency in the medical school curriculum by using a 67-item assessment instrument called Tool for Assessing Cultural Competence Training (AAMC, 2016). This assessment tool contains domains such as knowledge, skills, attitude, or awareness which have been successful in examining medical students' knowledge of cultural competency. As a researcher who is also interested in assessing the radiography students' perception and knowledge on cultural competency, I have discovered that the

cultural competency education given in classrooms has been elevated to its practical application and provided pertinent clinical skills for students.

### **Overview of Methodology**

The Jefferson Scale of Empathy (JSE) surveys were given to students of first-, second-, and third-year radiography school in a bachelors' degree program at the University of Westside. The first-year students received pre-surveys to determine their general understanding of empathy and sensitivity toward patients prior to learning this concept in the program. The post-surveys were designed to determine if the cultural competency, empathy, and sensitivity taught as lectures, modules, and workshops made a change in the first-year students' perception and attitude toward other cultures. Due to the time constraint of this study, the second- and third-year students received only one JSE survey throughout the program. The responses serve as a baseline comparison for students at different periods in the radiography program. The data from those surveys revealed that educational approaches made a positive impact on students' practices with diverse patients.

In addition to the surveys, the main method of data collection was based on qualitative interviews with individual first- and second-year students as well as a focus group conducted with the program faculty and clinical instructors. By conducting the JSE surveys, interviews, and focus group discussions, the data was triangulated to find common themes and assess the students' understanding of cultural competency from the point of view of students and faculty. The analysis of the qualitative data revealed common themes that show the efficacy of the institutional culture and the radiography curriculum and their influence on students' knowledge of cultural competency.

In the case study approach, the researcher conducts a detailed description of how participants interact in a bounded program (Bloomberg & Volpe, 2016). Therefore, it was appropriate for this study to be conducted using a case study practice because a specific group of students and their faculty members in a radiography program participated.

### **Limitations & Delimitations**

**Limitations.** A limitation of this study was that only one group of radiography students took the pre- and post-surveys and, due to time restrictions, only three students from each class were interviewed subsequently. Another limitation of the study was that the principal investigator was also a full time faculty in the radiography program and students may have felt the need to answer questions to satisfy the faculty member.

**Delimitations.** The delimitation of this study was that it focused on one group of students in a specific radiography program to determine whether the cultural competency education provided to a group of radiography students was sufficient to make them more competent health care providers.

### **Organization of the Proposal**

The first chapter has offered a case for the significance of cultural competency education and provides an overview of the research questions, theoretical framework, as well as limitations and delimitations of the study. The second chapter of the proposal reviews the literature that is organized from a broad view of the health care industry to a more focused lens of the imaging industry. This chapter also includes the analysis of previous studies and research methods conducted on the topic of cultural competency education. The third chapter of the proposal describes the research design, tradition, and the methods used to collect data. This chapter also contains an overview of the research setting

and type of participants. The fourth and fifth chapters provide data analysis as well as recommendations on how to improve cultural competency education in this radiography program.

This study provides clarity on the positive effects of cultural competency education on radiography students, however, it also reveals a critical need for the educational programs and their instructors to recognize the innate attitudes, life experiences, and beliefs of these future professionals.

## Chapter Two: Literature Review

### Introduction

A variety of factors may impact the equity of providing health care. Research shows that significant contributors to health disparities are the behaviors of health care providers and a lack of familiarity with and discriminatory attitudes toward individuals of different backgrounds (Van Ryn & Fu, 2003). Health disparities are defined as “racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences and appropriateness of intervention” (Smedley, Stith, & Nelson, 2002, p. 3).

In the 2002 Institute of Medicine (IOM) report, *Unequal Treatment*, it was indicated that the racial and ethnic minorities in the U.S. experience lower quality health care than non-minorities. Among many recommendations made by this study, one was to “integrate cross- cultural education into the training of all current and future health care professionals” (Smedley et al., 2002, p. 20). Another recommendation made in the report addressed the cultural and background similarity between the health care provider and the patient. Patients reported more satisfaction, followed their providers’ advice more closely, and generally benefited from the health care system when their providers had the same cultural background. Therefore the report recommended to “increase the proportion of underrepresented U.S. racial and ethnic minorities among health professionals” (p. 14).

A recent study conducted to compare the access to care and use of health care services of U.S.-born and foreign-born Asian Americans found that foreign-born Asian respondents were reporting poorer access to care and less use of health care services than U.S.-born Asian Americans (Ye, Mack, & Fry-Johnson, 2011). Other sources indicate that

in addition to race and ethnicity, other factors including sexual identity, income, age, geographic location, and disability can affect health disparities (Mandal, 2014). Even though health disparities are not merely limited to race and ethnicity, the vast majority of the research findings indicate that minorities receive fewer medical services in areas of cardiovascular diseases, diabetes, mental health, and even routine treatments needed for common health problems (Smedley et al., 2002). In 2003, the Agency for Healthcare Research and Quality (AHRQ) released a report on minorities' health status in the United States (AHRQ, 2004). The most recent reports from AHRQ show that Asian Americans are less likely to receive recommended hospital care for pneumonia than Whites. Also it has been reported that Black mothers are less likely to receive sufficient prenatal care than White mothers (AHRQ, 2012). Therefore it appears that health disparities exist between the quality of care that White individuals receive compared to the quality received by other racial and ethnic minorities.

As stated previously, researchers have identified many factors that can contribute to health disparities. For example, genetic and biologic factors, the geographical location of health care facilities, age, sexual orientation, cultural, and linguistic barriers are among many contributing factors to health disparities that exist among different populations. More importantly, health care professionals' lack of cultural awareness and knowledge about multi-cultural health care environment and having biased and prejudiced attitudes are among influencing factors to health disparities (Shaya & Gbarayor, 2006).

Remarkably, within the next few decades, it is projected that the population of the United States will be more diverse. Even though at the present time the non-Hispanic White population is the "majority" group, in 2060, this population is projected to be only 44% of

our nation. As mentioned earlier, this point has been described as the moment at which the United States will become a “majority minority” nation and it is predicted that the cross over between the majority and minority will occur in 2044 (Colby & Ortman, 2015). It is important to note that the word “minority” is defined by the U.S. Census Bureau as a combined population of people who are Black, American Indian, Eskimo, Pacific Islander, Asian, or any race of Hispanic origin. In fact, California had the largest minority population in 2010. Ironically, according to U.S. Census Bureau, in California, the District of Columbia, Hawaii, New Mexico, and Texas, the population had reached the majority minority status in the year 2010 (US Census, 2010). It is apparent that the palpable health disparities and the rapidly approaching diversity of our population are important motives for the health care professionals to deliver culturally sensitive and appropriate health care to all patients.

As stated before, the introduction of The Affordable Care Act, has made it possible for increased access to health care providers (U.S. Department of Health and Human Services, 2016). The implementation of this law has provided more minorities and lower income individuals with possibilities of obtaining health insurance and access to health care. According to a report by the Department of Health and Human Services, it was estimated that by the end of 2015, 17.6 million uninsured people have obtained health insurance coverage (Finegold, Avery, Ghose, & Marks, 2015). Although this law may have made a positive impact on many lives, it may present a greater obligation for all health care professionals to become competent and have non-biased attitudes when caring for this diverse population. However, considering the policies of the new administration and its intent to modify or override The Affordable Care Act, some individuals may lose their

health care benefits in the near future. In December of 2017, after failing to repeal The Affordable Care Act, the Senate and House of representative voted on eliminating the individual mandate penalty for not having health insurance starting in 2019 (Long, 2017). This may reduce the number of individuals who have health insurance, but it is not completely eliminating The Affordable Care Act.

### **National Standards to Address Cultural Competence**

Nationally, a major proposal to address the issue of health disparities is the “Healthy People” initiative. This is a program of nationwide health-promotion and disease-prevention with the goals that are set by the United States Department of Health and Human Services. Healthy People 2020 provides a clear definition of health disparity which is “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage.” (Healthy People, 2020). The goals of this initiative were concentrated toward health disparities and as the U.S. population and health care needs changed, the goals were modified and expanded throughout the recent decades. In Healthy People 2010 the goal was to eliminate health disparities and in Healthy People 2020 initiative the goals were expanded to not only eliminate disparities and improve the health of all groups but also achieve health equity. According to Healthy People 2020, “the range of personal, social, economic, and environmental factors that influence health status are known as determinants of health” (Healthy People, 2014). Among many broad categories of health determinants, social determinants are important. The type of health services and the quality of health care providers are part of social health determinants and in general can have a major impact on the individual’s health status. When the health care providers are competent in their skills as

well as their cultural knowledge and awareness, patients' social health determinants will improve and consequently health disparities decline among populations.

In the year 2000, the first National Standards for Culturally and Linguistically Appropriate Services in Health Care (National CLAS Standards) were published by the Office of Minority Health (OMH, 2016). The fifteen CLAS standards have been enhanced and were released in 2014 to provide a guide to help health care organizations advance their culturally and linguistically appropriate services to their patients. The first standard of this publication indicates, "Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs." The fourth standard in this document, which is targeted toward health care professionals, emphasizes, "Educate, and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis" (See appendix A: CLAS standards). These standards act as a set of blueprints to guide the health care leaders, legislators, and educators on how to provide cultural competency education and training in schools and health care organizations. There is a great need to continue educating the diverse group of students who will be entering the health professions. This is apparent in the third and fourth CLAS standards as they recommend the recruitment and promotion of culturally and linguistically diverse workforce as well as educating and training of this group in appropriate practices of cultural competence (See Appendix A: CLAS standards).

Additionally, as a national health organization, The Joint Commission (TJC) introduces a set of standards to the hospitals and selected health care organizations who volunteer to be inspected by TJC. These standards have to be met and be inspected by TJC

in order for the health care organization to participate in Medicaid and Medicare programs and receive funding. The Joint Commission, which is an independent, not-for-profit organization, has the challenging task of accrediting and certifying nearly 21,000 health care organizations and programs in the United States (TJC, 2016). In 2012, The Joint Commission (TJC) implemented the patient-centered communication standards for hospitals. These standards address patient communication and interpretation needs as well as the need for staff orientation on sensitivity and cultural diversity. In addition, the 2015 TJC standards have been compared and presented alongside the National CLAS standards in order to advance effective communication and cultural competence in the health care organizations (TJC, 2016).

These national standards have been established to promote a patient-centered care that can also reduce or eliminate health disparities in the U.S. population. The significance of cultural competence and awareness toward patient diversity has been the main theme in the above national standards.

### **State-wide Standards to Address Cultural Competence**

When considering the California legislation that have been introduced or passed for the last few decades, one may conclude that the state of California has taken multiple steps to provide culturally competent care for its diverse residents. For example, in September 2005, Assembly Bill (AB) 1195 amended the Medical Practice Act with the “intent to encourage physicians and surgeons to meet the cultural and linguistic concerns of a diverse population” (Beamon et al., 2006, p. 8).

In addition, according to the National Conference of State Legislatures report, in the state of California, AB 496 amends existing law that creates the task force on culturally and

linguistically competent physicians and dentists. This bill requires task force members to provide health services to members of language and ethnic minority groups and lesbian, gay, bisexual, and transgender groups. AB 496 is currently in the senate for a third reading. In addition, AB 1182 was introduced in 2014 and it declares the intent of the legislature to enact legislation that would help increase the number of physicians and surgeons, registered nurses, and other health care professionals in medically underserved areas (National Conference of State Legislatures, 2014). Demonstrated by the above legislations and having the “majority minority” status in the nation, the state of California continues to be one of the pioneers in advocating cultural competence education in the health care industry. Therefore, it is crucial for the educators to dedicate their efforts to nurturing the next generation of health care professionals in cultural competency.

### **Cultural Competency in Health Professional Programs**

Students who are interested in health professional programs and are considered to be the future health care professionals must learn and be trained on how to work with diverse groups of patients as well as collaborating with a team of health care professionals. For example, in a study conducted at the University of Toledo, second year pharmacy students were provided with videos, lecture material, and curriculum content designed to increase students’ awareness in cultural competency. At the end of the study, 85 students completed a survey that assessed their knowledge and understanding of cultural competency. The study concluded that students gained an understanding of diverse cultures through information covered in the curriculum, however, according to some students, having interactive sessions and meeting with different cultural groups of patients can also increase their knowledge and understanding of cultural diversity and competency (Muzumdar et al., 2010). The results of

this study demonstrate the importance of gaining cultural competency knowledge through interactions with culturally diverse patients.

Similarly, in a study designed to evaluate outcomes of cultural competency training among health care professionals, researchers found that after a four-hour long cultural competency training session, the health care providers who were mostly doctors and nurses, self-reported an improvement in their skills to work with cross cultural patients as well as enhancement in their understanding of patients with different cultural backgrounds (Khanna & Cheyney, 2009).

There seems to be a continuous emphasis on empathy, diversity training, and multicultural awareness in many professions. In counseling psychology, Wang et al., (2003) first defined the term ethnocultural empathy as a “learned ability and a personal trait that can be learned over time and is composed of intellectual empathy, empathic emotions and the communications of those two” (p. 222). Wang and his team developed a scale to quantitatively measure the construct of ethnocultural empathy and used the scale on 323 psychology students at three different Midwestern universities and colleges. As part of the findings of this study, the researchers discovered that non-White individuals had significantly higher levels of ethnocultural empathy than White participants. In addition, women were found to be more ethnoculturally empathetic than men in terms of empathetic feeling expression and awareness (Wang et al., 2003). One of the conclusions of this study was that greater understanding and more empathy can result from an individual’s interaction with the groups that have different culture, background, and ethnicity from them. Empathy in patient-care situations is also defined by Hojat et al., (2002) as “a cognitive attribute that involves an ability to understand the patient’s inner experiences and perspective and a

capability to communicate this understanding” (p. 1564). If health care professionals can learn to be empathetic, and know how to communicate empathy to the patients who are different from them, they will be able to also become culturally competent and provide an unbiased care to all patients. It is the unbiased and culturally competent health care professional who can provide all patients, especially those who suffer from health disparities, with meaningful and empathetic care.

A different study designed to explore the effects of speaker series on 118 athletic training and nutrition undergraduate students concluded that the three 90-minute speaker series considerably changed the students’ attitudes related to health care quality and cultural sensitivity (Karpinski & Heinerichs, 2015). Similarly, a three-year study conducted at the University of Utah, examined the effect of Cultural Competency and Mutual Respect educational programs on 2,124 students studying medicine, pharmacy, nursing, or physical therapy. The results of this study demonstrated that students who were exposed to cultural competency and diversity awareness education were significantly progressing toward cultural competence but were not yet culturally proficient. This study concluded that to reduce health care disparities and medical errors, more research both in academic and clinical settings need to be directed to examine cultural competent practices among the health care professionals (Musolino et al., 2010).

The results of these studies demonstrate that education in cultural competency and diversity is beneficial to students; however, more research needs to be conducted on the impact and result of cultural competency education on the health care professionals’ attitudes and practices toward patients. In addition, there is a need to determine the quality of these educational programs by conducting curricular evaluations and assessments. More

research needs to be conducted in all health care professions to evaluate the content and methods of delivery of cultural competency education. Educators need to evaluate their own personal experiences and attitudes toward diversity and cultural competency. They also need to ponder what pedagogical methods are most effective in a classroom and what needs be done to integrate cultural competency as part of classroom knowledge and practice of patient care.

### **Cultural Competency Models**

Health practitioners, health agencies, and researchers have provided numerous definitions and models to explain cultural competency. All models have been constructed to help individuals in a specific field understand how to achieve the highest levels of cultural competence.

**Bennet model.** Milton Bennet (1993) provided his view as an anthropologist and introduced a continuum model of cultural competency that starts with denial and avoidance. This step means the person denies cultural differences or is unaware of world views that are different from his. The last level of cultural competency in Bennet's model is integration. At this level, the person values a range of cultures and tries to incorporate aspects of his/her own culture and other cultures into clinical practices (Bennet, 1993).

**Purnell model.** Larry Purnell (2013) has developed a holistic model of cultural competence shaped in an organizing framework that can assess cultural values, behaviors, and health care practices of individuals. This model, that can be used for all health care disciplines depicts a large circle that starts from a very broad and global view and ends with the individual's personal experiences in life in the middle of this circle. Purnell takes into consideration the influence of the individual's global society, community, family, and

personal values in a health care setting and explains how all of those elements can influence an individual's ability to interact with diverse patients. In short, the foundation of the Purnell model is that by being aware of all these complex factors and understanding self, a health care provider can learn to respect patients as individuals as well as understand general cultural differences among patients (Purnell, 2013).

**Cross model.** The most widely used model of cultural competency was introduced by Terry Cross and his colleagues in 1989. In this model, cultural competency is defined as a continuum where the individual may start from the lowest level of competency or cultural destructiveness to the highest level of cultural proficiency (Cross et al., 1989). The continuum starts with the lowest level, Cultural Destructiveness. This is the most negative end of the continuum where individuals or an entire system are destructive to cultures and individuals who have a culture different from the dominant group in the society. For example, if an imaging technologist demands that a Muslim woman takes her covering (also called Hijab) off before performing an imaging procedure, this can be considered disrespectful and destructive to the Muslim culture. This is also one of the reasons for the existence of health disparities among minority populations. If patients are not treated with dignity and respect, they will not return to the medical facility and possibly their diseases will not be diagnosed in time.

The second level of Cross' continuum is called Cultural Incapacity. At this level, "the individuals working in a system lack the capacity to help minority or culturally diverse clients" (Cross et al., 1989, p. 29). The midpoint or the third level of this continuum is Cultural Blindness. At this level, individuals believe that there is no difference among their patients or clients and they should all be treated the same way regardless of their

background and culture. In educational settings, instructors who are culturally blind might think that they can treat all students the same way regardless of students' cultural values, background, race, and sexual identities. Similarly, culturally blind health care providers are not aware that each patient requires a unique set of needs and individual patients have to be respected based on their cultural values, ethnicity, age, sexual preference, and diverse background.

The next level of the continuum is Cultural Pre-Competence. At this juncture, individuals and agencies realize their weakness in providing help to culturally diverse patients and try to improve their services to more specific populations. This is the stage where administrators start hiring more diverse health care professionals in the hope of providing better service to their diverse patient population (Cross et al., 1989). It should be noted that the sole act of introducing or hiring diverse health care professionals, instructors, or students to a profession may not assure cultural competency. Minority health care professionals also need training on how to work with diverse and multicultural patients. Even if an individual comes from a minority group that alone does not guarantee his or her ability to be culturally competent, empathetic, and sensitive toward other minority groups (Rose, 2013). This means that regardless of background and ethnicity, all health care providers need to be educated on culturally competent practices.

The next two levels of continuum introduced by Cross and his colleagues (1989) are Cultural Competency and Cultural Proficiency. Culturally competent health care organizations are aware of their strengths and weaknesses in the area of cultural competency and they are constantly aiming to improve their services to the diverse community. This is

also the level where the leaders of these organizations are constantly looking for assessment and training in the areas of cultural and linguistic competence of their employees.

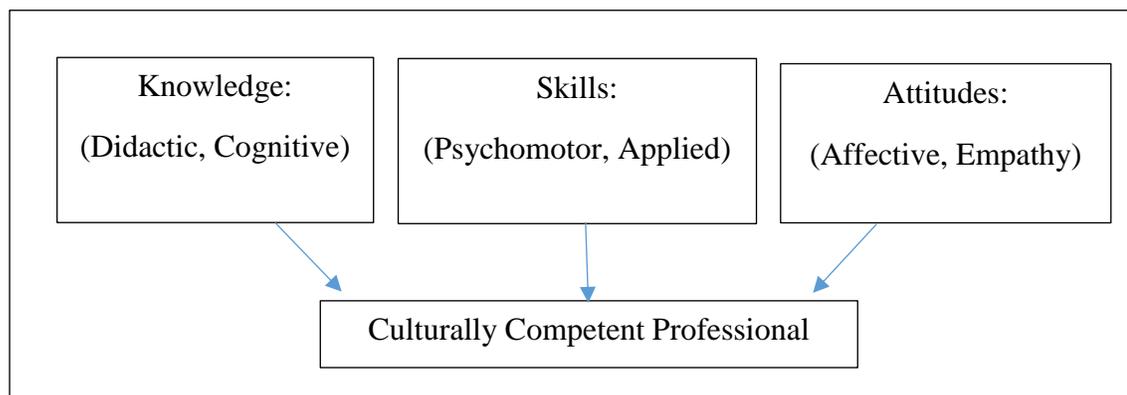
At the Culturally Proficient, the most positive level of this continuum, the health care organization will provide cultural competency in the areas of attitudes, policies, and practices. This means that overall cultural competency of any organization depends on: changing attitudes toward different cultures or having less prejudiced opinions, changing policies of organizations so that they are more flexible toward different populations and lastly, revising practices so that they are more compatible with the culture of the population being served. In other words, at the level of Cultural Proficiency, a health care professional is not only aware of cultural differences and knows how to respect them but also advocates on behalf of all patients to ensure maximum efficacy in meeting their needs (Cross et al., 1989).

Each of the above models provides a unique explanation and understanding of how important cultural competency training is to health care providers and other individuals. All three models agreed on the concept of cultural competency as being a continuum process with several levels. While Bennet (1993) viewed the social aspects of cultural competence from the views of an anthropologist, Purnell (2013) provided a holistic model that considers an individual's global and personal values. Cross (1989), on the other hand, provides a most relevant model for all health care professionals. In his model, Cross explains that each level of cultural competency on the continuum is a phase but individuals can improve and progress to the next level of competency. He explains that cultural proficiency, which is the highest level in the continuum, can be reached only if knowledge, skills, and attitudes of individuals and organizations change.

In this study, I have adopted Cross' cultural competency as my conceptual framework because this model has been used repeatedly by other health care professionals in educational settings. In addition, Cross' model gives a clear direction to educators on how to guide their students and provide appropriate curriculum, model the skills and practices, and recognize the attitudes of their students to help them reach the highest levels of cultural competence (See Figure 1.1).

Figure 1.1

#### Theoretical Frame Work



#### Medical Imaging Profession

Medical imaging procedures help provide accurate diagnosis and quality medical information for physicians and their patients. For example, screening mammography can prevent breast cancer, a disease that kills over 45,000 women every year (ASRT, 2018). The Medical imaging industry has a major impact on the holistic process of care for patients in need of imaging procedures. To provide guidance and promote high standards of patient care for the imaging profession, the American Registry of Radiologic Technologists (ARRT) has developed “Standards of Ethics”. This document provides ten codes of ethics and numerous rules of ethics which provide professional radiographers with directions on how to maintain high standards of patient care throughout their careers. The third code of

ethics of this document states, “The radiologic technologist delivers patient care and service unrestricted by the concerns of personal attributes or the nature of the disease or illness, and without discrimination on the basis of sex, race, creed, religion, or socio-economic status” (ARRT, 2017, p. 1).

In addition to the ARRT, the American Society of Radiologic Technologists (ASRT), which is the primary professional association for medical imaging and radiation therapy communities, has mandated ethics and diversity as one of the core curriculum content areas in the Associate level and Bachelor of Science degrees. As part of radiographer’s professional performance standards developed by ASRT, stated under the ethical criteria, the radiographer “provides health care services with consideration for a diverse patient” (ASRT, 2017 p.29).

Recently, the ASRT has also developed a six-module series called: Medical Relief Readiness. In this Continuing Education (CE) credit series, module two is dedicated to “Culture” which educates technologists about the definition of culture and obvious and hidden components of different cultures in diverse societies (ASRT, 2015). In addition, the ASRT has released a 10-module series called: Diverse Patient Populations. Cultural Competence for diverse populations is described in detail in module six of this series. This module is designed for technologists and emphasizes communication strategies and the importance of policies and procedures required to be placed in every organization to meet the needs of their diverse population (ASRT, 2015).

The professional societies in medical imaging have realized the importance of cultural competency education, but it is now up to the educators to utilize the appropriate teaching tools to convey the message of cultural competency to their students. These

students will be the future medical imaging professionals and they are the practicing experts who will be interacting with a diverse group of patients in the near future. Therefore, progress in the direction of cultural competence can only be made by applying the principles of valuing differences, providing knowledge, and promoting an empathetic attitude in clinical settings.

In 2000, the American Association of Medical Colleges (AAMC) integrated and evaluated cultural competency in the medical school curriculum by using a 67-item assessment tool called Tool for Assessing Cultural Competence Training (AAMC, 2016). The Assessing Cultural Competence Training (TACCT) assessment tool contains domains such as knowledge, skills, attitude, or awareness which have been successful in examining medical students' knowledge of cultural competency. The TACCT domains were also mentioned in Cross's model of cultural competency which indicated the need for knowledge, skills, and attitude training in the area of cultural competence for all health care professionals. The appropriate application of all three requirements, knowledge, attitude, and skills can help our future health care professionals and specifically medical imaging professionals achieve cultural competency.

In order to describe how a successful integration of cultural competence in physical therapy education can benefit the future physical therapists, Romanello (2007) studied a physical therapy program at Miami University. By conducting a qualitative research which included student interviews, document analysis, and class observations, Romanello discovered that by creating a strategic plan, the faculty members were able to include cultural competency in their curriculum. The strategic plan included faculty members examining their own values and views about diversity and cultural competency while

incorporating reflections and discussions in classrooms to allow students to discover their own cultural values, beliefs, and attitudes (Romanello, 2007). The results of this study corroborate Purnell's (2013) cultural competency model that provides a holistic model considering an individual's global and personal values. In fact, the results of this study can be used in other health professional programs aiming to incorporate cultural competency education in their curriculum.

In order to determine the educational quality of radiography programs and compare them to each other, a survey was mailed to 40 radiography programs in the United States. Among the findings, senior students in those programs rated "development of their understanding of people from different backgrounds" as one of the lowest scores (Vander Hoek, 2013, p. 41). The goal of this research was to compare the quality of radiography programs that are accredited by the Joint Review Committee on Education on Radiologic Technology (JRCERT) to the programs that are not accredited by this agency. Nevertheless, the study showed that most senior students in both accredited and non-accredited programs reported that they did not develop cultural competency during their program (Vander Hoek, 2013). It is apparent that more research is needed to discover why these radiography students were not able to develop cultural competency and how can the radiography program educators improve their curriculum to determine the efficacy of cultural competency education.

### **Summary**

This literature review described the importance of cultural competency knowledge and education in the health care industry and specifically in the medical imaging field. The development of diverse communities within our country, as well as specific health care

needs of each patient, have made cultural competency a critical issue for health care and more specifically for the educators in the medical imaging field. For decades, other health care practices such as nursing, pharmacy, medical, and physical therapy professions have been conducting research about the subject of cultural competency. However, the medical imaging profession seems to be lacking research and data in this critical area.

It is clear that more research needs to be conducted in the radiography programs throughout the nation to determine the nature of cultural competency being taught, the transition between didactic knowledge and clinical practice, students' attitudes about cultural competency as well as the quality of education provided to medical imaging students. I believe this study has provided some light in this area and serves as a preliminary document for further research in cultural competency education in medical imaging. A longitudinal study that can investigate the effect of cultural competency education on first-year students in a radiography program and continue their progress to graduation and then as professionals in the field, would be an ideal study to conduct in the future.

## **Chapter Three: Methodology**

### **Introduction**

The purpose of this case study was to explore the effect of cultural competency education on radiography students in a baccalaureate-degree-granting public institution in the Western United States. There have been many studies conducted on the efficacy of cultural competency education for physicians, pharmacists, nurses, and other allied health professionals. However, to date, there are no research studies available that can guide the educators in cultural competency education of radiography students. As part of the allied health professional team, the radiography students are considered to be an integral part of the health care industry. Therefore, it is imperative to conduct research studies on the impact of cultural competency education on the future professionals of this field.

### **Research Questions**

This study examines the following questions:

1. What impact does the curriculum of a radiography program have on students' perspectives about cultural competency?
2. What pedagogical approaches influence cultural competency education in radiography programs?
3. What clinical practices and skills impact cultural competency education in radiography programs?

### **Chapter Organization**

This chapter describes this case study; it is in a bounded program where all students have experienced the same sequence of courses as a cohort in a radiography program. This radiography program's cultural competency curriculum context is described in detail. A

randomized sampling method was used to select student participants. In addition, four faculty members of the program were randomly selected to participate in a focus group in order to explore their understandings and perceptions of the program's curriculum on cultural competency. Student surveys and interviews, in addition to a faculty focus group, were analyzed to determine the common themes found in the data. Ethical considerations and the role of the principal investigator is discussed further in this chapter as well.

### **Program's Framework and Cultural Competency Content**

An in-depth look at the curriculum structure and framework of the radiography program at the University of Westside revealed information that was necessary for this study. This program includes three cohorts of students. The first-year students who enter the program in August of each year, initially receive a one-hour hospital orientation which includes some cultural competency information. This group also obtains modules on patient care and age appropriate lectures during the first year in the program. The first-year students also experience a few hundred hours of clinical internship in addition to "Diversity Lunch" organized by the program director in which they share one type of food related to their culture with everyone in class. During this event, students are also encouraged to describe and share one or two facts about their culture and traditions. The second-year students take a Health Science course titled: "professional development for radiographers", which includes modules on cultural competency, diversity, and health disparities. This group of students also takes part in another "Diversity Lunch" in the spring semester of their second year, as well as almost 1,000 hours of clinical experience. The third-year students do not have any didactic classes dedicated to cultural competency but they have experienced over 2,000 hours of clinical internship by the time they arrive at their third and last year of the

program. Table 1.2 describes the various points during the program, in which students receive cultural competency education.

Table 1.2

Radiography Program Cultural Competency Content

Program Year	Cultural Competency Content
First year	Initial Hospital Orientation, Patient Care Modules, 500 Clinical Hours, Diversity Lunch
Second year	Professional development for radiographers Course, Diversity Lunch, 1000 Clinical Hours
Third year	Over 2000 Clinical Hours

**Research Design and Tradition**

**Research design.** The main method of conducting this study took a qualitative approach. Qualitative methods were applied in order to gain a deeper understanding of students’ perception of cultural competency knowledge before and after they were introduced to cultural competency education in their program. The qualitative approach also aided in understanding the radiography program’s effectiveness in regard to cultural competency education. As described by Weiss (1994), a qualitative approach aims to integrate multiple perspectives of the same event or phenomenon. By conducting student interviews and a faculty focus group, I was the primary vessel to collect and analyze data in an attempt to understand how cultural competency education has shaped students’ and faculty members’ perceptions. With this approach, I explored whether the students believe

the culture and climate of the program as well as didactic courses are effectively assisting them in gaining cultural competency education.

The first stage of the research focused on giving the Jefferson Scale of Empathy (JSE) survey to a group of first-year radiography students who had not had any lessons or discussions in cultural competency education. This group of first-year students started the program in August and the survey was given to them once before the start of the program and another time at the end of the first semester in the program to determine their attitudes before and after receiving cultural competency education. Additionally, the second-year and third-year students were given the JSE survey once during the fall semester in order to examine their attitudes and perceptions of cultural competency. The curriculum of this radiography program encompasses more in-depth discussions of cultural competency and diversity issues in the form of lectures, class assignments, diversity lunches, and group discussions in the second and third year. The second- and third-year students have also been attending hundreds of hours of clinical internship and have experienced working with diverse patients at clinical settings. Table 1.3 describes the data collection methods.

**Research tradition.** This case study was explored from the social constructivism point of view. The social constructivism tradition requires the researcher to focus and be actively involved with the reality of the participant's environment (Bloomberg & Volpe, 2016). The cultural competency model introduced by Cross et al. (1989) identifies the three pillars of knowledge, skills, and attitudes that are needed to guide the health care professionals in their path. This model also resembles Bloom's (1956) taxonomy which introduced cognitive, psychomotor, and affective learning domains in education. In addition, Rose (2013) defines the three approaches to cultural competency education as knowledge-

based, attitude-based, and skill-building. The examples of knowledge-based approach education are: learning definitions of culture, race, and health-seeking behaviors of the patients. Attitude-based approach education is defined as recognizing values and beliefs of other cultures, and lastly, skill-building approach is defined by Rose (2013) as learning specific skill-sets on “how to ensure that individuals feel valued and appreciated in terms of their culture...” (p. 100).

Table 1.3

Data Collection Methods

Methods	Students	Timing
Pre- and Post- JSE Survey N= 24	First Year	Before start of first fall and at the end of fall semester
Interviews N= 3	First Year	During the fall semester
JSE Survey N= 19	Second Year	During the fall semester
Interviews N= 3	Second Year	During the fall semester
JSE Survey N= 27	Third Year	During the fall semester before graduation
Interviews N= 3	Third Year	During the fall semester before graduation

This study adopts a similar framework to understand the effects of cultural competency education on students' practice and attitude toward patients. In this program, radiologic science topics, including cultural competency, are primarily taught in the classroom environment which is considered knowledge. The students' understanding of cultural competency, respecting cultural differences and diversity, and having empathy toward their patients, are examples of attitude. A skill-based or psychomotor method of teaching is used by the faculty so that students can transform their cognitive knowledge of cultural competency to the clinical environments. Students are able to perform different imaging examinations on patients while applying culturally appropriate skills. In other words, the program content and curriculum that is provided on Table 1.2 describes a radiography program that has placed more emphasis on the skills and knowledge of students with the goal of producing skillful radiographers.

This research study aimed to discover if the students' classroom knowledge is being transformed into skills and attitude. This means while students are taking radiographs, are they being sensitive, empathetic, and culturally competent toward their patients? In order to measure students' empathy and sensitivity toward patients, the health profession student version of the Jefferson Scale of Empathy (JSE) was used. This 20-item survey was given to first-, second-, and third-year students to determine if the lectures have improved the students' attitudes and empathy toward patients.

Cultural competency can be taught in classrooms, however, until the radiography students have the ability to apply their understanding in the real world while interacting with real patients, there is no guarantee that the classroom pedagogical approaches have been successful. For example, in a study conducted at the University of Toledo, second-year

pharmacy students were provided with videos, lecture material, and curriculum content designed to increase students' awareness in cultural competency. At the end of the study, 85 students completed a survey that assessed their knowledge and understanding of cultural competency. The study concluded that students gained an understanding of diverse cultures through information covered in the curriculum, however, according to some participants, having interactive sessions and meeting with different cultural groups of patients can also increase their knowledge and understanding of cultural diversity and competency (Muzumdar et al., 2010). By focusing on the specific settings and participants' social interactions with their environment, social constructive researchers generate meaning from the data (Bloomberg & Volpe, 2016). As a researcher who shares the same educational background and passion as the students in the radiography program, I have used this approach to understand if the cultural competency education given in the classroom has been elevated to its practical application and whether students find their classroom education helpful during their interaction with patients. I found that students benefited mostly from the cultural competency lectures in classroom and seminars when they were able to apply their knowledge to the clinical settings and real patients. For example, when the importance of modesty in Middle Eastern patients' culture was discussed in classroom and students observed that particular attribute in a Middle Eastern patient at the clinical site, they were able to learn and empathize with the patient more than if the concept was not reinforced at clinical settings.

In the case study approach, the researcher conducts a detailed description of how participants interact in a bounded program (Bloomberg & Volpe, 2016). There are numerous case studies that have been conducted about nursing students' perception of cultural

competence as well as studies that deal with the integration of cultural competency curriculum in nursing and medical schools (Brennan & Cotter, 2008; De Leon Siantz, 2008; Khanna & Cheyney, 2009; Musolino et al., 2010; Onyoni & Ives, 2007). Therefore it was appropriate for this research study to use a case study practice because a specific group of students in a radiography program and their instructors were the participants.

### **Research Setting and Context**

As stated previously, the data for this research study is gathered in a baccalaureate degree-granting-public institution in the Western United States. According to the office of institutional research at the University of Westside, in fall of 2015, the undergraduate student population of 36,908 was mostly comprised of 22.7 percent White, 46.5 percent Latino/a, 5.2 percent African American, and 11.6 percent Asian individuals. In addition, the gender ratio of 53.8 percent females and 46.2 percent male students were reported for fall 2015 semester. In the same semester, the faculty ratio consisted of 62.6 percent White, 11 percent Latino/a, 5.1 percent African American and 16.9 percent Asian individuals. Furthermore, in the fall 2015, statistics from the office of institutional research indicates there were 49.9 percent female and 50.1 percent male faculty members working at this institution (UW, 2018).

The purpose of this study was to examine the impact of cultural competency education on students in a radiography program in the Western United States. This institution is the only Hispanic-serving, public, and ethnically diverse institution in this region that offers a baccalaureate degree in radiologic sciences. Therefore, it was appropriate that this research study would be conducted in this specific setting and context.

### **Research Sample and Data Sources**

**Research sample.** I used a randomized sampling method by asking students and faculty members to volunteer their participation in the study. I then randomly chose three students from each cohort to interview and conducted a focus group with four randomly chosen faculty members. In this research study, I investigated the impact of cultural competency education on students of a radiography program. Therefore, the participants were all selected from the first-, second-, and third-year of a radiography program in the same school. Each cohort in this study was at a different point in the program but had a standardized course schedule. Considering the diversity of students on this campus, my participants were from different racial and ethnic backgrounds. The selected program faculty, who also had diverse backgrounds, were the program's didactic and clinical instructors. Description and details of the participants' ethnicity will be discussed further in this chapter.

**Data sources.** The purpose of this study was to determine the impact of cultural competency education on students' practices and their perceptions. In addition, this study aimed to examine the pedagogical approaches that greatly influence cultural competency education. A pre- and post-Jefferson Scale of Empathy (JSE) survey was given to first-year students. The JSE was also given to second- and third-year students in the program. After analyzing that data, I randomly chose three students from each cohort of first-, second-, and third-year students to participate in semi-structured interviews. The students were invited to the interviews on a volunteer basis and three students from the group of volunteers were selected randomly. By analyzing results of the interviews, I investigated the different learning domains used in the program and how they facilitate or hinder cultural competency knowledge and found that most students prefer face-to-face classroom lectures. The

interview results and analysis also illustrated that the students are applying their cultural competency classroom knowledge to practical applications at clinical sites. However, the students recognized their beliefs and values with respect to cultural competency and many believed that their personal experiences have helped them become a culturally competent individual. Analysis of these interviews and the rationale for these conclusions will be discussed in the results section of this study.

I also conducted a focus group with four current clinical instructors of the radiography program and explored their teaching methods as part of the radiography program's curriculum. I also examined the instructors' perceptions of cultural competency education and their personal experiences with this concept. I found that clinical instructors not only preferred face-to-face teaching and hands-on practices at clinical settings but also expressed a need for more lectures, discussions, and guest speakers throughout the program to emphasize the importance of cultural competency to students. Analysis of this focus group and the rationale for these conclusions will be discussed in the results section of this study.

### **Data Collection Procedures and Instruments**

**Jefferson scale of empathy (JSE).** As a reminder, all students in the program have taken a survey of Jefferson Scale of Empathy. This survey was given to students to determine their scale of empathy and sensitivity toward patients before and after they are provided with cultural competency lectures and discussions. The Jefferson Scale of Empathy was first developed to measure empathy among medical students and physicians (Hojat et al., 2001). This scale has recently been modified to tailor health care professionals and students in programs such as physical therapy, nursing, diagnostic imaging, and many

other health care professions. The JSE is a self-report scale of 20 items, each item is answered on a seven point Likert scale that indicates 1= strongly disagree to 7= strongly agree. The scale's scores range from 20 to a maximum of 140 and the higher scores indicate that the individual self-reports more empathy. The survey of Jefferson Scale of Empathy (JSE) was given to all first-year students once before they started the program in May 2017, and once at the end of fall 2017 semester when they had completed one semester in the Radiologic Sciences program. The survey was also given to second- and third-year students one time during the fall 2017 semester.

**Student interviews.** Nine students from the radiography program at University of Westside were interviewed. This program has three cohorts in the fall semester. There are a total of 24 students in the first year, 19 students in the second year, and 27 students in the third year in this radiologic sciences program. The first-year student participants have not had any clinical experiences with cultural competency in the radiologic sciences program. On the other hand, the second-year and third-year student participants have had extensive course work for the past two years and have participated in many clinical rotations by the time these interviews are conducted. This allowed for a variety of perspectives across the trajectory of the program.

After the request to be interviewed was sent via email to all students in the program, twelve students volunteered to be interviewed. Three students from each cohort in the program were randomly selected to participate in the semi-structured interviews. All student participants were given a consent form to read and sign their agreement. There were three female students and six male student participants in this study. The ages of the students ranged from 21 to 25 years old. There were eight students who identified themselves as

Latino/a, Asian, or South Asian ethnicities and one student who identified himself as being white. Specific interview questions inquired about a particular assignment in class that led students to understand cultural competency and how that class assignment may have changed students' perceptions about patients with different backgrounds, ethnicities, and cultures. The interview questions were designed to provide data on whether the cultural competency education had assisted students in positive interactions with patients who are different from them. The questions were specifically guided by the literature on the three elements of cultural competency education: knowledge, skills, and attitudes (Cross et al., 1989). All the interviews were conducted during the fall of 2017 at a time when students had started their didactic and clinical course work. The interviews took approximately 45 minutes in a semi-structured manner and were conducted at a location where the students felt comfortable (See Appendix E).

**Faculty and clinical instructor focus group.** The purpose of having the focus group with the faculty members was twofold. One purpose was to investigate what pedagogical approaches the faculty members have used to teach cultural competency and secondly, whether, in their opinion, those pedagogical methods have been helpful to students at clinical settings. Similar to the interview questions, the focus group discussions determined the importance of the three learning domains of knowledge, skills, and attitude from the faculty members' point of views, which provided a comparative perspective to what the students reported in the surveys and interviews.

This radiography program includes three full time faculty and several clinical instructors. Four clinical instructors from the University of Westside radiography program participated in the focus group that took place on campus and lasted about one hour. There

were three females and one male clinical instructor who participated in the focus group. One clinical instructor identifies as Latino, one identifies as African American, and the other two are considered to be White. Each clinical instructor has been practicing in the field of radiography for over 10 years. One of the female clinical instructors has been teaching students in this radiography program for over 20 years and one of the other female instructors has only been with the program for a little over a year. All the clinical instructors emphasized their interactions with students have been mostly in clinical settings where they observe students and work with them while performing radiographic procedures. The clinical instructors attending the focus group are the primary instructors who teach and supervise students' clinical practices at different clinical sites. Three of the clinical instructors have also taught students in classroom settings. The focus group aimed to understand faculty members' ideas on pedagogical methods of cultural competency and their opinion on possible effects of this subject on students' attitudes in clinical settings (See Appendix F).

### **Data Analysis**

Qualitative data analysis is a process of making meaning of what participants convey to the researchers mostly through common methods such as interviews, focus groups, and observations. Bloomberg and Volpe (2016) argue, "qualitative data analysis is the process of bringing order, structure and meaning to the masses of data collected" (p. 189). To analyze the data for this specific case study, the data was organized, patterns and themes were detected, and then data was coded in categories. As stated previously, in the preliminary stages of data collection, the JSE surveys were given to students to measure their empathy.

The results of those surveys as well as the information gathered from interviews and focus group were triangulated and analyzed at the final stages of data analysis.

It is important that the interviews and the focus groups be transcribed and recorded verbatim and immediately after they have been conducted while the information is fresh in the researcher's mind (Bloomberg & Volpe, 2016). Therefore, all of the student interviews and faculty focus group information have been transcribed by the researcher and later categorized into themes and patterns. By reviewing and listening to all of the recordings from the interviews and focus group, I was able to detect the emerging themes and how they can tie into the conceptual framework (Bloomberg & Volpe, 2016).

**Interviews.** Qualitative analysis on interviews can be done as an issue-focused analysis or case-focused analysis (Weiss, 1994). In this particular case study, I was interested in finding out if cultural competency education has changed students' perceptions in this area or whether it had a major impact on their attitudes toward patient care and their interactions with diverse groups of patients. Therefore, my analysis was more issue-focused as I coded and categorized the concepts that come to surface within the transcripts of these interviews.

**Focus group.** Analysis and data collection for focus groups are concurrent. According to Krueger and Casey (2015) in quantitative data analysis, there is a separation between data collection and analysis, however, the focus group analysis is different in a way that "focus group analysis begins in the first focus group" (p. 141). During the focus group with didactic and clinical faculty members, I was interested to discover the attitude and perceptions of the faculty members regarding cultural competency in this particular radiography program. I was also interested to know if the faculty members think the

curriculum is providing enough knowledge and understanding for students. I was also curious to know if the faculty members recognize the importance of being a role model for students in the area of cultural competency.

### **Roles of the Researcher**

While developing this dissertation, I have possessed many roles. I am currently one of the full time instructors in this radiography program as well as the principal investigator of this research study. I am also a practicing radiographer, first-generation student, and an immigrant with my own biases and values that are shaped by my family, culture, and eighteen years of experience in the field of radiography. As a qualitative researcher, I have considered the ethical issues that might arise while I collect data and analyze it. I have kept all the data confidential and in a locked room inside a password-protected computer. I provided a consent form for the participants to read before their participation and sign if they accepted to participate in the study.

To assure the confidentiality of the participants' identity, I used pseudonyms throughout the data analysis and reporting of findings. In addition, as the instructor of many of the students who were interviewed, I explained the purpose of this research study and emphasized the fact that participating in this research project had no implication on the students' coursework. I conducted the data gathering during the months of summer and fall in the evenings when I do not have any face-to-face classes with most of the students and therefore students were able to express their opinions without fear of their grades being affected.

**Researcher bias.** As a first-generation student and an immigrant who was born and raised as a minority in a different country than the United States, I may be culturally

different from many of the students that I have interviewed. I am a Generation X, Middle Eastern female and most of the students in my research study were from the millennial generation with different ethnicity and cultural backgrounds. My experiences throughout my life as a female instructor, a student advocate, as well as a patient advocate have made this study unique and at the same time have required me to question the ways we teach our students and prepare them to become knowledgeable health care professionals. I am biased about a crucial need for more cultural competency education in medical imaging and my biased views may have impacted the way I interpreted the data. However, I was able to prevent that by utilizing “member checks” or “respondent validation” which means I sent some of my interview and focus group transcriptions to the participants for review and check for content accuracy. Maxwell (2013) argues that member checks is a way of soliciting feedback from the participants as “the single most important way of ruling out the possibility of misinterpreting the meaning of what participants say and do and the perspective they have on what is going on, as well as being an important way of identifying your own biases and misunderstanding of what you observed” (p. 126). I also did my best to have neutral facial expressions during interviews and focus group discussions in order not to lead my participants into giving me the answers that I would have liked to receive.

In conclusion, in today’s diverse health care industry, where patients are still experiencing health care disparities, it is essential for educators to provide the training and knowledge in cultural competency, model a professional attitude of diversity awareness, empathy, and cultural competence, and provide the real-world skills for students to apply to clinical practices. There is a great need for radiography educators to determine and research the quality of cultural competency education in their programs. This study explored the

effects of cultural competency education on students of a radiography program from the perspective of the students as well as their clinical instructors. The goal of this research study was to identify the impact of cultural competency education on radiography students and to recognize the degree of knowledge, skills, and attitude needed to create a culturally competent health care professional.

## **Chapter Four: Results**

### **Introduction**

The purpose of this study was to understand the effect of cultural competency education on students' knowledge, skills, and attitudes in a radiography program. In this chapter, the results and analysis of the data collection from student interviews, faculty focus group, and student surveys will be discussed. I conducted a total of nine interviews with first-, second-, and third-year students in the radiography program at the University of Westside. In addition, I conducted one focus group with the clinical instructors of the radiography program at this university. Furthermore, the second- and third-year students took a survey of the Jefferson Scale of Empathy during fall semester whereas the first-year students took pre- and post-surveys in the beginning and end of the same semester. The results of this data collection are categorized into three concepts of knowledge, skills, and attitudes. As Cross and his colleagues (1989) and Rose (2013) suggested, these concepts are the foundations of cultural competency education and training. Knowledge-based education encompasses definitions about cultures, health behaviors, and cultural differences that exist among patients. Skill-building training refers to the skills that students need to prepare them for effective patient communication and attitude-based education refers to improving self-awareness as well as awareness in values and beliefs of other cultures.

As discussed in the methodology section of this dissertation, a review and analysis of the program content on Table 1.2 revealed that students complete thousands of hours of clinical internship while in this program. Table 1.4 demonstrates this analysis which is an indication that the program curriculum is designed to place more emphasis on the practical skills of students in order to produce skillful radiographers.

Table 1.4

Program Content Analysis

Knowledge	<p>First Year: Hospital Orientations, Patient Care Modules</p> <p>Second Year: Professional Development Course</p>
Skills	<p>First Year: 500 Clinical Hours</p> <p>Second Year: 1000 Clinical Hours</p> <p>Third Year: Over 2000 Clinical Hours</p>
Attitude	<p>First Year: Diversity Lunch</p> <p>Second Year: Diversity Lunch</p>

**Knowledge.** During the student interviews, I asked if the students preferred online or face-to-face classes. A majority of the students expressed that they learned more when attending face-to-face classes. Sam, who is one of the second-year students said, “I like the face-to-face interaction, I like to be able to raise my hand and ask a question if I don’t understand”. However, as a first-year student, Jeff, indicated that it would be more convenient for him to take online classes and save driving and parking on campus. For Jeff who has a two-hour commute to the university, it is more about the way an instructor is teaching and how that instructor could convey the information. If that information can be relayed to him on an online class, Jeff welcomes it.

On the other hand, Rosa, a third-year student, expressed that she prefers face-to-face classes. Rosa indicated,

I like the face-to-face classes because with online classes, I don’t focus as much, I don’t feel like I concentrate as much online even

though I can be at home. I don't know, there is something about being face-to-face that I just.. I kind of take it in more.

When I asked the same question from the clinical instructors, they also indicated that they prefer to teach face-to-face in combination with hands-on practice in clinical settings so that they can show students how to interact with patients of different cultures.

I asked the student participants if the cultural competency education provided in the program was enough to get them ready to interact with patients. Only two students indicated the cultural competency education provided for them in this radiography program was enough to provide them with pertinent information about this subject and prepare them to meet the challenges of clinical settings. However, a majority of the students indicated that there should be more education in forms of discussions, case studies, or a new course specifically dedicated to cultural competency added to the curriculum of this program. There was one first-year student participant who indicated that he does not know enough yet to suggest if he needs more education or not. On the other hand, one female student in the third-year thought the education in this radiography program provided her with enough information about cultural competency that she feels ready to enter the radiography field and interact with patients. I asked this student how she can determine having enough information in this area and she explained further,

I don't know I just think, I just know maybe how I was raised, my background maybe, I just know that people are not the same.

They are not going to view things the same way you do it.

I think working in the hospital you need to, it is important to make everyone feel like you understand them and you are there for

them, even if you do not believe in the same morals and values.

Emanuel, a second-year student who identifies himself as a Chinese-American, mentioned that students should be provided with one or two dedicated lectures specific to cultural competency. He also thought the hospital orientation modules were too extreme and most of the training modules were making assumptions about certain groups of people by placing them in groups or labeling them. Emanuel's point of view may be mostly due to his experiences as a teenager and young adult who spent most of his life in other countries and lived among cultures that were different from his. For example, he said,

People get offended if you treat them a certain way or stereotype them, they don't want to feel stereotyped especially in this country, in any foreign country no one wants to feel stereotyped. Oftentimes that is the reason why they want to adapt to a way of life there and not seem different from others.

Emanuel's point of view can be associated with one of the conclusions from the research of Wang et al. (2003) that suggested more empathy can result from an individual's interaction with the groups that have different culture, background, and ethnicity from them.

I asked all student participants if they remembered an assignment, a lecture, or information in the program about cultural competency. Remarkably, all second-year participants remembered and seemed to have enjoyed one lecture on cultural competency that was given by one of the instructors in the program at a professional seminar in January of 2017. However, they could not remember any other formal didactic education provided to them during the program. Most second- and third-year students had forgotten about the initial student orientation presentations and hospital modules related to cultural competency.

The third-year student participants however, remembered the discussions about cultural competency in the professional development for radiographers' course provided in spring of 2017, mainly because that course was taught recently.

Not being able to remember the first-year hospital orientations and cultural competency modules might be due to the fact that in the first year of the program, students are overwhelmed with both didactic classes on campus and clinical internship that are required two days a week. In fact, I asked all students what the most challenging part of the program was and all nine students indicated that time management is the most difficult issue to tackle in the program. Emanuel, a third-year student indicated, "the most challenging aspect of the program is probably time management, study while you are going to clinic. Being able to squeeze the time to study while you go to clinic." Mary, first-year student who considers herself to be Filipino-American, also said,

So far the most challenging would be time, definitely! When you get home, you are tired from the clinic and you still have to do homework and all of that. I think the most difficult part is just adjusting to everything.

During the focus group, the clinical instructors also indicated that the first year of the program is the most challenging due to students not being used to taking 12 to 14 units in addition to performing clinical internship. The clinical instructors indicated that they emphasize the importance of time management to all students prior to start of the program. While the first-year in the program may be overwhelming to most students, the content or amount of cultural competency education may also be a factor that should be considered.

Cultural competency education should be infused in every aspect of the radiography program and should be included in every course.

My last interview question was to indicate one thing that students and faculty would want to change in the curriculum with regard to cultural competency knowledge. A majority of students and instructors indicated that there needs to be more education in the area of cultural competency and sensitivity in the forms of courses, lectures, and case studies throughout the program. Faculty and some students suggested inviting patients from different backgrounds to speak in classes and share their experiences with students. One clinical instructor suggested students should make a project and video record diverse patients' and their good or bad experiences. The videos can be shown in all classes to point out how patients can be affected by their health care providers' cultural competency knowledge and skill levels. Another clinical instructor suggested creating a new course dedicated to cultural competency or replacing some of the other course contents with a cultural competency subject material.

Students also suggested more face-to-face lectures and discussions should be given to students in the first and second years of the program. Some students believed taking the professional development for radiographers course during the last semester of the second year is too late in the program and more emphasis on cultural competency education must be made at the beginning of the program. Also, some first-year students suggested adding a course dedicated to cultural competency is beneficial to them but they were not certain which semester would be more appropriate to have this course. A first-year student, Mary, expressed how important it is to be able to communicate with Spanish-speaking patients and said, "maybe you can have a class and teach us how to speak Spanish".

**Skills.** In order to demonstrate the effectiveness of cultural competency education in this program, I asked the clinical instructors if they thought their teaching methods about cultural competency education were effective. In other words, did the students gain competency in their cultural competency skills? In general, all instructors thought it would be difficult to evaluate the effectiveness of teaching cultural competency. However, one instructor indicated:

You compare their [skills] when you get a first-year and when you get a second-year student and you see a big difference. I don't know if it is something I said or something we all said, but there is a difference, big change. As a second- or third-year student, they are more sensitive and more competent.

In addition, the other clinical instructor, Betty, expressed her concerns for the fact that some students may be culturally competent or aware when they enter the program. In this case, it would be difficult to determine whether the program's education had any effect on the students' skills and competency. Other instructors agreed that students need to be evaluated objectively and that may be a difficult task to do if students know they are being watched by the instructors. However, they all agreed that, in general, most students show growth and competency in their skills as they progress in the second and third year in the program.

When asked what student behavior or skills created a positive outcome for the patient, one instructor indicated, "When I see students being able to connect with the patient and communicate effectively, I think that would make them being a better technologist." Another instructor expressed that she recently witnessed a timid student who was mostly

quiet in the past, utilizing his limited Spanish words in order to communicate with a patient. This student's method of communication made the patient happy and more cooperative. In fact, being responsive to diverse cultural beliefs and using patients' preferred language is part of the first CLAS standards that were published by the Office of Minority Health in the year 2000 and have been discussed in this study (See Appendix A: CLAS standards).

I asked the student participants if the cultural competency education has affected their practices toward patients. Most students indicated their education has made a significant difference in their practical skills at clinical sites. For example, Janet, a third-year student said, "I think [education] helps you have more empathy toward patients and it makes you more aware". She continued with an example and said, "I was doing a hand and wrist x-ray on a patient who had bracelets on and I asked him to take the bracelets off, but the patient said that they are religious bracelets and he cannot take them off. After listening to him, I respected his religious beliefs and did not insist on him taking them off". This example shows the effect of cultural competency education on this student's communication skills and the fact that she realized how significant religious beliefs are to some patients and that she should not be forcing patients into doing something that is against their culture, background, and values. In fact, forcing patients to remove their religious symbols, hair coverings, or any other symbol of their culture are considered "cultural destructiveness" according to Cross' model of cultural competence continuum which was discussed in previous chapters of this study (Cross et al., 1989).

Jack, who is a first-year student, indicated that he learned how to communicate well by being in the program but also believes his main communication skills came from his outside job and interacting with different populations. He said, "When you are doing

radiographs, you need to let them understand what you are going to do and I think because I learned how to communicate well, I can apply what I learned from communicating with other people to effectively instruct my patients and explain the procedures to them”. In this case, Jack’s life experience has helped him improve his communication skills with patients. However, being a first-year student, he will be receiving more cultural competency education in the next two years that could help him fine-tune his communication skills as a health care professional.

Fred, a second-year student who identifies as Latino, indicated that before the program, he was scared or nervous about speaking Spanish because he did not think he was fluent in Spanish. He proudly said, “Now, after being in the program for two years, I see using Spanish language as an opportunity to establish a better foundation with the patients who also speak this language.” Fred has learned the value of communication and he has tried to improve his Spanish skills to help him connect with his patients during radiographic examinations.

Another third-year student made an observation about being more cautious to what he says, his gestures, and facial expressions in front of patients. He had learned to be aware of his verbal and non-verbal communications through many years of working in customer service industry. This is another example that many students in this Radiologic Sciences program, use their life experiences and previous skill-sets as foundations to build their patient-care skills for their future career in radiography.

**Attitudes.** The first year pre-program JSE survey average score, on a 120–point scale, was 108.7 and the post-program survey for the first year students indicated an average of 113.4 points. This may suggest that the first-year students became more empathetic after they

started the program. On the other hand, the average score for the second-year student group was 113.5 and the third-year average sympathy score indicated 110.6 points. The data from the JSE survey showed the second-year students had the same average score as the first-year students' post survey, however, it is surprising to see that the students in the third year presented the lowest average empathy score than the other two cohorts in the program.

During the focus group, clinical instructors had expressed that the third-year students showed more empathy and sensitivity skills toward patients. However, according to the JSE survey results, the third year students' empathy average was lower than second- or first-year students' scores. This finding is similar to the research finding of Vander Hoek (2013) which indicated the senior students in a radiography program had the lowest survey scores about understanding of people from different backgrounds. Further analysis of this topic reveals an opinion that was stated by the clinical instructors. During the focus group, one clinical instructor raised a concern about whether students are really empathetic to the patients or are they pretending to show empathy in front of their preceptors and clinical instructors. When anonymous surveys were conducted, students were able to express their attitudes more freely. In addition, students in the last year of the program may be tired and fatigued to the point that they simply want to graduate from the program and therefore do not consider taking these surveys as an important part of their overall education. Additionally, due to time limitations of this study, the third-year students were not able to take the pre-JSE survey which means that their empathy scale was not measured before they entered the program. Therefore, their empathy scale numbers may have been lower prior to entering the RS program.

The last question of the JSE survey stated, “I believe that empathy is an important factor in patient’s treatment”. Upon further analysis of this particular question, it was revealed that a majority of the students agreed or strongly agreed with this statement. In fact, 88.8% of the second-year students, 86.9 % of the third-year students, and 83.3% of the first-year students agreed or strongly agreed that empathy is an important factor in a patient’s treatment. This is an indication that most students believe being empathetic toward patients is an important part of their responsibilities as health care providers.

Additionally, when comparing the average scores of male and female student participants, the second- and third-year student surveys show that female students have higher empathy scores whereas in the first-year student surveys, male students have a higher empathy score. On average, in all three cohorts, male students had a higher empathy score than female students. This is inconsistent with the research of Wang et al. (2003), which indicated female participants showed a higher level of empathy than the male participants.

A majority of the student participants relied on their life experiences, family values, and personal beliefs to make them culturally aware and sensitive toward patients. For example, Sam, a second-year student, indicated that he was raised well by his parents, they told him to treat everyone the same no matter what color or ethnicity they had. However, Sam also mentioned that he enjoyed the professional conference lecture on cultural competency and he wanted the program to “Keep them coming” and continue giving those face-to-face lectures.

Rosa, a third-year Latina student, also thought that as a minority student, she is more aware of different cultures and backgrounds than many of her classmates. Another student also expressed that due to her chronic illness, she has had numerous interactions with health

care providers who were culturally insensitive or incompetent. Due to this life experience, she is determined to treat all her patients with dignity, compassion, and respect no matter how diverse they are.

Clinical instructors also stated that their life experiences have been very important in making them sensitive toward their patients. One clinical instructor said,

When I came here [United States], I was discriminated against by any other race including my own second generation Mexicans because

I was the original Mexican and they were the Mexican-Americans.

Basically, I just treat people in the way that I want to be treated and say I am never going to treat someone the way that I had been treated, and it has worked out for me so far..

Another clinical instructor who identifies as White expressed her life experiences and her sensitivity toward patients and stated,

I have experienced many times when a male patient says, “I don’t want you to perform my exam because you are a female”. So, I don’t take it personally because that is his situation, I don’ know his cultural background but I respect him and move on.

Being a patient for six weeks myself, I am very empathetic to patients and understand what they are going through. Even a warm blanket can mean a lot to a patient.

An African-American clinical instructor also stated that with her life experiences and receiving negative comments about her race has made her more conscious and sensitive about comments that she makes about other cultures, nationalities, and religions.

As mentioned previously, in patient-care situations empathy is defined as “a cognitive attribute that involves an ability to understand the patient’s inner experiences and perspective and a capability to communicate this understanding” (Hojat et al., p. 1564). When asked if there was one procedure that made them more empathetic toward a patient with different ethnicity, most students were able to provide a very specific example that affected them deeply or reminded them of their own family members and loved ones.

Janet, a Latina, third-year student in the program, remembered a patient in the Cardiac Cath lab who seemed to refuse further treatment after the cardiologist suggested that he needed an invasive procedure on his heart. The patient who seemed to have an illegal status had told Janet that he was afraid of being deported from the United States and subsequently not be able to obtain the medication needed for him to continue maintaining his health post procedure. Janet expressed her concern to the patient and advised him to have the procedure. During our interview, with tears in her eyes, Janet said,

The patient left without getting the procedure done and I never saw him after... that made me sad, and made me think of my own dad.

If my dad was in the same situation, I would be like, I don’t care, do it and even if you get deported, we will get the money to buy the medication somehow.

Janet was obviously affected by this incident and felt deeply connected to what the patient was going through. The fact that Janet comes from a minority background and considering the current political environment and government that is working toward deporting undocumented immigrants and reducing help to Deferred Action for Childhood Arrivals (DACA) students, may explain her empathetic feelings toward this patient. This finding also

validates the findings by the Wang et al. (2003) study that discovered higher levels of ethnocultural empathy in the non-white individuals.

One of the first-year students, Jack, who is from a minority population, recently had a death in the family, and remembered an elderly female patient with a Middle Eastern background. She was in a lot of pain and continuously cried and expressed her wish to die. Jack remembered how hard it was for his family member at the end of his life and felt empathetic toward the elderly patient. Jack expressed his sorrow for her pain and he promised he would do whatever he can to alleviate her pain during the examination.

Another first-year student, Jeff, remembered a patient who came in the department for an x-ray procedure and had a very bad odor. When all the technologists stayed away from that examination room, Jeff went in the room and started performing the x-ray exam on the patient. Jeff thought to himself that this person is still a patient no matter how much he smells or what he looks like. The last two examples support Hojat and his colleagues' description of empathy as a cognitive attribute in an individual who understands the patient's inner experiences and is able to communicate this understanding (Hojat, et al., 2002).

Mary, who is also a first-year student, remembered and felt sad about a three-year-old patient with cognitive disabilities who was accompanied by his mother to get a chest x-ray. The patient was moving so much that after a few tries, the technologist and student were not able to obtain the optimal exams. Mary said, "We tried different ways but the patient was moving around, sitting down, going back up, and at the same time he was yelling... so it was very hard to complete the exam." Mary felt powerless and thought about what more they could have done to serve the patient and his parent. This finding is relevant

to Cross' cultural competency model where the health care professional is at the Pre-Competence level and the individual or the organization realize their weakness in providing help to culturally diverse patients and try to improve their services. In this specific incident, the imaging department should have made better accommodations for this child at the time of appointment to find out what would be a better time of day for this patient to have the imaging procedure done.

Rosa, a third-year student remembered a male patient from the Sikh religion who was wearing a turban and came to the hospital to get an MRI exam. Rosa remembered discussing the concept of Sikh religion and the importance of wearing a turban for male individuals in the professional development for radiographers' course. When it was time for the patient to enter the MRI room, Rosa politely asked if the patient had any metallic objects or hair pins under his turban that could interfere with the magnet of the MRI machine. She was knowledgeable and sensitive toward the patient's religious values and did not force him to remove the turban. This is an example of how the classroom knowledge of cultural competency can be transferred to practical skills and exhibiting respect and empathy for patients' values and beliefs.

When asked if the students thought their faculty and clinical instructors were culturally competent, all students expressed that while their clinical instructors all seem to be culturally competent and sensitive, the technologists and preceptors working at various clinical sites did not always demonstrate culturally competent behavior toward patients. For example, Sam said, "I have heard some comments from the techs that I would never say myself. People are mean, we live in a cruel world. I have heard things that should not have been said or done." Fred, who is another second-year Latino student expressed,

There are also those few who never change and say racist things... and that is kind of annoying, which is one way or another you kind of forget about it... but mass majority of people in my clinical experience so far have been appreciative and tolerant and open minded for the most part.

Janet expressed her concern about the time when her patient did not want to take her necklace off during a procedure due to religious reasons and the technologist insisted on her taking the jewelry off. Janet wondered, "I feel like there are some individuals that are very closed minded and they are not open to other cultures and they are not understanding where other people are coming from and their views...they are biased sometimes".

These interview remarks point out two important issues: first, having culturally competent role models is an important part of student learning and secondly, the imaging professionals in the industry need to be trained and educated in recognizing diversity and respecting all patients regardless of their background, appearance, age, or other characteristics.

## **Summary**

In conclusion, the data from student interviews, the faculty focus group, and empathy surveys show the importance of cultural competency education in the form of lectures as well as hands-on practice in clinical settings. While cherishing their life experiences, values, and backgrounds, students desire to have culturally competent role models and recognize those instructors who do not exhibit cultural awareness toward patients. On the other hand, instructors indicate the need to recognize and evaluate students' competencies and their growth in an objective manner. The data from the sympathy surveys

and interviews also suggest that, in general, as students progress in the program, they become more knowledgeable and sensitive toward patients who have different culture and backgrounds than them.

## **Chapter Five: Discussions**

This study was designed to discover whether the cultural competency education provided to students of a radiography program is sufficient to prepare them with proper tools to provide sensitive and culturally competent care for patients. The student interviews and faculty focus group results indicated that students have learned the importance of cultural competency. At the same time, both students and faculty recognized the need for more lectures, discussions, and even courses specific to cultural competency in the curriculum. Students and faculty members acknowledged the existence of a diverse patient population and the crucial need to be sensitive toward different cultures, beliefs, and value systems in our society. Students in this program were well aware of the importance of cultural competency but also thought that they need more reminders throughout the program to stay on top of this concept.

Throughout this study, the concepts of knowledge, skills, and attitudes were examined from different angles. As Cross and his colleagues (1989) and Rose (2013) suggested, these three concepts are the foundations of cultural competency education. However, during this study, I discovered that student attitudes and personal values play a more important part than their knowledge and skills. This finding is similar to Purnell's model (2013) which described the influence of an individual's family, community, and personal values in shaping their interaction with diverse populations.

In other words, the majority of the students in this study continuously referred to their life experiences, the way they were raised by their family, and their cultures as the main reasons for becoming culturally competent. So while there were references throughout the participants' responses regarding the effectiveness of the Radiologic Sciences program,

it appears that personal influences and life experience(s) play an even more important role in the development of their cultural competence. Ultimately, many students thought they still needed to gain more knowledge and skills and some thought their background and life experiences in addition to what they learned in the program were enough to make them a culturally competent imaging professional.

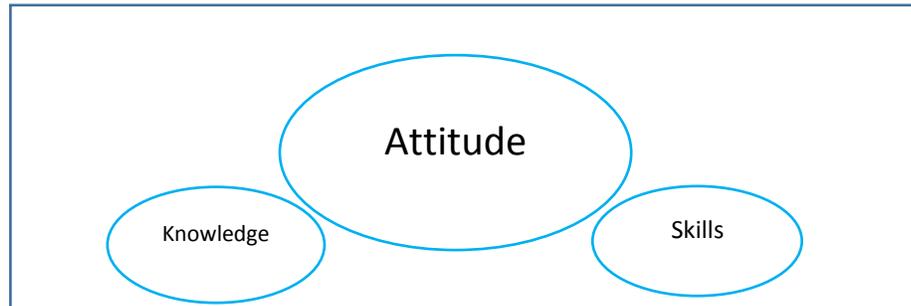
As a result, a more realistic model to describe cultural competency education has emerged from this study. This new model also called the “Attitude-Centered Model” describes a combination of what Cross and his colleagues (1989) and Purnell (2013) were presenting. While knowledge, skills, and attitudes are all important concepts in reaching cultural competence, the Attitude-Centered model portrays a more holistic view of individuals and considers students’ attitudes and personal characteristics as the major component in achieving the highest levels of cultural competence (See figure 1.5).

The Attitude-Centered model emphasizes the importance of carefully listening to students’ voices and considering their life experiences, values, and backgrounds as important concepts of teaching cultural competence both in classrooms and in clinical settings. Knowledge and skills, as stated by Cross (1989) and Purnell (2013), are important part of cultural competence training, however, only when students believe that their points of view and life experiences, and the most important aspects of their lives are being noticed and respected, they can achieve the advanced levels of cultural competence throughout their professional careers. While the RS program instructors are not able to force students to become empathetic toward their patients, they can help students realize how it feels to be in their patients’ shoes. For example, how it feels to have a mammogram for the first time, how it feels to be in the MRI scanner with all the noise coming from the machine and not

being able to move for a long time, or how it feels to have an x-ray in a cold room with no warm blankets.

Figure 1.5

The Attitude-Centered Cultural Competency Model



### **Conclusion and Recommendations**

Health care professionals are influenced by their personal and life experiences as well as the knowledge and information provided to them in educational programs. To be truly culturally competent, individuals will have to utilize their personal experiences or their attitudes as well as their pedagogical knowledge throughout their professional careers. The educational programs may be able to provide the knowledge and information through lectures, courses, discussions, and hands-on practices but it is the students' background, life experiences, and their willingness to learn that may ultimately determine the efficacy of their cultural competency. The following are recommendations for curricular and policy changes in this radiography program:

The first recommendation is to add a course to the curriculum that is specific to cultural competency. This was suggested by students and clinical instructors as a future curricular improvement. Diverse cultural values, languages, and traditions should be taught in form of discussions and scenarios in this course to create awareness in students. Due to

the large community of Latino/a patients in this region, learning a few radiology-related phrases in Spanish would be beneficial to students. Several students of non-Hispanic background expressed the need to know more phrases in Spanish language to be able to communicate with their patients. The course should be offered early in the program and be followed by a capstone project that students can demonstrate their knowledge and understanding of how to be culturally competent.

The second recommendation is to incorporate cultural competency throughout the curriculum of this program. Many second- and third-year students in the program expressed that they had forgotten their cultural competency education material from the first year and they expressed a need to be reminded of this subject throughout the program. In addition, many of the courses in this program are science-based and therefore taught by practitioners who may not be familiar with the concept of cultural competency in classroom. As Romanello (2007) suggested, in order to integrate cultural competency in an educational program, a strategic plan is needed to encourage the faculty to become dedicated to diversity. Life experiences related to culture, race, and discriminatory behavior were found to be very important to the faculty members and students in this study. This means that all instructors need to incorporate reflections and discussions related to diversity in their courses to emphasize students' cultural beliefs and values. This is associated with several findings on students' and instructors' life experiences, values, and cultural beliefs stated throughout this study.

Program instructors need to recognize and respect students' cultural values and to position the students' voices central to every course in order to create an attitude-centered curriculum throughout the program. As long as students' attitude is positioned at the center,

they will be able to navigate the academic language of the industry or knowledge, navigate the professional behavior or their skills, and finally claim their own attitudes and use them to improve their patient care services and be compassionate. By following this recommendation, the program's curriculum, referred to on table 1.4, not only prepares skillful radiographers, but also provides opportunities for students to become culturally competent health care professionals.

To address the faculty member's concern about students "pretending" to be empathetic or not, one can suggest that the aim of the program is not to change the students but to create an environment that students can utilize proper academic language as well as enabling them to infuse compassion and empathy when communicating with patients.

Thirdly, opportunities such as the "Diversity Lunch" meetings should be used for the faculty and students to recognize one another's values and beliefs, and become more collaborative beyond their favorite food. The more faculty members know about each student's values, cultural background, and life experiences, the better they understand students' attitudes and personal characteristics. This can ultimately result in a more open minded and productive relationship between faculty and students which can ultimately produce more successful students in a culturally competent setting. Although many students expressed that their faculty were being culturally competent, many technologists and preceptors in the clinical sites were not modeling cultural sensitivity. Role modeling is important and students need to witness their faculty and clinical instructors exhibiting culturally competent behavior both in and out of the classrooms.

Lastly, more research is needed to determine the level of competency obtained by the students as they move forward in their health care professions. A longitudinal study that

can follow the students from their first year in a radiography program to becoming a practicing radiographer would be ideal to determine the individual's level of cultural competency knowledge, skills, and attitudes.

In the 21<sup>st</sup> century and in the world that is becoming more diverse, every radiography program should have a strategic plan to integrate cultural competency education in its curriculum. The plan should include the following: at the beginning of the program, students should be introduced to different cultural definitions and concepts of cultural competency. As students move to the second year of the program, they can build on this knowledge and information while infusing their own life experiences and attitudes to acquire compassionate skills at clinical sites. By learning from culturally competent role models that exist in and out of classrooms and reflecting on their own values and beliefs, students obtain the cultural competency skills necessary to interact with diverse patients. These future professionals will be able to excel to the highest levels of cultural competency, respond to patients' unique needs, and ultimately reduce health disparities by providing patient-centered care approaches.

## References

- Agency for Healthcare Research and Quality (AHRQ). (2012). National Healthcare Disparities Report. Retrieved March 29, 2018 from <http://archive.ahrq.gov/research/findings/nhqrdr/nhdr12/index.html>.
- American Registry of Radiologic Technologists (ARRT). (2017) ARRT standard of ethics. Retrieved June 20, 2017 from [https://www.arrt.org/docs/default-source/governing-documents/arrt-standards-of-ethics.pdf?sfvrsn=c79e02fc\\_14](https://www.arrt.org/docs/default-source/governing-documents/arrt-standards-of-ethics.pdf?sfvrsn=c79e02fc_14)
- American Society of Radiologic Technologists (ASRT). (2018). Retrieved June 18, 2018 from <https://www.asrt.org/main/standards-regulations/federal-legislative-affairs/state-and-Federal-licensure-issues>
- American Society of Radiologic Technologists (ASRT). (2017) retrieved June 25, 2018 from [https://www.asrt.org/docs/default-source/practice-standards-published/ps\\_rad.pdf?sfvrsn=16](https://www.asrt.org/docs/default-source/practice-standards-published/ps_rad.pdf?sfvrsn=16)
- American Society of Radiologic Technologists (ASRT). (2015) retrieved June 20, 2017 from <http://asrt.mycrowdwisdom.com/diweb/catalog/item/id/271402>
- Association of American Medical Colleges (2016). Tool for assessing cultural competence training. Retrieved from <https://www.aamc.org/initiatives/tacct/>
- Beamon, C. J., Devisetty, V., Fornica Hill, J., M., Huang, W., & Sumate, J. (2006). A guide to incorporating cultural competency into health professionals' education and training. Retrieved June 24, 2018 from [https://www.migrationpolicy.org/sites/default/files/language\\_portal/CulturalCompetency.052306.pdf](https://www.migrationpolicy.org/sites/default/files/language_portal/CulturalCompetency.052306.pdf)
- Bennett, M. J. (1993). *Towards ethnorelativism: A developmental model of intercultural sensitivity*. In R. M. Paige (Ed.) *Education for the intercultural experience* (2<sup>nd</sup> ed.) Boston, MA: Intercultural Press.
- Bloomberg, L. D., & Volpe, M. (2016). *Completing your qualitative dissertation: A road map from beginning to end* (3rd ed.). Thousand Oaks, CA: SAGE Publications.
- Brennan, A., & Cotter, V. (2008). Student perceptions of cultural competence in the curriculum. *Journal of Professional Nursing*, 24(3), 155-160.
- Colby, S. L., & Ortman, J. M. (2015) Projection of size and composition of the U. S. Population: 2014-2060. Retrieved in July 20, 2017 from <https://www.census.gov/library/publications/2015/demo/p25-1143.html>

- Cross, T., Bazron, B., Dennis, K., & Issacs, M. (1989). Towards a culturally competent system of care. Washington, DC: CASSP Technical Assistance Center, Center for Child and Mental Health Policy, Georgetown University Child Development Center.
- De Leon Siantz, M. (2008). Leading change in diversity and cultural competence. *Journal of Professional Nursing*, 24(3), 167-171.
- Finegold, K., Avery, K., Ghose, B., & Marks, C. (2015). Health Insurance Marketplace: Uninsured Populations Eligible to Enroll for 2016. Retrieved March 18, 2018 from [https://aspe.hhs.gov/system/files/pdf/118606/OE3%20QHP-Eligible%20Uninsured\\_FINAL\\_v42%20clean.pdf](https://aspe.hhs.gov/system/files/pdf/118606/OE3%20QHP-Eligible%20Uninsured_FINAL_v42%20clean.pdf)
- Hojat, M. Gonnella, J. S., Nasca, T. J., Mangione, S., Vergare, M., & Magee, M. (2002). Physician empathy: Definition, components, measurement, and relationship to gender and specialty. *American Journal of Psychiatry*, 159, 1563-1569.
- Karpinski, C., & Heinerichs, S. (2015). Exploring the effect speakers series has on student level of multicultural sensitivity and cultural competence awareness. *The Internet Journal of Allied Health Sciences and Practice*, 13(3).
- Khanna, S. K., & Cheyney, M. (2009). Cultural competency in health care: Evaluating the outcomes of a cultural competency training among health care professionals. *Journal of The National Medical Association*, 101 (9), 886-892.
- Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage Publications.
- Leavitt, R. (2010). *Cultural competence: A lifelong journey to cultural proficiency*. Thorofare, NJ. Slack Incorporated.
- Long, H. (2017). The final GOP tax bill is complete. Here's what is in it. Washington Post. Retrieved Nov 27, 2017 from [https://www.washingtonpost.com/news/wonk/wp/2017/11/28/a-wild-card-expected-wednesday-could-put-the-senate-gop-tax-bill-in-jeopardy/?utm\\_term=.44ee34591924](https://www.washingtonpost.com/news/wonk/wp/2017/11/28/a-wild-card-expected-wednesday-could-put-the-senate-gop-tax-bill-in-jeopardy/?utm_term=.44ee34591924)
- Mandal, A. (2014). What are health disparities? Retrieved June 16, 2016 from <https://www.news-medical.net/health/What-are-Health-Disparities.aspx>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.
- Merriam, S., & Tisdell, E. (2016) *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

- Musolino, G. M., Burkhalter, S. T., Crookston, B., Ward, S., Harris, R. M., Cantarini, S. & Babitz, M. (2010). Understanding and eliminating disparities in health care: Development and assessment of cultural competence for interdisciplinary health professionals at the University of Utah-A 3-year investigation. *Journal of Physical Therapy Education*, 24(1).
- Muzumdar, J. M., Holiday-Goodman, M., Black, C., & Powers, M. (2010). Cultural competence knowledge and confidence after classroom activities. *American Journal of Pharmaceutical Education*, 74(8) Article 150.
- National Conference of State Legislatures (2014). Retrieved July 27, 2017 from <http://www.ncsl.org/research/health/2014-health-disparities-legislation.aspx>
- Onyoni, E. M., & Ives, T. J. (2007). Assessing implementation of cultural competency content in the curricula of colleges of pharmacy in the United States and Canada. *American Journal of Pharmaceutical Education*, 71(2), 1-7.
- Purnell, L. D. (2013). *Transcultural health care: A culturally competent approach*. Philadelphia, PA: F. A. Davis.
- Romello, M. L. (2007). Integration of cultural competence in physical therapist education. *Journal of Physical Therapy Education*, 21(1), 33-39.
- Rose, P. R. (2013). *Cultural competency for the health professional*. Burlington, MA: Jones and Bartlett Learning.
- Shaya, T. F., & Gbarayor, C. M. (2006). The case for cultural competence in health professions education. *American Journal of pharmaceutical education*, 70(6), 1-6.
- Smedley, B.D., Stith, A. Y., & Nelson, A. R. (2002). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, DC: national Academies Press.
- Smith, D. (2005). Racial and ethnic health disparities and the unfinished civil rights agenda. *Health Affairs*, 24(2), 317-324.
- Smith-Bindman, R., Miglioretti, D. L., & Larson, E. B. (2008). Rising use of diagnostic medical imaging in a large integrated health system. *Health Affairs*, 27(6), 1491-502. Retrieved June 15, 2017 from <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.27.6.1491>
- The Joint Commission (2016). Retrieved June 16, 2017 from [https://www.jointcommission.org/about\\_us/history.aspx](https://www.jointcommission.org/about_us/history.aspx)
- United States Census Bureau (2010). 2010 Census Briefs. Retrieved June 24, 2016 from <http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>

- United States Department of Health and Human Services. (2014). Healthy people 2020 frame work. Washington, D.C. Healthy People website. Retrieved March 23, 2018 from <https://www.healthypeople.gov/2020/about/foundation-health-measures/Determinants-of-Health>.
- U.S. Department of Health and Human Services (2016). Retrieved July 23, 2016 from <http://www.minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=11>
- U. S. Department of Health and Human Services Office of Minority Health. (2016). National Standards for Culturally and Linguistically Appropriate Services (CLAS) Retrieved March 23, 2018 from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=53>.
- Vander Hoek, N. J. (2013). *Student perceptions of educational quality in Radiologic Technology programs: A comparative analysis of specialized and institutional accreditation*. (Dissertation). Vermillion, SD: University of South Dakota.
- Van Ryn, M., & Fu, S. (2003). Paved with good intentions: Do public health and human service providers contribute to racial/ethnic disparities in health? *American Journal of Public Health, 93*(2), 248–255.
- Wang, Y., Davidson, M. M., Yakushko, O. F., Beilstein, H., Tan, J. A., & Bleier, J. K. (2003). The scale of ethnocultural empathy: Development, validation, and reliability. *Journal of Counseling Psychology, 50*(2), 221-234.
- Weiss, R., S. (1994). *Learning from strangers*. New York, NY: Simon & Schuster, Inc.
- Ye, J., Mack, Y., Fry-Johnson, Y. & Parker, K. (2011). Health care access and utilization among US-born and foreign-born Asian Americans. *Journal of Immigrant Minority Health, 14*, 731-737.

## **Appendix A**

National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care.

### **Principal Standard:**

1. Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs.

### **Governance, Leadership, and Workforce:**

2. Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources.

3. Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce that are responsive to the population in the service area.

4. Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.

### **Communication and Language Assistance:**

5. Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services.

6. Inform all individuals of the availability of language assistance services clearly and in their preferred language, verbally and in writing.

7. Ensure the competence of individuals providing language assistance, recognizing that the use of untrained individuals and/or minors as interpreters should be avoided.

8. Provide easy-to-understand print and multimedia materials and signage in the languages commonly used by the populations in the service area.

**Engagement, Continuous Improvement, and Accountability:**

9. Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations.

10. Conduct ongoing assessments of the organization's CLAS-related activities and integrate CLAS-related measures into measurement and continuous quality improvement activities.

11. Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery.

12. Conduct regular assessments of community health assets and needs and use the results to plan and implement services that respond to the cultural and linguistic diversity of populations in the service area.

13. Partner with the community to design, implement, and evaluate policies, practices, and services to ensure cultural and linguistic appropriateness.

14. Create conflict and grievance resolution processes that are culturally and linguistically appropriate to identify, prevent, and resolve conflicts or complaints.

15. Communicate the organization's progress in implementing and sustaining CLAS to all stakeholders, constituents, and the general public.

Appendix B: Draft Email Solicitation to Student Participants

California State University, Northridge

EMAIL SOLICITATION TO PARTICIPANTS

Dear Student,

I am writing this email to inform you of a dissertation study that I am conducting at California State University Northridge (CSUN) regarding cultural competency education in the radiography program at CSUN. I am a doctoral candidate and this study is a part of the Ed.D requirements.

The purpose of my study is to explore the impact of cultural competency education on student radiographers in this institution. This research study will be one of the preliminary studies conducted in radiography field to examine cultural competency education. More importantly, the results of this data will enable the program faculty and other stake holders of this institution to improve the radiologic sciences program curriculum in the future.

Your participation in this study would include taking the Jefferson Scale of Empathy survey as well as a 45-60 minute one-on-one interview with me on or off campus.

Any personally identifiable characteristics, such as your name or school will not appear in the study. Participation in this study is completely voluntary and you may withdraw at any time.

Your time and attention to this study is greatly appreciated. If you would like to participate please contact at [doris.abrishami@csun.edu](mailto:doris.abrishami@csun.edu) or call 818-677-6976

Thank you,

Doris Abrishami

Appendix C: Draft Email Solicitation to Faculty Participants

California State University, Northridge

EMAIL SOLICITATION TO PARTICIPANTS

Dear Faculty Member,

I am writing this email to inform you of a dissertation study that I am conducting at California State University Northridge (CSUN) regarding cultural competency education in the radiography program at CSUN. I am a doctoral candidate and this study is a part of the Ed.D requirements.

The purpose of my study is to explore the impact of cultural competency education on student radiographers in this institution. This research study will be one of the preliminary studies conducted in radiography field to examine cultural competency education. More importantly, the results of this data will enable the program faculty and other stake holders of this institution to improve the radiologic sciences program curriculum in the future.

Your participation in this study would include a 60-90 minute focus group conducted by me at a location most desired by you. The focus group includes two other faculty members in the radiologic sciences program.

Any personally identifiable characteristics, such as your name or school will not appear in the study. Participation in this study is completely voluntary and you may withdraw at any time. Your time and attention to this study is greatly appreciated. If you would like to participate please contact at [doris.abrishami@csun.edu](mailto:doris.abrishami@csun.edu) or call 818-677-6976

Thank you,

Doris Abrishami

Appendix D: CSUN Informed Consent Form

California State University, Northridge

CONSENT TO ACT AS A HUMAN RESEARCH PARTICIPANT

The impact of Cultural Competency Education on Radiography Students

You are being asked to participate in a research study, conducted by Doris Abrishami as part of the requirements for the Ed.D. Degree in the Educational Leadership and Policy Studies program. Participation in this study is completely voluntary. Please read the information below and ask questions about anything that you do not understand before deciding if you want to participate in this study. A researcher listed below will be available to answer your questions.

RESEARCH TEAM

Researcher:

Doris Abrishami

Department of Education

18111 Nordhoff St.

Northridge, CA 91330-8265

818-677-2901

Doris.abrshami@csun.edu

Faculty Advisor:

Gregory Knotts Ph.D.

Department of Elementary Education

18111 Nordhoff St.  
Northridge, CA 91330-8265

Telephone Number

818-677-3189

Email Address

Greg.knotts@csun.edu

### **PURPOSE OF STUDY**

The purpose of this research study is to understand the impact of cultural competency education on students of a baccalaureate degree radiography program.

### **SUBJECTS**

#### **Inclusion Requirements**

You are eligible to participate in this study if you are a first, second, or third-year student in the radiography program of this institution. You are also eligible to participate if you are a faculty in this radiography program.

#### **Time Commitment**

This study will involve approximately two hours of your time over the course of six months.

### **PROCEDURES**

The following procedures will occur:

First-year Students will be asked to:

- complete one survey (Jefferson Empathy Scale) in the summer before start of the Radiography program and the same survey in the first semester in the program.

- complete a 45 minute one-on-one interview in the fall semester at CSUN

Second-year Students will be asked to:

- complete a short survey (Jefferson Empathy Scale) in the fall semester
- complete a 45- minute one-on-one interview in the fall semester

Third-year students will be asked to:

- complete a short survey (Jefferson Empathy Scale) in the fall semester
- complete a 45- minute one-on-one interview in the fall semester

Faculty members will be asked to:

- participate in a 60-90 minute focus group in summer of 2017

## **RISKS AND DISCOMFORTS**

The possible risks and/or discomforts associated with the procedures described in this study include questions related to your cultural background and experiences with cultural competency knowledge and information provided in class or in clinical settings. You may feel uneasy about answering some of these interview questions. You may elect not to answer any of the questions with which you feel uneasy and still remain as a participant in the study. This study involves no more than minimal risk. There are no known harms or discomforts associated with this study beyond those encountered in normal daily life.

## **BENEFITS**

### **Subject Benefits**

You may not directly benefit from participation in this study. However, as a participant in the one-on-one interviews or focus group, you may develop a greater awareness of your knowledge about cultural competency which may improve your interaction and communication with patients or individuals of diverse backgrounds.

## **Benefits to Others or Society**

Findings from this study may contribute to our knowledge on the subject. The information gleaned from the study may lead to greater awareness about cultural competency education in this particular radiography program as well as benefitting other allied health educational programs.

## **ALTERNATIVES TO PARTICIPATION**

The only alternative to participation in this study is not to participate.

## **COMPENSATION, COSTS AND REIMBURSEMENT**

### **Compensation for Participation**

You will not be paid for your participation in this research study.

### **Costs**

There is no cost to you for participation in this study.

## **WITHDRAWAL OR TERMINATION FROM THE STUDY AND CONSEQUENCES**

You are free to withdraw from this study at any time. If you decide to withdraw from this study you should notify the principal investigator immediately. The principal investigator team may also end your participation in this study if you do not follow instructions, miss scheduled visits, or if your safety and welfare are at risk.

## **CONFIDENTIALITY**

### **Subject Identifiable Data**

All identifiable information that will be collected about you will be removed and replaced with a code. A list linking the code and your identifiable information will be kept separate from the research data.

### **Data Storage**

All research data will be stored electronically on a secure computer with password protection.

The audio recordings will also be stored on a secure computer with password protection; then transcribed and erased at the end of the study.

### **Data Access**

The researcher and faculty advisor named on the first page of this form will have access to your study records. Any information derived from this research project that personally identifies you will not be voluntarily released or disclosed without your separate consent, except as specifically required by law. Publications and/or presentations that result from this study will not include identifiable information about you.

### **Data Retention**

The researchers intend to keep the research data for approximately 5 years and then it will be destroyed.

### **Mandated Reporting**

Under California law, the researcher is required to report known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder, including, but not limited to, physical, sexual, emotional, and financial abuse or neglect. If any researcher has or is given such information, she may be required to report it to the authorities.

### **IF YOU HAVE QUESTIONS**

If you have any comments, concerns, or questions regarding the conduct of this research please contact the research team listed on the first page of this form.

If you have concerns or complaints about the research study, research team, or questions about your rights as a research participant, please contact Research and Sponsored Projects,



## Appendix E: INTERVIEW PROTOCOL

### **I. Pre-interview Session: Introduction/Background**

#### **Welcome and introduction:**

Good morning/afternoon/evening. Thank you for taking the time to talk with me today.

Before we begin the interview session, I'd like to let you know that your voice will be recorded for this pilot interview.

#### **CONFIDENTIALITY**

##### ***Subject Identifiable Data***

All identifiable information that will be collected about you will be removed and replaced with a code or pseudonym. You are encouraged to see the final transcription of this interview to make sure the content is accurate.

All research data will be stored electronically on a secure computer with password protection. The audio recordings will also be stored on a secure computer with password protection. The recordings and results of this interview will be used as practicing method for a qualitative data analysis and the results will not be used in the actual research study.

As we discussed, this interview is a one-on-one interview which will take approximately 45 to 60 minutes and is intended to collect information for a future research study that explores Cultural Competency education in the radiologic sciences program at this university. During this interview, we will talk about your experiences and attitudes about this subject and teaching methods that you think have helped you understand cultural competency.

Are there any questions before I get started?

## **II. Interview Session**

### **Main Questions:**

Topics and Prompts:

1. Educational background and ethnicity
  2. Experiences in the radiography program
  3. Pedagogical methods
  4. Expectation and recommendations
- 
1. Tell me about how you decided to choose radiologic sciences as your major?  
\_What was the most challenging aspect of the program so far?
  2. What are some of the teaching methods that have been helping you better understand different concepts of radiography? (Teaching methods could be online, face to face lectures, class discussions or group in class discussions).
  3. How would you describe what cultural competence is?  
- How have you had cultural competency education in your radiography curriculum?
  4. How does your cultural background or life experiences make any difference in your understanding of cultural competency?  
\_What is your background and ethnicity?
  5. How has the cultural competency education affected your view /practices towards patients that have different background than yours?  
-Can you give me an example of what you know now about a specific culture or ethnicity that you didn't know before?

6. Have you used the information you were given in class in your clinical practice with patients?
  - Can you give me an example of one time when you interacted with a patient who had a different culture/appearance than yours?
  - How would you treat a patient who looks completely different from you?
7. Was the cultural competency education provided to you enough to make you prepare for clinical practice and interaction with patients?
  - explain to me about one particular assignment or lecture that was very helpful to you
8. Do you consider your faculty or clinical instructors as culturally competent individuals?  
Why or why not?
9. Can you describe an event or procedure in clinical that made you empathetic toward a patient who had a different background than you?
10. What would you like to see/learn differently in the curriculum about cultural competency topics and teaching methods?

**Do you have any questions or additional comments?**

## Appendix F: FOCUS GROUP PROTOCOL

### **Welcome and introductions:**

Good morning/afternoon/evening. Thank you for taking the time to talk with me today.

Before we begin the focus group session, I'd like to let you know that your voice will be recorded for this pilot interview.

### **CONFIDENTIALITY**

#### ***Subject Identifiable Data***

All identifiable information that will be collected about you will be removed and replaced with a code or pseudonym. You are encouraged to see the final transcription of this interview to make sure the content is accurate.

All research data will be stored electronically on a secure computer with password protection. The audio recordings will also be stored on a secure computer with password protection. The recordings and results of this interview will be used as practicing method for a qualitative data analysis and the results will not be used in the actual research study.

As we discussed, this focus group which will last about 60 to 90 minutes is intended to collect information for a future research study that explores Cultural Competency education in the radiologic sciences program at this university. During focus group, we will talk about your perceptions and opinions about cultural competency education in this radiography program.

Are there any questions before we get started?

1. Can you tell me your name and how long you have been an instructor in this radiography program?

2. What do you most enjoy about your job?
3. What teaching methods have you used or currently using in your classes or clinical sites?  
(teaching methods: online, face to face, hands on practice, group discussions, etc)
4. How do you define cultural competency?
5. Do you think your pedagogical methods are practical in teaching cultural competency to students? If yes, how do you know they have been effective?
6. Describe a situation when you noticed students applying their cultural competency knowledge and understanding in classroom or clinical setting.
7. What positive aspects have you noticed from the students' practices in class or clinical setting?
8. Describe a situation where you noticed students' attitudes toward patients?  
-Did those behaviors/attitudes create a positive outcome for the patient? If yes, how?
9. Describe a situation where you noticed students' attitudes toward each other and people they were working with.  
-Did those behaviors/attitudes create a positive outcome for the team? If yes, how?
10. How does your background and ethnicity or life experiences help you teach cultural competency?
11. What do you think needs to be different in the RS curriculum about cultural competency education?
12. If you could give one advice to the Director of this program, what would it be?