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The Efficacy of a Service-Learning Experience in the New Orleans Area in Improving Intercultural Competence of Nutrition and Dietetics Students

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The efficacy of a service-learning experience in the New Orleans area in improving intercultural competence of nutrition and dietetics students

By

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DCN DISSERTATION

Submitted in partial fulfillment of the requirements of
the degree of Doctorate in Clinical Nutrition

University of North Florida

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DEDICATION

This research proposal is dedicated to my supportive family members. I am at this point in my doctorate studies because my husband, John Harris, has encouraged and helped me every step along the way. My son Matthew has always inspired me to continue this journey. He entered this world before he was ready and surprises me every day with how far he has come in the past six years.

The support of my mother, Donna Di Vito, and three siblings, Carly Di Vito, Jenna Gonzalez, and Michael Di Vito has been a blessing. There are many times in which they have watched Matthew while I put in a few hours of work, and when I made several solo trips to New Orleans for this research. My father, who is no longer with us, always encouraged me to reach for this level of education, and I am sure he is watching over me because I was able to overcome several challenges I faced during this process.

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LIST OF ABBREVIATIONS

Abbreviation	Explanation
ACEND	Accreditation Council for Education in Nutrition and Dietetics
CBMCC	Campinha-Bacote Model of Cultural Competence
CC	Cultural competence
COVID-19	Coronavirus Disease 2019
DGA	Dietary Guidelines for Americans
DMIS	Developmental Model of Intercultural Sensitivity
DO	Developmental Orientation
DU	Dominican University
GPA	Grade point average
IC	Intercultural competence
IDC	Intercultural development continuum
IDP	Intercultural development plan
IDI	Intercultural development inventory
MNT	Medical nutrition therapy
NOLA	New Orleans
OG	Orientation gap
PI	Primary investigator
PO	Perceived orientation
RDN(s)	Registered Dietitian Nutritionist(s)
SL	Service-learning
T1	Baseline
T2	Immediately after graduation
T3	Nine months post-graduation
UNF	University of North Florida
US	United States

ABSTRACT

There is a large gap between minority representation in the field of dietetics and the United States population, and nutrition students need advanced cultural competence training in preparation for future work with diverse populations. Universal recommendations for delivering and evaluating cultural competence training in nutrition programs are non-existent, and students tend to lack understanding of how to develop this skill. Service-learning in underserved communities with reflective assignments have been used to develop cultural competence skills, but most reported results are anecdotal. This non-randomized mixed methods study sought to find out if a service-learning experience improves intercultural competence of nutrition students more than a self-guided approach. The intervention involved completing a pre-and-post IDI survey, a two-week service-learning experience in the city of New Orleans or self-guided approach with reflective assignments, and post-experience focus groups. Students were recruited through brief informational announcements during classes and via email. Wilcoxin Ranked Signs results indicated improved IDI scores for both the control and experimental groups and there was evidence of skill attainment when reflective assignments were compared to the Campinha-Bacote Model of Cultural Competence.

INTRODUCTION

There is a concerning lack of diversity in the dietetics profession, which could result in minorities feeling dissatisfied with the nutrition care they receive. Since registered dietitian nutritionists (RDNs) work with diverse populations, advanced cultural competence (CC) training for nutrition students is mandatory. There are no universal recommendations for the delivery and evaluation of CC training and students tend to have a simplistic belief of what constitutes strong CC skills. A literature review was conducted to identify approaches and their effectiveness as applied to CC training in nutrition students. From the limited amount of research that usually involved an interdisciplinary group of students, service-learning (SL) combined with reflective learning activities were frequent approaches. Most of the results addressing effectiveness of these approaches were anecdotal, and there were no instruments to measure an individual's perceived and actual level of CC. There is a need to develop a universal curriculum for CC training with standardized evaluation methods through mixed methodology studies focusing on nutrition students. For this research study, a two-week SL experience New Orleans (NOLA), Louisiana and self-guided assignment was created to develop intercultural competence (IC) of nutrition students.

The Intercultural Development Inventory® (IDI), a validated research tool that measures one's capacity to shift cultural perspective and effectively adapt behavior to culture differences and commonalities, is based on the Intercultural Development Continuum® (IDC) which was adapted from the Developmental Model of Intercultural Sensitivity (DMIS). There are five and six stages in the IDC and DMIS respectively. As an individual moves from the first through sixth stage of the DMIS, his or her sensitivity to cultural differences increases. This IDI was used to measure differences in perceived and actual levels of IC. The Campinha-Bacote model of

cultural competence (CBMCC) has five constructs to develop CC skills, and each of the planned activities for the SL experience included several of these constructs. The IDI and CBMCC worked together throughout this study with the former providing an individual's actual level of IC, which can be matched with appropriate constructs of skill development as applied to the later.

Does participation in a SL experience in NOLA improve the IC of nutrition students more than a self-guided assignment was the research question of this study. The study aims included creation of the SL and self-guided assignment interventions, measurement of change in IC with the IDI three weeks before and after the SL experience or at the beginning and conclusion of the eight-week time frame for the self-guided assignment, and identification of experiences that contribute to development of CC skills through reflective journal assignments and post-experience focus groups. This was a non-randomized mixed methods study design which included completion of the IDI in the preparation phase, a two-week SL experience in NOLA, and post-experience IDI and focus groups. A control group developed a personalized plan to develop IC and completed the IDI and focus groups at the same time intervals as the experimental group. Students were recruited through announcements and mini presentations at a small university in the Chicagoland area. Basic demographic data from a brief survey, and three outcome measurements of the IDI are the quantitative measures that were collected. Qualitative data from the reflective journal assignments and focus groups were arranged into themes and sub-themes using the CBMCC for guidance. It is the hope of the primary investigator (PI) that the results of this research can be used to develop a universal CC training curriculum for nutrition programs.

CHAPTER 1: SIGNIFICANCE/LITERATURE REVIEW

Minority Representation in Dietetics

In the year 2021, the United States (US) Census Bureau estimated that minority groups represent about 24% of the US population,¹ and this is expected to increase to about 50% by 2060.² A recent survey that sought to identify barriers and facilitators of dietetics education reported demographic data of students and RDNs who have been registered less than five years does not come close to matching US minority numbers; about 86% white and 14% minorities.³ This large gap between minority representation in the field of dietetics, and the US population, indicates the possibility of minorities feeling as though they are not receiving desirable nutrition care when it comes to having cultural needs fulfilled. As one African American client verbalized to a white RDN, “I learned a lot from you, but I really wish there were more dietitians out there who have experienced what it is like being a black woman.” (Anonymous, personal conversation, June 5, 2013). It will take time and effort to recruit more minorities into the field of dietetics, and while waiting for this gap to lessen, advanced CC training for all nutrition students is vital.

Cultural Competence

RDNs in all areas of dietetics work with diverse populations, but it is impossible to know the cultural practices of every single client that presents for treatment. Learning the skills needed to effectively obtain and apply personal information to medical nutrition therapy (MNT), in a culturally appropriate manner, requires training and practice.

There are multiple definitions of CC available from research studies addressing this topic. When it comes to healthcare, CC is the ability of an individual to personalize treatment so it is effective and of high-quality, after gaining knowledge about the beliefs, attitudes, and behaviors

of clients.⁴ Registered Dietitian Nutritionists take this into consideration to create beneficial and respectful MNT for diverse groups or individuals. The use of cookie-cutter approaches for nutrition education and counseling makes a provider appear culturally incompetent by those seeking services. As an example, providing Mediterranean diet recommendations to a client after ignoring her practice of preparing traditional Russian foods does not fulfill cultural needs.

It is important for healthcare providers to consider the factors that may influence how an individual perceives his or her symptoms and health conditions when developing CC skills. This includes when and how healthcare is sought, expectations of provided care, preferred treatment approaches, willingness and level at which to follow provided recommendations, and who is involved when making healthcare decisions.⁴ While time-consuming, learning about each client's background potentially leads to development of trust, and a strong rapport with the provider.

Cultural competence in healthcare is important because it may increase safety, effectiveness of care, and patient/client satisfaction, improve health outcomes, and decrease health disparities and cost.⁴ A small literature review and analysis of five studies related to CC and healthcare outcomes identified a direct positive relationship between patient perception of provider CC and satisfaction with care, and patients were more willing to follow recommendations and engage with providers who were perceived as more CC.⁵ When researchers applied the Global Assessment of Pediatric Safety Trigger Tool to 3,790 medical records at 16 hospitals in four regions of the US, there were higher rates of adverse events in Latino children and those with public health insurance when compared to white children and those with private insurance respectively.⁶ While the authors indicate a need for more research as to why these health-related disparities exist, they hypothesize that language barriers, and provider biases and discrimination

are possible contributors.⁶ If healthcare providers have strong CC skills, these adverse events could be prevented, resulting in improved patient safety and satisfaction, and reduced healthcare costs. Obtaining a high level of CC requires training and the desire to continue learning throughout academia and professional careers, but the best training approaches for nutrition students are unknown.

Cultural Competence Training for ACEND-Accredited Programs

The ACEND, an agency that provides national standards for curriculum development of nutrition and dietetics didactic education programs, recently updated their accreditation standards. The 2017 standard, “demonstrate an understanding of cultural competence/sensitivity,”⁷ has been upgraded to, “demonstrate an awareness of personal biases and an understanding of cultural differences, diversity, and inclusion,”⁷ and went into effect with the revised standards on June 1st, 2022. While this is a necessity to prepare students and interns for their futures as RDNs, there are no universal recommendations for how to deliver and evaluate the effectiveness of CC training. Each program develops its own curriculum and defines what constitutes CC to meet ACEND guidelines. This has the potential to create a workforce with significant variance in CC that does not match the needs of diverse populations individuals choose to work with once practicing as a RDN.

A further challenge in developing CC comes from students who have a simplistic view of CC and lack understanding about the process of obtaining this skill. For example, they may feel reading a book or having friends from cultures that are different from theirs, eating ethnic foods, and traveling abroad equates to achieving CC. During rotations, interns often show apprehension when interacting with individuals or groups of a culture different from theirs. This was demonstrated in phase one of a two-phase prospective interventional cohort study when only two

percent of 314 nursing students accurately identified their actual level of CC.⁸ Also, traveling abroad was not associated with higher levels of CC.⁸ In the United Kingdom, a prospective study with 122 first-year psychology students attending a college with a population composed of 33% international students documented no change in CC skills for 57% of subjects, and 28% experienced a downward shift.⁹ Even though this is only one study, it contributes to the evidence that development of CC goes beyond knowledge or socialization.

Literature Search

The purpose of this literature review is to identify approaches to CC training that have been used with nutrition and dietetic students, evaluate the effectiveness of these approaches, and identify gaps in CC training for this population.

A literature search to identify research studies related to CC training for nutrition and dietetics students was conducted using the OneSearch, and PubMed databases, with the terms “nutrition students” and “cultural competence” and/or “service-learning.” The last term was chosen because of its popularity in didactic programs. After refining the search using multiple filters, a total of 110 articles were identified. The PI read each abstract and chose studies that included nutrition students, originated from colleges and/or universities in the US, were published after the year 1999 (ACEND added CC to its standards in 2000), included an intervention to enhance CC, and reported outcomes related to CC. Studies were excluded if practicing RDNs were the only subjects in the target population. From the abstract review, twelve articles meeting the pre-determined criteria were reviewed in their entirety. Seven total research articles, four from the original twelve and three from one of the four were acceptable for this review. The eight that were not used failed to meet inclusion criteria.

Distance Service-Learning and Reflective Learning

Short-term study abroad programs, Facebook® instruction, and academic courses were broad approaches for CC training in nutrition and dietetics curriculum. Each of these three approaches incorporated at least one other activity in addition to classroom instruction, with the most popular being SL and reflective-learning exercises.

Service-learning involves hands-on experiences in underserved communities that relate to academic program objectives,¹⁰ and reflective-learning occurs when these experiences lead to an expanded level of knowledge and new meaning.¹¹ Three study abroad programs provided combined coursework, an international SL or observational project one-week in length, and reflective learning.¹⁰⁻¹² An interdisciplinary Haitian medical mission with two nutrition students involved 12 hours of pre-trip classroom instruction, a one-week experience providing assessments and basic nutrition education with student-created materials, and six hours of post-trip classroom instruction.¹³ Through their reflective journals, students reported improved cultural awareness and communication and counseling skills, and they learned how to collaborate with other professional disciplines.¹³ These were anecdotal outcomes, but the researcher's hope their medical mission could provide a curricular model for other programs.¹³

Two separate studies for an one-week interdisciplinary SL trip to Belize had combined objectives of developing CC and awareness, and reflective thinking skills in dietetic interns and physician's assistant doctorate students.^{10,11} Twelve students, six from each program, completed pre-trip instructional readings and activities, supervised dietetic practice in multiple community and clinical facilities abroad, and daily collaborative reflective blogs every evening during the trip.^{10,11} For the interventional qualitative study, subjects prepared a group blog every evening about the day's experiences, and two instructors analyzed the presence and frequency of

reflective elements (attending to feelings, association, integration, validation, appropriation, and outcome of reflection), and evidence of transformational learning by categorizing blogs as non-reflective, reflective, or critical reflection.¹¹ There was evidence of reflective learning with all six elements appearing in the blogs, and transformational learning occurred due to five of six blogs displaying reflection or critical reflection.¹¹ The mixed methods interventional study for the Belize trip only included the dietetic interns.¹⁰ There were not enough subjects to complete a statistical analysis, but themes from their group blog related to constructs of the CBMCC: Knowledge, Desire, Encounter, Awareness, and Skill.¹⁰ Two cultural awareness questions on the 33-item Health Professions Schools in Service to the Nation student survey, which was administered before and one-week post-trip, documented that students “strongly agreed” feeling more comfortable working with people different from them, and an increased awareness of their own biases and prejudices.¹⁰ The last study abroad immersion experience to Mexico had the objectives of improving student understanding and knowledge, and fostering discussion opportunities with their hosts.¹² Ten public health graduate students and four upper-level undergraduate nutrition students spent seven pre-trip class hours engaged in classroom activities, completed one-week of observational field visits in Mexico, and finished with a research paper and interactive poster display during a Cinco de Mayo celebration in Pennsylvania.¹² Through qualitative analysis of reflective journals, two prominent themes emerged, the importance of cultural sensitivity when caring for Mexican-American families and the perceived value of traditional foods.¹²

Local Service-Learning with Coursework

Two studies combined a local SL experience with coursework.^{14,15} The Interprofessional Community Health and Education Exchange study included five years of feedback from over

300 combined dentistry, medicine, nursing, pharmacy, and other health-care students (including nutrition) enrolled in a quarterly, ten-week elective course.¹⁴ Students spent one class session discussing the gap between their lives and the lives of the population they would be serving.¹⁴ Throughout the rest of the quarter, they spent four, five-hour blocks of time providing services to refugees, immigrants, and other underserved individuals under the supervision of a faculty member and resident physician.¹⁴ One student from each of several disciplines did the following with each client; developed rapport and understanding of his or her background, performed a thorough physical assessment, provided lifestyle advice, discussed over-the-counter medication recommendations and use, and referred for follow-up if further care was warranted.¹⁴ No statistical analysis was completed, but from end-of-course written reflections, students reported a heightened knowledge and respect for other disciplines, increased awareness of the population served, and a better understanding of mental health and socioeconomic factors that are barriers to receiving healthcare.¹⁴ Six faculty members from a college of human services and health professionals created a semester-long, nonresidential learning community for nursing, nutrition, and social work undergraduate students in the second study.¹⁵ The three-credit hour course included a 36-hour retreat at the beginning of the semester with a shared cultural dinner, three-hour classes on even numbered weeks, and a total of twenty service-learning hours at a community agency.¹⁵ Students conducted a needs assessment, completed the process of planning and implementing a children's health fair, and presented their experience.¹⁵ A total of 31 subjects from the years 2002-2005, composed of 27% nutrition students, completed a non-validated self-assessment survey at the beginning and end of the course, plus a course evaluation.¹⁵ While there was no statistically significant changes in perceived level of CC when comparing the pre-and-post survey scores, students agreed or strongly agreed that the course

increased their CC, cultural awareness, and self-awareness.¹⁵ However, subjects reported a decline in knowing what to say and how to care for people from other cultures, which the researchers contributed to possible overinflation of CC prior to the experience.¹⁵

Social Media Approaches

The last study chosen for this literature review was the only prospective, randomized-controlled trial with the objectives of developing and implementing courses and teaching materials using the Facebook® platform, and to follow changes in CC from the last semester of college thorough nine months post-graduation.¹⁶ Six universities with a total of 130 subjects from the nursing, pharmacy, and nutrition disciplines received general medical information related to different ethnicities (control) or weekly CC lessons the semester before and for a few months post-graduation (intervention).¹⁶ The Cultural Competence Scale for Pre-Graduated Students to Licensed Professionals was administered to subjects at baseline (T1), immediately after graduation (T2), and nine months post-graduation (T3).¹⁶ For both groups, there was a non-significant and significant increase in cultural knowledge and awareness respectively from T1 to T2, and T2 to T3.¹⁶ Cultural competence increased from T1 to T2, but decreased from T2 to T3 for the intervention group.¹⁶ Subjects in the intervention group self-reported the number of times they accessed the Facebook® lessons, “liked” a post or item, and “shared.”¹⁶ The browsing rate per topic, likes, and shares were as follows respectively: pre-graduate (65-75%/56%/7.8%) and post-graduate (55-65%/45%/5.6%).¹⁶ An explanation for the decline in CC and use of the Facebook® platform was having less time as professionals to engage in social media.¹⁶

A few quantitative tools were used in the above studies to measure CC, but none of these options captured the gap between an individual’s perceived and actual level of this skill. The IDI is based on the five orientations of the Intercultural Development Continuum (IDC); Denial,

Polarization, Minimization, Acceptance, and Adaptation.¹⁷ It measures IC, which is defined as “the capability to shift perspective and adapt behavior to cultural difference and commonality.”¹⁸ This differs from the earlier provided definition of CC which does not address one’s ability to change behaviors and adapt to unfamiliar cultures. Denial represents the lowest level of IC, and acceptance the highest.¹⁸ There are three outcome measurements of the IDI; Perceived Orientation (PO) (orientation individual believes he or she resides), Developmental Orientation (DO) (an individual’s primary orientation), and Orientation Gap (OG) (difference between PO and DO).¹⁸ When completing the IDI, an individualized Intercultural Development Plan (IDP) based on one’s DO score is provided to improve upon IC skills.¹⁸ The plan is composed of reflective activities when considering past experiences, and after completion of suggested experiences.¹⁸ In order to administer the IDI, including for research, one must become licensed by attending and IDI Qualifying Seminar.

Thus far, there are no nutrition-related SL studies with the IDI as a quantitative evaluation tool, but other health professions have reported its use. The two-phase study mentioned in the introduction is using the IDI to determine if the course curriculum in a two-year nursing program improves IC.⁸ From phase one, the IDI results indicated a distribution along the IDC that resembles the general population, and minority students had higher DO scores when compared to non-minority students.⁸ An interventional study with a group of six graduate students in a counseling program completed the IDI before, and three weeks after a service-learning experience at an Indian reservation.¹⁹ There were no significant changes between the pre-and-post IDI scores, but the sample size was too small to detect significance.¹⁹

Strengths and Limitations of Cultural Competence Training in Dietetics

There were many strengths present when considering the seven studies, with the main one being enhancement of CC skills, the outcome most frequently measured or reported. Many students are unable to participate in travel abroad opportunities due to time and expense. The travel abroad experiences were one-week in length and showed promise that a shorter trip could improve CC skills. Serving learning close to home was longer in length, but did not require the expense of travel, and may impact students more than distance learning because extended time spent in the community equals more experiences. Several of the studies based their curriculum and/or evaluation methods on a theory or model of CC. As an example, researchers from the Belize study compared students' reflective blogs to the CBMCC during the evaluation process.¹⁰ Course curriculum for the Haitian trip was also based on CMBCC and Kolb's Experiential Learning Models.¹³ Cultural competence models emphasize the ongoing use and development of CC skills,¹⁰ which possibly increases the chance of students enhancing their ability to apply what they learn when working with others from different cultures, after participating in CC training. Service-learning involves providing a valuable exchange between two parties, and four of these studies resulted in students enhancing their CC skills while imparting nutritional knowledge to populations that were underserved. Reflective learning in the form of blogging and journaling was present in five studies and provided a subjective view of experiences. This variety of approaches to CC training as presented from the available research provides ideas for future studies.

Overall, the homogenous representation of nutrition and dietetics subjects in all of the studies combined, mostly female and non-minorities in the age range of 18-28, limits the generalizability of results to the population of nutrition students. The inability to compare the presented studies

due to variance in methodology stands out as the most significant weakness in the literature. Even though there were three study abroad programs and each incorporated reflective learning, the measurement of CC skills differed from a detailed qualitative analysis to anecdotal reporting of results.^{10,11,13,12} Both local SL programs also included anecdotal results from reflective journals, but only one utilized a mixed methods study design.^{14,15}

Less than 50% of subjects in most studies were nutrition students, and the curriculum did not always relate to MNT and/or other important nutrition-related topics. Only one study focused solely on nutrition and dietetics students,¹⁰ and while interdisciplinary experiences are valuable, it is difficult to determine an approach to CC training and evaluation that works best for nutrition students.

Due to the small number of subjects that could participate in study abroad and SL at one time, it is difficult to have enough data for statistical significance. The Facebook® and nonresidential learning community were able to provide statistical results,^{15,16} but one of the measurement tools was not validated.¹⁵ A mixed methods study design becomes important with smaller groups of subjects because quantitative measurements provide an objective representation of CC, while qualitative data presents the subjective meaning of experiences. The Belize and nonresidential learning community studies had a mixed methods approach, allowing the researchers to provide a more detailed report of their outcomes.^{10,15}

An absence of a control group in most of these studies is another limitation that must be addressed. The FaceBook® study was the only one with a control group that received general medical education related to different ethnicities.¹⁶ When considering the lack of a control group in the remainder of the studies, one is left to wonder if a change in CC skills would be significant

when comparing subjects who participated in a SL experience to those learning through less immersive approaches.

Research Gaps

Several weaknesses in the literature mentioned above, match gaps identified in a recent narrative review of CC training and evaluation methods published by the Academy of Nutrition and Dietetics (AND). The authors of this review emphasized the need for standardizing evaluation methods of CC training, using a mixed methodology in future studies, and focusing on nutrition students rather than an interdisciplinary approach.²⁰

After completing this literature review, the PI has confirmed these gaps, plus a lack of standardization when considering approaches to develop CC skills in nutrition students.

Classroom time to develop cultural knowledge and awareness was a commonality, but actual instructional hours and content of materials are unknown. Exposure to cultural communities via provision of services existed in most of the studies with varying combinations of education, counseling, observation, and/or needs assessment. Once again, the number of hours spent within communities was not provided for several of the studies. The limited number of studies and variability of approaches provides no basis for creating standardized CC training programs for nutrition students.

The issues of having no standardized evaluation methods for CC training and lack of mixed methodology studies overlap. Given the number of nutrition students involved in studies related to the topic of CC, the ability to evaluate effectiveness of approaches is limited when utilizing one method of analysis. Anecdotal reports from reflective journals or course evaluations in three of the studies has limitations because there was no theoretical framework for CC applied or analysis of themes. Three of the studies utilized quantitative tools, however, one was not

validated and only two questions related to CC were used from another. There was only one study that had a mixed methodology design, which is more appropriate for the small sample sizes that are common with SL experiences. The smaller number of subjects usually does not allow for detection of significant changes, and qualitative to support quantitative data provides a view of undetectable changes that may have occurred.

Another challenge when identifying effective CC training approaches is the lack of focus on nutrition students. Most studies involve an interdisciplinary sample of subjects making it difficult to identify portions of the intervention that are most beneficial for nutrition students. The SL trip to Belize contained several factors the others missed; a mixed methodology study design, use of a theoretical framework when analyzing qualitative data, and inclusion of nutrition student only. As of this moment, this study should serve as an example for future studies of CC training in nutrition students.

A two-week service-learning experience in NOLA, Louisiana and self-guided assignment was utilized with a non-randomized mixed methods study design, as approaches to develop CC in nutrition and dietetics students. New Orleans provides a diverse cultural environment without requiring excessive travel and expense, and students who are unable or prefer not to travel developed CC at their own convenience. Also, as mentioned earlier, individuals tend to overestimate CC in themselves, and the use of the IDI provided awareness of this gap and an individualized reflective learning plan for improving skills.¹⁸ The itinerary and curriculum of this study could serve as a model for other nutrition programs to incorporate into their offerings, and the IDI could be used at multiple time points during attendance in a nutrition program to measure development of IC in students.

CHAPTER 2: THEORETICAL FRAMEWORK

Theoretical frameworks are created from validated theories, and provide a system of concepts or constructs that explain a phenomenon.²¹⁻²² The term model may be used instead of theory when visuals are used to describe or clarify the meaning of a phenomenon.²¹ A document describing how to use theoretical frameworks provided an exemplary comparison to the blueprint and floor plan of a house; the former provides structure and support to the research study while the later does the same for a house.²² This research study included theoretical frameworks and models as the structure, and their constructs provide support and rationale when creating the SL experience, self-guided assignment, and post-experience focus groups.

Choosing theoretical frameworks takes a significant amount of time and consideration since there is an abundance of options. When choosing the theoretical frameworks and models for this study, the PI assessed what was used in the field of nutrition and other healthcare fields, personal beliefs about CC, and alignment with study aims.

Due to the lack of measured quantitative changes in CC that was present amongst the literature review studies, the PI searched for a validated tool to fulfill the third aim of the study, which is to measure change in IC between two time points, three weeks before and three weeks after the SL experience, and at the beginning and end of the self-guided assignment. The IDI was chosen based on its repeated validation studies, theory-based framework, and the ability to provide personalized IC development plans.²³ As mentioned earlier, the IDI is based on the IDC, and the later was adapted from Milton J. Bennett's Developmental Model of Intercultural Sensitivity (DMIS), a combination of theories.

In comparison to the field of nutrition, nursing does not match the current and future projected demographics of the US since it is predominantly composed of white, non-Hispanic

females.²⁴ A recent integrative review of nursing curriculum in the US identified three dominant theoretical frameworks for CC; Leninger's Sunrise Model, Campinha-Bacote Model of Cultural Competence (CBMCC), and Jeffrey's Cultural Competence and Confidence Model.²⁴

Dr. Josephina Campinha-Bacote developed the CBMCC to guide healthcare professionals in developing CC, a vital skill when working with diverse populations.¹² The CBMCC was the only theoretical framework used in one nutrition-related research study from our literature review. During the past decade of teaching nutrition students and interns, the PI has observed and believes there is a need for CC training that prepares individuals to provide culturally appropriate services and interact comfortably with clients from unfamiliar cultures. Several assumptions of CBMCC align with this belief; development of CC is an ongoing process, as CC skills improve the ability to provide culturally-appropriate services increases, and providing effective and culturally responsive services are essential components of CC.²⁵ In addition, its five constructs match with two aims of this study, which are to develop a SL experience and identify experiences that contribute to the development of CC skills.

The Developmental Model of Intercultural Sensitivity

The Developmental Model of Intercultural Sensitivity (DMIS), a combination of constructive psychology and communications theory, is arranged into six stages with each describing how one views cultural differences as he or she experiences and engages with different cultures.²⁶⁻²⁷ These stages were developed from Bennett's academic and corporate observations of individuals as they became more competent communicating with others from cultures different from their own.²⁶⁻²⁷ As one moves from the first to sixth stage, his or her sensitivity to cultural differences increases, and ethnocentrism shifts to ethnorelativism.²⁶⁻²⁷

The six stages of the DMIS are described below with an example of what a student who participated in this research study may verbalize or comprehend when in the described stage.

Denial of Cultural Difference

Individuals in this stage are disinterested or dismissive of other cultures,²⁸ and may use terms such as “foreigners,” “Italians,” “people of color,” or “immigrants” to generalize cultures.²⁹ This type of mindset demonstrates an inability to acknowledge intercultural differences within each of these broad terms. Subjects in this stage may say, “It’s no wonder NOLA residents have such a high prevalence of obesity with all of the unhealthy food out there.” This verbalization does not consider the cultural diversity of NOLA residents and assumes most eat unhealthy foods.

Defense Against Cultural Difference

This stage surfaces as an individual being aware of cultural differences but critical towards those differences.²⁸ Reversal is a variation in which one voices different cultures as more superior than his or her own.²⁸ “These people have such unhealthy cultural foods and they are going to learn a lot from us,” is a comment a subject in this stage may say. From the reverse aspect a subject may say, “The people I met in NOLA were so friendly in comparison to my own family. I would like to move out there if I could.”

Minimization of Cultural Difference

The individual who focuses on similarities between cultures while paying less attention to differences is in the stage of minimization of cultural difference.²⁸ While having common attributes can be a positive factor when communicating with other cultures, ignoring differences leads one to assume that an acquaintance of a different culture has the same interests, practices, beliefs, etc. “I can’t wait to meet people when we go to NOLA. I’m sure they will like all of the

healthy recipes that I enjoy and will share with them” is something a subject in this stage would say.

Acceptance of Cultural Difference

Those who are in this stage want to explore differences between their own and other cultures, but are not ready to adapt their behavior when around members of different cultures.²⁸ For example, an individual who practices Catholicism may learn that those of the Lutheran religion celebrate the sign of peace via hugs during worship services. He or she is accepting of this difference but does not want to hug anyone when visiting a Lutheran service. A subject preparing to participate in this research study may ask the PI, “What can I read or watch to learn more about Creole and Cajun foods?”

Adaptation to Cultural Difference

At this stage, an individual adapts his or her behavior in an authentic manner when around members of a different culture.²⁸ The Catholic individual described above would now feel comfortable participating in the celebration of peace with hugs during a Lutheran service. “I am going to try alligator gumbo that our host is serving this afternoon even though I prefer chicken or sausage,” is an example of what a subject in this stage would say while on the SL experience.

Integration of Difference

An individual who integrates him or herself into a different culture successfully is at this highest level of cultural sensitivity.²⁸ The students who participated in the SL experience have not reached this level as related to the NOLA culture, making this stage not applicable to the targeted sample.

The Campinha-Bacote Model of Cultural Competence

The CBMCC was used as a framework in several of the studies from the literature review. Dr. Josepha Campinha-Bacote has updated the model five times over the past thirty years.²⁹ In 2018, CC was combined with cultural humility to create the term “Cultural Competemility.”²⁹ This change reflected in the figure below, acknowledges the need for individuals to have humility along with CC.²⁹

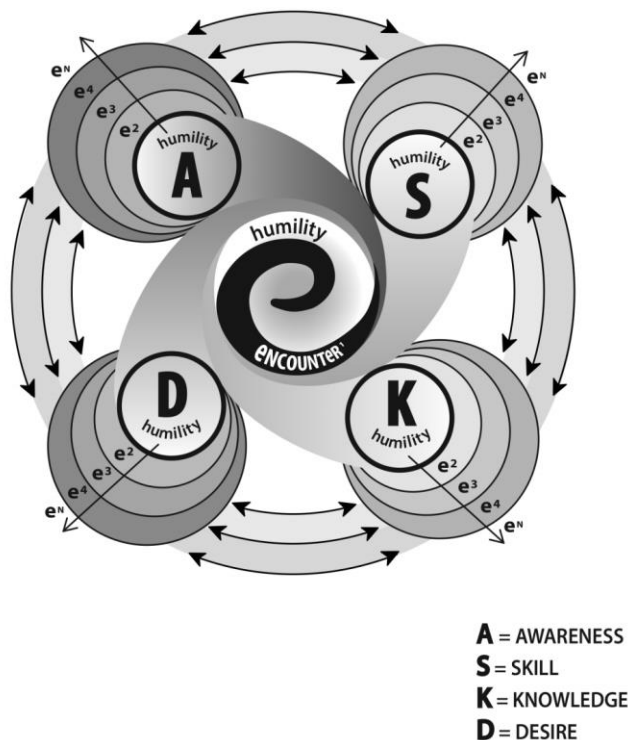


Figure 1. The Process of Cultural Competemility in the Delivery of Healthcare Services²⁹
Reproduced from Transcultural C.A.R.E. Associates with permission from Dr. Campinha-Bacote. (see Appendix A).

Cultural Awareness, Knowledge, Skill, Encounters, and Desire are the five constructs of this model that are continuously used to develop CC skills.^{25, 29} The key word is “continuous” because healthcare workers, including RD/Ns, will usually encounter unfamiliar cultures throughout their entire career. In other words, it is the achievement of applicable CC skills, and not complete CC that one should strive for. One could never be 100% competent with the

diversity that exists in the world. The five constructs of the CBMCC are described below with an example of how a student participating in the SL would experience each construct.

Cultural Awareness

Cultural awareness involves an individual identifying biases towards unknown cultures and taking the time to examine his or her own culture.^{25, 29} Asking oneself, “What ideas and beliefs do I have about other cultures that are more related to what I have heard or observed instead of taking the time to ask a person from that culture?” As an example, a subject may have “heard” that the food culture of NOLA is unhealthy, but after watching a Creole cooking demonstration that uses large amounts of fresh produce, he or she realizes the bias in this information.

Cultural Knowledge

Obtainment of cultural knowledge allows one to become more educated about the multiple facets that make an unfamiliar group similar and unique to his or her own culture.^{25, 29} This could involve reading, traveling, viewing documentaries, dining at authentic restaurants, and speaking with members of the unfamiliar culture. Oftentimes, a person considers completion of these actions to be equivalent to a high level of cultural competence, but this is usually not the case. A person could be very knowledgeable but continue to struggle with acceptance of other cultures. The students in this study had multiple opportunities to develop their knowledge base via assigned readings, guided tours, and SL experiences to name a few.

Cultural Skill

Cultural skill requires a healthcare worker to gather assessment data and provide education and counseling that is culturally appropriate to clients and patients.^{25, 29} This involves moving away from “cookie-cutter” recommendations provided to the general population and assuming that “one size fits all.” Several of the SL experiences involved creation of events and educational

materials that were culturally appropriate for the NOLA communities being served, but due to time constraints most of this was prepared by the PI. However, the students implemented the plans and applied their nutrition knowledge by modifying the provide recipes and creatively educating community members via verbal interactions.

Cultural Encounters

Cultural encounters relate to cultural skill but go a bit further with the individual changing his or her biases and learning the truth about unfamiliar cultures.^{25, 29} During the SL experience, the students engaged with the NOLA community and transitioned their pre-conceived ideas into truthful and realistic thoughts. Several students with the belief that cultural foods in the NOLA community were unhealthy discovered most individuals utilize fresh produce and whole grain sources for some of the meals they cook at home.

Cultural Desire

Lastly, an individual that achieves cultural desire looks forward to developing the other four constructs when presented with unfamiliar cultures.^{25, 29} After the experience, students in both groups expressed desire to continue learning about cultures different from their own.

For this study, the IDI and CBMCC worked together throughout the interventions which will be described in the methodology section. Our tool chosen to measure IC of subjects, the IDI, uses five stages of the IDC, arranged in order of increasing cultural sensitivity. For the IDI, the term “stage” is replaced with “orientation,” and each was renamed Denial, Polarization, Minimization, Acceptance, and Adaptation to correlate with denial of cultural difference, defense of cultural difference, minimization of cultural difference, acceptance of cultural difference, and adaptation of cultural difference respectively. These orientations make-up the IDC.

The pre-experience IDI serves as a starting point for each student to identify where he or she is and wants to be on the IDC as represented by a DO and PO score respectively. Each orientation has suggested activities that assist one in moving to the next orientation. When planning the experience and activities for the service-learning intervention, opportunities to engage in the five constructs of the CBMCC were included. As an example, when serving a hot meal to members of the NOLA Mission community, students could develop skills as described in the Table 1.

Table 1. Example of skill development during service-learning experience in New Orleans

Construct	Example of Skill Development
Cultural Awareness	Biases of homeless being unmotivated leads to realization of the multiple factors that lead to homelessness.
Cultural Knowledge	From speaking with employees and reading literature about the mission, subjects learn about health disparities and presence of chronic illness in this population.
Cultural Skill	Subjects use health disparity and chronic illness data to create culturally sensitive nutrition-related solutions to problems.
Cultural Encounter	Subjects have discussions with individuals receiving services at the NOLA mission and learn about their challenges that led to homelessness.
Cultural Desire	Subjects want to continue learning about this and other similar populations.

Since the students had different pre-experience orientations, their individual plans to improve CC focused on suggested activities that correlate with the CBMCC, while still engaging in all five constructs. Table 2 below correlates suggested activities with correlating constructs.

Table 2. Suggested activities and correlating constructs

Orientation	Suggested Activity²⁵	Correlating Construct(s)
Denial (Denial of Cultural Difference)	Exposure to art, music, literature, theater, dance, etc. of cultures that have been dismissed or shown lack of interest	Cultural knowledge
Defense (Defense of Cultural Difference)	Identify similarities between cultures	Cultural encounters Cultural awareness
Minimization (Minimization of Cultural Difference)	Identify differences between cultures	Cultural encounters Cultural awareness
Acceptance (Acceptance of Cultural Difference)	Identify more complex subjective differences such as values, behaviors, and beliefs between cultures	Cultural encounters Cultural awareness Cultural Knowledge Cultural skill
Cultural Adaptation (Adaptation to Cultural Differences)	Practice behavior when interacting with culture	Cultural encounters Cultural awareness Cultural Knowledge Cultural skill Cultural Desire

While the IDI collects objective data related to IC, reflective assignments focused on subjective data and the constructs from the CBMCC model that are developed.

Relationships Between the Theoretical Framework and Constructs

The first five stages and orientations of the DMIS and IDI respectively correspond with one another. Measured outcomes of the pre-experience IDI determined each student's DO, and the development of individual plans to reach his or her PO. During debriefing the PI explained the orientations to help control students select experiences. When creating activities for the SL experience, the PI was able to incorporate all five constructs of the CBMCC. This was

demonstrated in table 1, and when the SL schedule was finalized a thorough assessment of how each construct was present within each activity occurred.

The relationships within and between the chosen theoretical frameworks and models, made an ideal combination to achieve the research aims, which will be discussed in the next chapter. Since the DMIS and IDI match so well, references to the DMIS will not occur in upcoming chapters. Suggested skill development for each DO of the IDI corresponds well with the constructs of CBMCC. Lastly, the five constructs in the CBMCC feed on each other to develop more than one skill during each activity, and any order is possible. As an example, new knowledge of Creole culture creates awareness, which may lead to a desired encounter with members of this community; or an encounter with an individual from this community may spark a desire to seek more knowledge and an awareness of cultural practices.

CHAPTER 3: METHODOLOGY

This proposed study was a non-randomized mixed methods design in which pre-and-post IDI data provided quantitative measurements. Qualitative data was obtained via comparisons between reflective assignments and post-experience focus groups, and the CBMCC. The study intervention had three phases; preparation, SL or self-guided assignments, and post-experience focus groups. Students were recruited from the nutrition program at a small university in the Chicagoland area. A total of twenty students, ten for each study group, was desired. Participation involved a significant amount of time and commitment for the students that chose the SL experience, and a thorough application process was utilized to assess readiness of those interested. The control students who chose to participate as part of a course assignment did not have an application process. In addition, the PI worked closely with each student to develop a personalized plan for IC development through individual debriefings to explain pre-IDI results and built and updated the SL itinerary as opportunities surfaced and in the few cases where scheduled events were cancelled. The study protocol was approved by the Dominican University Institutional Review Board (IRB#128).

Study Aims

A non-randomized mixed methods design was used to evaluate the IC in nutrition students before and after a SL or self-guided experience. The IDI and post-experience focus groups served as the quantitative and qualitative arms respectively. There were three aims that served to answer the research question:

1. To develop a two-week SL experience in the NOLA area. The experience was preceded by a collaborative creation of a personalized IC development plan between the PI and each student. The control group did not participate in the SL experience.
2. To assess the impact of a SL experience on IC of students. The change in IC scores three weeks before and three weeks after the SL experience were measured by the IDI, and the control group completed the IDI at the same time intervals as the experimental group.

3. To identify experiences during the SL experience that contributed to the development of IC. The reflective assignments and post-experience focus groups were analyzed for presence of Cultural Awareness, Knowledge, Skill, Encounter, and Desire. The control group completed reflective assignments and focus groups that were conducted at the same time intervals as the experimental group.

The research question for this study was does participation in a SL experience in NOLA improve IC of nutrition students more than a self-guided approach? It is hypothesized that students will improve PO and DO scores and decrease the OG when comparing pre- to post-experience scores, and the SL experience will provide opportunities to improve CC within each construct of the CBMCC, with the experimental group having a larger improvement when compared to the control group. Table 3 shows the theory constructs and corresponding outcome measurements of this study.

Table 3. Theory constructs and corresponding outcome measurements

Theory	Corresponding Research	Data Collection	Data Analysis
Construct	Question		
Denial	Does participation in a	Intercultural Development	Wilcoxin signed-rank test
	service-learning experience	Inventory® scores:	
Defense	in New Orleans improve		Spearman's correlation
	intercultural competence of	Developmental Orientation	
Minimization	nutrition students more		
	than a self-guided	Perceived Orientation	
Acceptance	approach?		
		Orientation Gap	
Adaptation			
Cultural		Reflective journals	Theme and sub-theme analysis
Knowledge			
		Post-experience focus groups	
Cultural			
Awareness			
Cultural			
Encounter			
Cultural Desire			

Study Design

The non-randomized mixed methods design was chosen because most studies in the past relied on anecdotal evidence to report outcomes, without any quantitative support. It was important to have both quantitative and qualitative data since there may not have been enough students in either group to detect significant changes in IDI scores. Qualitative data from the focus groups and reflective assignments supported and provided a more thorough representation of quantitative data from the IDI.

For recruitment purposes, the PI conducted orientations that included a description of the SL and self-guided experiences for a brief amount of time at the beginning of three nutrition courses in which she is the instructor. Instructors of the courses that were not taught by the PI provided the same information. An application and selection process occurred to select students for the SL experience. The PI intended to have an informative group seminar two weeks before departure to prepare students for the NOLA experience and meet each other in-person, but this was not possible with conflicting schedules. Instead, pre-preparation for the SL experience included completion of the IDI and development of a personalized IDI plan with finalized information about the trip, during a one-on-one Zoom® debriefing with the PI. This was followed by a two-week SL experience in the city of NOLA and Vacherie, Louisiana, with students participating in multiple activities and completing daily reflective assignments for designated activities and events. Three weeks after the SL experience, students completed the IDI and participated in a

focus group, which occurred on the Zoom® platform. A schedule of experiences with locations during the two-week SL experience can be found in Appendix B. The control group students also had one-on-one debriefings via Zoom®, independently chose three activities to improve, CC and completed reflective assignments. Students participating in the control group were exempt from an assignment of similar length and purpose from the class curriculum.

Study Participants

The population of interest for this study included nutrition students and interns from the Dominican University (DU) program in River Forest, Illinois, which is approved by ACEND. If there were not enough subjects from this university, the PI had planned on contacting nutrition instructors from other ACEND-approved programs for recruitment.

Inclusion criteria for both control and experimental students was junior or senior undergraduate status pursuing a bachelor of science in nutrition or certificate student or dietetic intern, overall and nutrition grade point average (GPA) at or above 2.5 and 3.0 respectively after completing fall of 2021 semester, intent to participate in all data collection methods as will be described later in this section, and ability to meet financial obligations that remain after provided resources are exhausted if participating in the SL experience. Exclusion criteria included subjects who were not junior or senior undergraduate status pursuing a bachelor of science in nutrition or certificate student or dietetic intern, overall and nutrition GPA less than 2.5 and 3.0 respectively after completing the fall 2021 semester, unwillingness to participate in all data collection methods as will be described later in this section, and inability to meet financial obligations that remain after provided resources are exhausted if participating in the SL experience.

Nutrition students and interns were the population of interest because they have had more nutrition-related courses, and more time to determine if this is his or her desired career of the

future, when compared to freshmen and sophomores. Students are required to complete service hours within the community to fulfill program standards, and the SL opportunity fulfills and exceeds this expectation. The PI intends to develop a standardized SL experience for ACEND programs from this experience, which was another reason for focusing on this population.

A minimum total of eight students for both groups and maximum of 10 was desired for the SL experience, while no limit was placed on the maximum for control group participants. The minimum and maximum numbers are likely too small for a power calculation. These numbers were chosen because past studies included six or less subjects from nutrition programs. Having a few more subjects beyond the minimum would have increased the likelihood of meeting this goal if a subject dropped out of the study. Large groups are more difficult with SL since the PI needs to provide guidance to each subject, and members of the served communities may feel overwhelmed in their personal space if incoming groups are large. Since this was a newly developed experience, the smaller group was more ideal, and the PI was able to thoroughly assess the effectiveness of the schedule.

To generate interest in the SL experience and self-guided IC development, the PI created a flier for distribution as shown in Appendix C. This was emailed to all students in the program through their campus accounts in January of 2022 and serves as an example of convenience sampling since the PI had access to the population of interest as an employee of DU. The PI briefly provided details about the purpose of the study and methodology at the beginning of each of three nutrition courses one week after fliers were distributed to students, and instructors in the courses not taught by the instructor did the same. Students that were interested in participating were sent a packet of information with a brief background of the study, a description of the methodology and participant expectations, and further resources to access. Depending on their

interest, students received packets for the control or experimental or both. Copies of the packet are found in Appendix D. Two of the briefings were completed on Zoom and one in the classroom on campus by the PI, while the others varied depending on instructor's mode of curriculum delivery.

Students who were interested in participating were sent a consent form (Appendix E) and demographic data collection sheet (Appendix F), and those choosing the SL experience also received the application form (Appendix G). There was a written portion in which subjects addressed why they wanted to participate in the SL experience, what they hope to contribute to the communities selected to receive services, and their plan for improving their IC skills. The PI thoroughly read each application, confirmed academic status and graduation dates, and spoke with provided references to decide who was a candidate to attend the SL experience. Control group students did not have to complete an application.

Intervention

The study was divided into three phases, preparation, service-learning or self-guided assignments, and post-experience.

Preparation

The preparation phase started for the control group at the beginning of February 2022. Students were emailed a link to complete the IDI within three days of its receipt. Once completed, the instructor contacted each student to schedule a 60-minute debriefing to explain the results of the IDI and expectations. They were instructed to complete a reflective assignment for pre-and-post impressions of IDI results and each of the three self-selected activities to improve their IC skills. Ideas for activities were provided by the IDP. Reflective assignments can be found in the informational packets (Appendix D). Experimental group students followed the same process

three weeks before leaving, except they did not select activities. Instead, they were informed of activities they would be required to complete a reflective assignment while on the SL trip.

Prompting questions for each assignment were provided in the informational packet (Appendix D).

Self-Guided and SL Experiences

Control group students had a time frame of six weeks to complete their activities and reflective assignments, which were emailed to the PI by the end of the seventh week following their one-on-one sessions. Experimental group subjects arrived in NOLA on May 15th, 2022, and departed anytime between May 28-29th, 2022. The schedule is found in Appendix B.

The subjects toured the Whitney and St. Joseph plantations in Vacherie, Louisiana on the first day after arrival. This experience had multiple objectives with the main ones being assessment of how our current environment of inequity between cultural groups compares to what occurred during slavery, analyzing why these inequities still exist, and propose how one will contribute to a more equitable environment.

On May 21st, the subjects participated in an educational cooking demonstration at the Southern Food and Beverage Museum in the mid-city neighborhood of New Orleans. Subjects worked in pairs to demonstrate the preparation of a traditional southern recipe that had been slightly modified. They also provided education about the healthy aspects of traditional southern foods and how this can be related to the Dietary Guidelines for Americans (DGAs). Some main objectives of this experience were to demonstrate preparation of modified recipes that maintain cultural expectations while enhancing the health profile, translate recommendations of the DGAs and MyPlate during their demonstration, and continue the education process through interactive activities at booths throughout the museum.

Other experiences included serving hot and bagged meals to the homeless community, distributing food to low-income individuals at a local food pantry, provided nutrition education handouts during a health fair at the Louisiana Children's Museum, a tour of the Treme neighborhood with an African American company, and visits to several museums.

Post-Experience.

Students in the control group were sent a link to complete the post-IDI at the beginning of the eighth week following the initiation of the study after their five reflective assignments were submitted, attended a focus group. Three weeks after returning from NOLA, students completed the IDI and a focus group. The purpose of the experimental focus groups was to provide data supporting the reflective assignments, and obtain information related to their impression of the experience. Control focus groups concentrated on how subjects developed their IC skills using the personalized plan and their impressions of the experience. Experimental students that were available participated in a round table discussion during a presentation by the PI at a campus event in September of 2022. Interview guides for both groups are found in Appendix H.

Data Collection

Age, gender identity, race, ethnicity, and academic status are the demographic data that was collected by the brief survey. Age is a scale measurement, and the rest of the data is categorical in nature.

There are three outcome measurements or dependent variables of the IDI. Perceived Orientation (PO) represents the orientation the student believes he or she resides, Developmental Orientation (DO) is the student's primary orientation, and Orientation Gap (OG) measures the difference between PO and DO.¹⁸ Perceived orientation and DO are continuous interval measures that correlate with the orientations: 55-69.9 (Denial), 70-84.9 (Polarization), 85-114.9

(Minimization), 115-129.9 (Acceptance), and 130-145 (Adaptation).¹⁸ The OG is also a continuous interval measurement representing the discrepancy between a subject's beliefs and reality.¹⁸

Evidence of experiences that develop cultural IC, based on the constructs of the CBMCC, were identified from the reflective assignments completed by students and the post-experience focus groups. This data is qualitative in nature and was organized into themes and sub-themes.

Data collection occurred at three time points. At week one or three weeks before the SL experience departed for the control and experimental groups respectively, the PI administered the IDI to students. Reflective journal assignments were collected from control students at the beginning of the seventh week following pre-IDI completion and at the conclusion of SL for experimental students. Students in the control group completed the post-IDI and focus groups around the seventh to eighth week after pre-IDI. Three weeks after returning from the SL experience, students completed post-IDI and participated in a focus group. The total time frame for data collection was about 5 months, from February to June of 2022.

The IDI is a validated 50-item online questionnaire based on the five constructs of the IDC; denial, polarization, minimization, acceptance, and adaptation.¹⁸ Over the past two decades, this tool has undergone three phases of validity and reliability testing with positive outcomes.

In 2003, phase one, the current 50-item IDI was created from a preliminary 60-item questionnaire.³⁰ A confirmatory factor analysis from 591 respondents established validity and reliability, and the use of five orientations was found to be superior to Bennett's DMIS.³⁰ Phase two incorporated a larger response of 4,763 subjects of 11 distinct cross-cultural samples.³¹ Strong content and construct validity was established across all cultural groups, a factor analysis

confirmed the appropriateness of the orientations, and there was strong support for use of the PO and DO scales.³¹

Phase three analysis was performed by an outside company, ACS Ventures, LLC.³² This comprehensive study involved 150, 577 and 67,534 respondents from educational and organizational facilities respectively, from a wide range of national and international cultural communities.³² The results confirmed a lack of cultural bias from a differential item function analysis, cross cultural reliability, conceptual structure validity, and scale/item validity across all demographic factors of gender, ethnicity, age, education level, country, and position in organization.³²

The reflective assignments served as instruments to collect qualitative data. Appendices D and H provide reflective assignment and focus group questions. When analyzing the reflective assignments, two qualified reviewers and the PI identified themes and sub-themes to prevent biased results.

Data Analysis

Due to the amount of supervision needed for each subject in a SL experience, the sample size was limited to a minimum of eight and maximum of ten, while no maximum limit was established for the control. In both groups students signed a consent form agreeing to complete the pre-and-post IDIs, reflective assignments, and focus groups. If an IDI score is missing, that student's data must be excluded from the results to prevent misrepresentation.

The first quantitative analysis compared pre-and-post experience PO, DO, and OG for differences in mean scores with the Wilcoxon signed-rank test within and between the experimental and control groups. This type of statistical test is appropriate for use when two measurements are collected for subjects, and the data are likely to have an abnormal distribution

due to the small sample size. The quantitative analysis tests for relationships between the independent and dependent variables was performed using multiple linear regression, due to dependent variables being interval measures. Relationships between ethnicity/race and all dependent variables, and status of subjects and all dependent variables was reported for the population using Spearman's correlation. The most recent version of the IBM® SPSS software was used to analyze the data.

Students submitted reflective assignments to the PI at the beginning of the seventh week following pre-IDI completion or at the conclusion of SL. A thorough analytical process by the PI and two reviewers started with reading through each submitted blog without taking notes to absorb the information. Next, repetitive words and phrases were underlined during a second reading. For the third reading, underlined data was color-coded according to the themes. Sub-themes within the themes were identified with notes in the margins for supporting quotes. Lastly, relationships between themes and sub-themes were identified from which a table of each construct and examples of experiences summarized the data.

The PI recorded post-experience focus groups using Zoom®. Each of the three nutrition classes had a virtual focus group, and students completing the SL experience attended one of two offered virtual focus group. The analysis process started for the PI and reviewers by reading through each printed transcript from the Zoom® platform without taking notes to absorb the information. Since printed transcripts from Zoom® had questionable portions that do not make sense or seem to be missing, the recorded version was played to make corrections to the printed version. A second round of listening and comparing to the printed version occurred for confirmation.

After preparing the transcribed data, four further reviews for analysis were completed. During the first review, repetitive words and phrases were underlined with a black pen. For the second review, the underlined data was color-coded according to identified themes. Next, sub-themes were identified within the themes and noted in the margins of the transcript along with quotes for support. Lastly, relationships between themes and sub-themes were identified using an in-depth table along with the frequency at which each appeared in the transcript. For the reflective assignments and focus groups, individual findings were discussed and agreeable consensus regarding identified themes and sub-themes was reached.

Chapter 4: Results

Twenty students enrolled in the control group and 18 completed the study. One student had to withdraw from the course in which participation was a chosen assignment and did not wish to continue, while the second was a nursing student that completed the study, but her results were not included. Fourteen students committed to the NOLA trip with nine completing the full experience and two attending one week or less due to events in Chicago that did not allow for two weeks in NOLA. Prior to the due date for submitting a down payment, two students had to withdraw for financial reasons.

Demographics

The 18 students in the control group ranged in age from 20 – 37 years, and nine students in the experimental group 21-34 years. Data for the two students who completed one week or less in NOLA was not included. Table 4 provides the demographic characteristics of both groups. The median age of the control group ($Mdn = 22.5$) did not differ substantially from the experimental group ($Mdn = 25.0$, $U = 68.00$, $z = -6.74$, $p = .500$, $r = -1.31$). A slightly lower ratio of males to females was present in the control group when compared to experimental. Both groups had higher ratios of undergraduate and/or certificate students than dietetic interns and/or graduate students. Less than half of the students in the control group were of non-white ethnicities, while the opposite was true for the experimental.

Table 4: Demographic characteristics of students

Characteristics	Control	
	Experimental	Control
	(n=18)	(n = 9)
	Mean (Median) or Frequency	Mean (Median) or Frequency
	(%)	(%)
Age	24.8 (22.5)*	25.9 (25)*
Gender identity		
Male	3 (16.7)	2 (22.2)
Female	15 (83.3)	7 (77.8)
Academic status		
Sophomore undergraduate	1 (5.6)	0 (0)
Junior undergraduate	5 (27.8)	1 (11.1)
Senior undergraduate	2 (11.1)	4 (44.4)
Nutrition certificate	4 (22.2)	2 (22.2)
Intern/non-graduate school	3 (16.7)	0 (0)
Intern/graduate school	3 (16.7)	2 (22.2)
Ethnicity		
Black or African American	1 (5.6)	1 (11.1)
Hispanic/Latino	3 (16.7)	2 (22.2)
Asian	2 (11.1)	1 (11.1)
Middle eastern/north	2 (11.1)	0 (0)

African

White	10 (55.6)	4 (44.4)
Other	0 (0)	1 (11.1)

* $p < .05$.

IDI Statistics

Table 5 shows the results of the IDI scores. For the control group, a Wilcoxin Signed-Ranks test indicated post-IDI DO scores were substantially higher after the self-guided experience (Mdn. = 101.5) than before the self-guided experience (Mdn = 85.3), $z = -2.59$ $p = .010$, $r = -.61$. Post-IDI PO scores were substantially higher after the self-guided experience (Mdn. = 124.4) than before the self-guided experience (Mdn = 119.9), $z = -2.55$ $p = .011$, $r = -.60$, and post-IDI OG scores were substantially lower after the self-guided experience (Mdn. = 33.1) than before the self-guided experience (Mdn = 25.1), $z = -2.50$ $p = .012$, $r = -.59$. Regarding the experimental group, post-IDI DO scores were substantially higher after the service-learning experience (Mdn. = 99.4) than before the service-learning experience (Mdn = 91.8), $z = -2.07$ $p = .038$, $r = -.69$, post-IDI PO Scores were not substantially higher after the service-learning experience (Mdn. = 124.3) than before the service-learning experience (Mdn = 120), $z = -1.73$ $p = .083$, $r = -.58$, and post-IDI OG scores were not substantially lower after the service-learning experience (Mdn. = 24.9) than before the service-learning experience (Mdn = 28.7), $z = -1.48$ $p = .139$, $r = -.49$.

When comparing the control and experimental groups, a Wilcoxin Signed-Ranks test indicated that the pre-DO scores in the control group (Mdn = 85.32) did not differ substantially from the experimental group ((Mdn = 91.79), $U = 71.00$, $z = -.514$, $p = .607$, $r = -.10$), post-DO scores in the control group (Mdn = 101.46) did not differ substantially from the experimental group (Mdn = 99.41), $U = 80.00$, $z = -.051$, $p = .959$, $r = -.01$), pre-PO scores in the control

group (Mdn = 119.89) did not differ substantially from the experimental group (Mdn = 120.03), $U = 72.00$, $z = -.463$, $p = .643$, $r = -.09$), post-PO scores in the control group (Mdn = 124.41) did not differ substantially from the experimental group (Mdn = 124.31), $U = 76.00$, $z = -.257$, $p = .797$, $r = -.05$), pre-OG scores in the control group (Mdn = 33.11) did not differ substantially from the experimental group (Mdn = 28.68), $U = 75.00$, $z = -.309$, $p = .758$, $r = -.06$), and post-OG scores in the control group (Mdn = 25.13) did not differ substantially from the experimental group (Mdn = 24.9), $U = 75.00$, $z = -.309$, $p = .758$, $r = -.06$).

Table 5: Wilcoxin Signed Ranks results of IDI scores

Score	Control Pre Mean (Median)	Control Post Mean (Median)	Experimental Pre Mean (Median)	Experimental Post Mean (Median)
DO	89.8 (85.3)	100.3 (101.5)	91.7 (91.8)	100.8 (99.4)
p-value*	.010	.010	.038	.038
PO	120.7 (119.9)	124.6 (124.4)	121.3 (120)	125.2 (124.3)
p-value*	.011	.011	.083	.083
OG	30.8 (33.1)	25.1 (25.1)	29.6 (28.7)	24.3 (24.9)
p-value*	.012	.012	.139	.139

* $p < .05$.

The percentage of control and experimental students in each orientation for pre-and-post DO and PO scores is provided in Figures 2 and 3. With pre-DO scores, the control group resided within all but the adaptation orientation, and experimental individuals only polarization and

minimization. When considering post-DO scores, both groups fell into the polarization, minimization, and acceptance orientations.

Figure 2: IDI Orientations of control group students

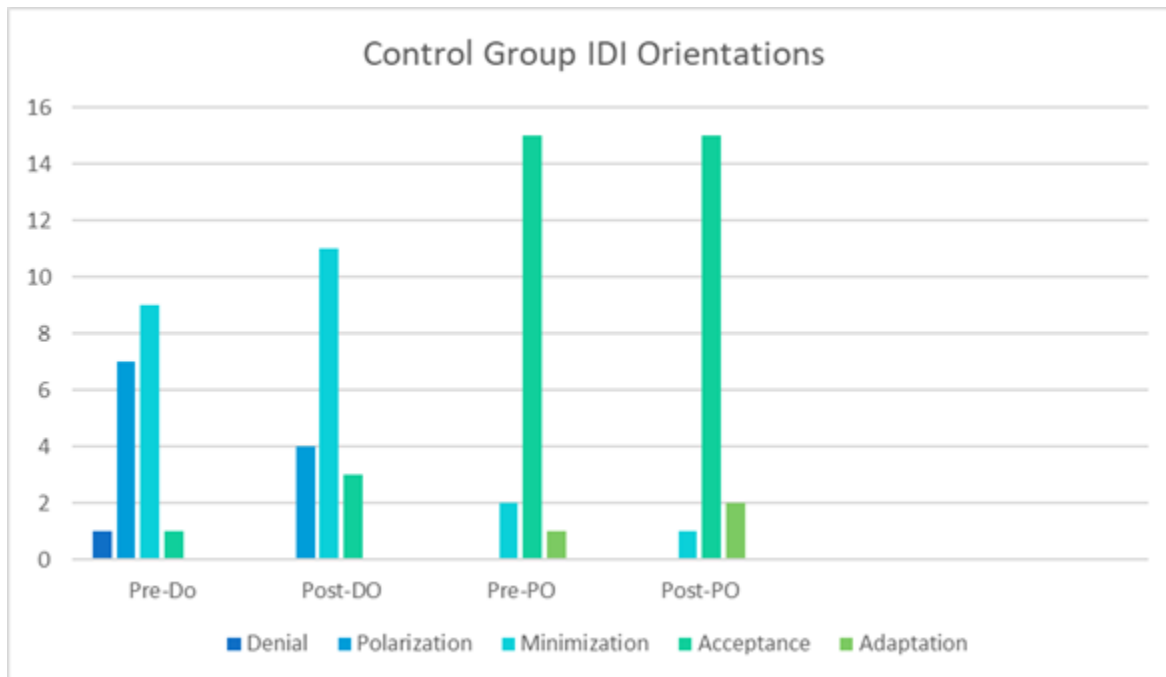
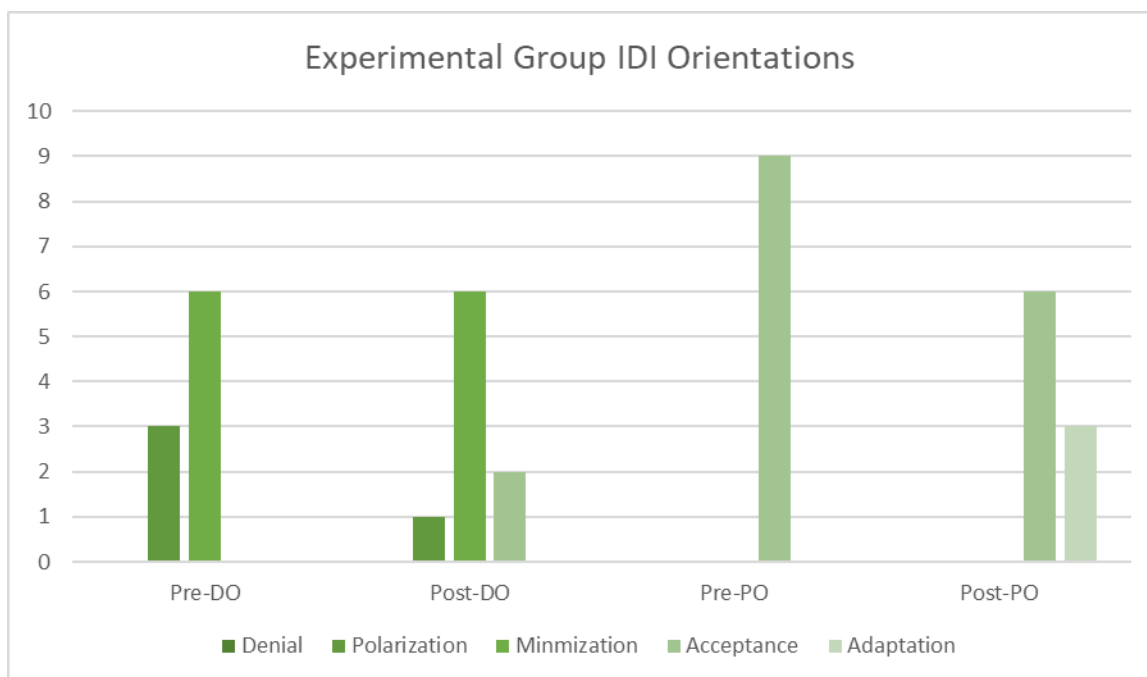


Figure 3: IDI Orientations of experimental group students



Correlations between ethnicity and IDI scores, and academic status and IDI scores were tested with Spearman's test. There was a weak negative relationship between ethnicity and post-DO, post-PO, pre-OG, and post-OG scores, but none of these relationships were significant. For academic status, weak relationships were observed with all scores, and all were negative except for pre-OG. None of these relationships were significant. Table 6 displays the correlation results.

Table 6: Spearman's correlations for ethnicity and academic status

Score	Ethnicity			
	Academic Status			
	Spearman's	p-value*	Spearman's	p-value*
Pre-DO	.151	.699	-.354	.350
Post-DO	-.371	.326	-.461	.212
Pre-PO	-.140	.719	-.449	.226
Post-PO	-.400	.286	-.491	.180
Pre-OG	-.279	.467	.290	.449
Post-OG	.347	.360	-.436	.241

*Correlation is significant at .01.

Qualitative Findings

From reflective journals, student impressions of their test results, evidence of IC skill development, personal impact of the experiences, and future career applications were addressed. The focus groups that occurred after collecting reflective journals provided insight as to why students chose to participate, suggestions for improvement, and confirmed themes identified in the journals. Three focus groups for the control group were attended by four, seven, and five

students, and the two experimental focus groups contained six and two students. For the control group, one student's reflective submissions were eliminated because they did not follow the study protocol, and two different students were absent from the focus groups. In the experimental group, one student only submitted one required reflection and a different student was absent from the focus group. Scheduling issues were expressed by the students that did not attend the focus groups. For the student that did not submit the remainder of their reflective journals, three attempts were made by the PI to collect this information without a response. The identifier for each quote is as follows: First letter designates if student was in the control (C) or experimental group (E), the first number following the letter of a control group student identifies their course (3 = Nutrition 345, 4 = Nutrition 425, 5 = Nutrition 509), the second number of a control group student is their individual assigned number. For experimental students, the number following their first letter is their individual assigned number.

When asked what led to their decision to participate in this study, learning one's level of IC was the most common response from control group students. Other shared influences were the desire to participate in a research study and help the PI, an opportunity to learn about other cultures, and being unable to or uninterested in traveling to NOLA. Based on the research debriefing materials, student expectations before taking the IDI and completing activities were not always fulfilled. This was positive for those who were under the impression that activities would be time-consuming and survey-based, and when they planned complete certain activities but embarked upon other more interesting offerings. Many students were disappointed due to pre-IDJ results being lower than expected, and a few had no expectations. Only two students expected personal growth to occur.

The two most mentioned reasons for choosing the NOLA experience were never having been to NOLA and taking a trip with classmates with who they mostly interacted with on the internet. In addition, obtaining more experience and interest in the community area of the nutrition field, learning a new culture, eating unfamiliar foods, and never studying abroad were other influences. When addressing their pre-trip expectations, some students had assumed free time and group interaction at activities would be scarce, and an awkward living environment since they did not know each other well. Two students endorsed having no expectations. A majority felt the trip exceeded their original expectations and after a few days living together they were very comfortable around each other.

Pre-IDI Reflections

The control and experimental groups completed reflections after receiving the pre-and-post IDI results. When the control group described how they felt after receiving pre-IDI results, students fell into one of four categories, positive, negative, doubtful, or neutral. More than half of the students expressed positive feelings about their results, about one-third were doubtful that their DO was accurately identified, three had a negative view, and one was neutral. Most of the students were guided by descriptions of IDI orientations when describing how they felt. Students in the experimental group fell into one of two categories, negative or neutral. None of the students expressed positive feelings about their results, and most were neutral in the sense that the feelings they described had no positive or negative connotations. A few admitted to a lack of experiences with other cultures, making the results more acceptable. Table 7 contains a description of each category with supporting quotes.

Table 7: Description of student feelings about results and supporting quotes

Category	Description	Supporting Quote
Positive	Expressed positive feelings about self or results	“I felt proud of where I placed on the continuum especially since I try to have an awareness of myself and the cultural differences of others.” C31
Negative	Expressed negative feelings about self or results	“I felt bad hearing those results, like I wasn’t doing the best I could and will be considered racist or culturally incompetent.” C32
Doubtful	Question accuracy of IDI	“Development orientation score indicates that I have a defensive view on my culture which creates a them vs us perspective. I was surprised to get these results because I do not feel it is accurate. I work and associate with multiple different cultures and don’t usually find myself with that viewpoint.” C41
Neutral	Only describes orientations or no negativity/positivity	“But overall, I do not have too much real-life experience engaging with different cultures making these results not too surprising.” E1

The quantitative results supported 100% of the students in both groups overestimated their IC. When reflecting on the accuracy of their pre-IDI results, over half of the control students agreed, four disagreed and two were mixed by agreeing and disagreeing with the listed qualities of their DO. Those that solely agreed compared their DO to those quality characteristics and did not mention PO. If students solely disagreed, they tended to compare themselves to their PO and DO. As an example, a student with a PO in acceptance and DO in minimization highlighted how they felt they had the qualities of a person in acceptance and did not have the characteristics of their DO. Only one student who disagreed with her results felt it was due to taking the IDI too quickly and being confused about the context of the statements. None of the students in the experimental group expressed disbelief about their results in comparison to the control group.

Several themes emerged when control group students provided rationale to support or dispute their results: being non-judgmental, accepting of others, engaging in cultural interactions, showing respect towards different cultures, and having an awareness of similarities/differences between their and other cultures. Engaging in cultural interactions was mentioned the most, and this included having friends from different cultures, international travel and residence, and attending events hosted by different cultures. For awareness, differences were mentioned more often than similarities. About 75% of students felt that their DO was in the acceptance orientation and the remainder was divided between minimization and adaptation. No one felt they were in Denial or Polarization.

“I had placed myself in the Acceptance orientation. However, I had perceived it as simply being accepting of other cultures/their practices. I did not realize this meant more than just recognizing the culture, but to also appreciate cultural differences and recognizing commonalities between said culture and your own.” C51

“This experience living abroad definitely enhanced my capability to adapt to cultural differences, understand my behaviors on a deeper level, and how I interact and understand other cultures.” C31

“I don’t have the same relationship with my culture that many other Americans do with theirs. Most other ethnicities have knowledge of what country their ancestors originated from, the foods they ate, their music, and what native language they spoke. As anmuch of my ancestor’s knowledge and culture was beaten and abused out of them, leaving me with no idea of what country my ancestors originated from. This is likely where my low DO score came from.” C33

Planned and completed activities

While the experimental group had a planned itinerary of activities to develop IC, the control group chose their approach. Most of the students selected activities that were knowledge-based and did not require interactions with others. Some examples included culturally based reading or listening materials (books, articles, podcasts, audiobooks, research, online training), IDI reflective activities, movies/television, presentations, events, restaurants, and local travel. For the movies/television categories, several fictional sources were chosen in the form of Disney™ movies.

When face-to-face activities occurred, most were passive, meaning students were present but did not speak with others in an engaging manner or ask questions. There were several activities with the potential for face-to-face interactions, but due to there being no mention of conversations occurring, these were considered passive events. This included attending a presentation, music concert, church service and visiting an Amish town. Regarding rationale for

choice, personal growth of knowledge/awareness was mentioned most frequently, followed by convenience, strategic benefits, enjoyment, and the pandemic.

When examining how many students completed what they intended, about half decided to complete activities different from intended. Several of the students that planned on doing activities that were not face-to-face interactions ended up doing more interactive activities. Prior to the trip, students in the experimental group planned on exploring local areas during free time, interacting with local people, completing IDI provided activities, and going to art museums. In their reflective journals that addressed free-time activities, exploration of local areas through walking several of the neighborhoods, conversing with community members, attending a block party, and dining at restaurants were fulfilled. They did not engage in IDI-provided activities or visit museums.

Constructs of the Campinha-Bacote Model (control group)

Knowledge was the most common construct of the model that was demonstrated through the activities of the control group, followed by desire, encounters, awareness, and skill. A common combination was knowledge and desire with each activity including two to three constructs. Only one student completed an activity that contained all five constructs. Forty-seven reflective journals were submitted with each including the following: a description of the activity, how the activity improved IC skills, and the activities contribution to future as a professional in the field of dietetics. Table 8 summarizes the number of activities completed and a sampling of completed activities for each construct.

Knowledge

The activities in which knowledge was obtained fell into the categories of food/food prep of a specific culture, self-awareness, “messages,” multiple factors about a specific culture, and

applications. Some activities focused solely on food, but activities in which multiple factors about a specific culture were present was the most popular category, and students learned about cultural foods, values, dress, holidays, and/or religion within one activity. Self-awareness activities helped students learn about biases/stereotypes they had but never acknowledged and/or were not aware of, noticing similarities and differences between their own and other cultures, and family history they never researched until agreeing to participate in this study.

Applications included attainment of tools and/or information to help increase intercultural competence through their use in academics and future professions such as models of cultural competence, advice for behaving in diverse environments and communicating with other business professionals from different cultures. One example was from a student who attended a work conference with attendees of various cultures. They applied paraphrasing tactics instead of asking people to repeat what was said when communicating within the group to ensure they understood what was said, instead of pretending to understand out of fear of being disrespectful. Messages were not mentioned much but did not fit into any of the other categories. These were basic and included understanding the importance of family and respect for elders. It was quite common for students to watch fictional media such as Disney movies that intertwine culture within a fairy tale.

“This activity improved my intercultural competence skills because it helped me learn about the versatility about a single culture. It also helped me realize that what we think of stereotypically about a single culture is not necessarily true.” C34

“I thought I learned quite a bit, and it really can help me with my intercultural competence. Another way that I feel I can improve my skills is just through interacting

with people. You learn so many new things every day, and for me personally, when I talk to others about anything, I always learn something new, and I feel like it helps to build on my foundation.” C42

Cultural Desire

Knowledge was combined with desire more often than skill, awareness, and encounters. When looking at what students desired to continue after completing activities encounters were mentioned the most, followed by skill, knowledge, and awareness. A common occurrence was students expressing a desire to compare what they learned from books, documentaries, and other materials to actual cultural values, beliefs, and practices while having future encounters.

“I think this experience has made me aware of how important self-initiated continual education is. There aren’t continual education hours to complete as an RDN for multicultural topics. However, I need to take it upon myself, especially if I am working with a diverse client/patient base, to read/educate myself/ask questions and reflect on what I’ve learned. I think this exercise made me hungry to learn more about more cultures.” C52

Cultural Encounters

Based on the reflections of activities that included encounters, it was not always known if actual conversations occurred between a student and an individual of a different culture. For students that spoke with individuals, it was obvious conversation took place, but with the attendance at presentations, the music concert, church, and restaurants there was no mention of interactions occurring.

“Interacting with people coming to the market was very cool though, because people of all different cultures showed up to take items that they wanted/needed.” C42

“One of our groupmates was from { } and her accent was difficult for me and my groupmates to understand. I did not want to insult her or offend her by asking her to repeat herself multiple times, so I did my best to listen to what she was saying and then I would repeat back what she said. I learned this technique from my Nutrition and Dietetics education.” C53

Cultural Awareness

There were two categories as to what students obtained as far as awareness, personal and systemic, and very few fell into the personal category which relates to self-recognition of biases/stereotypes towards cultures different from their own. Most of the students mentioned systemic awareness, which related to recognizing how the environment of our nation and world have repressed those that are not a part of the majority. Many terms such as marginalization, racism, challenges, inequities, discrimination, misrepresentation by the media, and stigmas were used to describe this repression.

“This experience helped improve my intercultural competence by acknowledging differences between cultures and being okay with feeling a bit uncomfortable at first. The goal is to remain respectful and learn from the experience.” C51

“Instead of viewing people as equals, I can see that some people may need greater resources or different kinds of resources to come to the same understanding as others. Although everyone is deserving of understanding nutrition labels, current systems may be limiting in the accomplishment of this goal due to differences among cultures or age or gender.” C35

“I think this reflects what I learned from completing the assignments during this project. I learned that stereotypes about a culture do not reflect that culture because there are sub-

cultures inside of each culture and in addition to that all people have their own ways of practicing their culture.” C34

“It is okay if one culture behaves in a way that seems restricting or self-harming in my opinion and I need to learn that. Some cultures may view my culture the same way even though I don’t see it that way, it is okay to respect other’s differences and let people be.”

C33

Cultural Skill

The two activities representing this construct took place at food pantries, and the four remaining constructs were incorporated within each. For the activity in which a student prepared a presentation and educational materials for a group of middle-aged women from Puerto Rico, they obtained more food-related knowledge, interacted with the group members, became aware of inaccuracies in how foods of this culture are portrayed from a health standpoint, and expressed a desire to continue similar activities in the future. A second student volunteering at a campus food pantry learned more about how the organization helps students, became more aware of similarities and differences between themselves and clients using the pantry, interacted with clients picking up food, and felt a desire to provide better care for this population in the future.

“I had to make sure to provide common Hispanic starchy foods that are eaten frequently, not standard American starchy and high carbohydrate foods. We also made sure to phrase our presentation that did not give any indication of good or bad foods as this is prevalent when talking about certain types of foods, especially with carbohydrates. We also made sure to translate all handouts to Spanish and allowed enough time for the translator (our professor) to translate throughout the presentation.” C54

Table 8: Examples of activities chosen by control group for each construct of the CBMCC

Construct	Number	Examples of Activities
of		
Activities		
Knowledge	46	Ate meal at Asian restaurant; watched “Salt, Fat, Acid, Heat” and “Taste the Nation” documentaries; created presentation for Puerto Rican population at food pantry; watched “Encanto” (fictional Disney® movie); read article about how Polish culture is helping Ukrainian community; attended online course for neutral methods to behave within an unfamiliar cultural setting; listened to audiobook about the misrepresentation of Muslim women in the media; engaged in conversation with friend from India; studied power points covering cultural competence skills; attended church service different from personal faith; completed reflective IDI activity addressing teamwork; visited Amish city in Indiana
Desire	39	Learned about family history via discussion with grandmother (expressed desire to learn more through future encounters); researched preferred education approaches and understanding/usage of food labels by different cultures (expressed desire for future skill development, knowledge, and encounters); watched two films about the deaf population (expressed desire for future encounters and skill development working with this population)
Encounters	16	Presented nutrition education class along with interpreters to group of

Puerta Rican women at food pantry; spoke with community workers to learn about racism experienced by individuals that do not speak English; attended work conference with diverse group of students and collaborated on assigned project; participated in apartment board meeting which involved interaction with individuals from a different culture

Awareness	15	Read book “The Hate You Give” which illustrated how people of different cultures experience injustices; after watching a film about an unfamiliar culture, recognized personal “unexplained judgement”; watched a TV series from the early 2000s and became more aware of racism experienced by the represented cultural group
Skill	2	Created and presented nutrition education class for Puerto Rican women at food pantry; distributed food at campus food pantry and developed recipes for attendees served

Constructs of the CBMCC (experimental group)

The itinerary for the SL trip contained activities with the potential to develop IC within all constructs of the CBMCC. The reflective journals from the experimental group supported inclusion of four to five constructs in each planned activity. Table 8 provides a summary of the constructs present during each experience on the trip using quoted text from reflective journals.

Knowledge

Knowledge was mentioned in all but one experience, the health fair at the Louisiana Children’s Museum. Through the plantation, Tremé, and Studio Be tours students expanded their

knowledge about slavery and how the current environment continues to be inequitable for communities of color. The St. Joseph and Whitney plantations were visited on the same day, and students learned how the former focuses more on slave owners and the later provides a more realistic depiction of what occurred. During the Tremé tour, certain information about music history and laws/statutes that have maintained, and inequitable environment were new topics for the students.

Through the artwork at Studio Be, inequities faced by the Black community, how systemic racism exists, and daily feelings of Black people in New Orleans were represented using multiple forms of material such as murals, canvas, furniture, and other. These unique displays educated students about those topics. Food culture on the plantations and of New Orleans was discussed with tour guides during the Plantation visits, preparation, and presentation of recipe demonstrations at the Southern Food and Beverage Museum, and free time exploration of the restaurants in the French Quarter and on Magazine Street. Students spent time at a food pantry and retreat center for those recovering from addictions. While distributing food and serving meals, they were educated about services offered by the facilities and impact on individuals served.

“The tour on the other plantation was more informative and told the real history of those days. I learned something new the way the slaves and their children were named once they became a property of the slave owners. Even the fact that the name of the enslaved people was taken away from them tells a lot about how they were stripped of any individuality when they became slaves. Sad.” E2

“This experience further added to my knowledge of how there are so many amazing organizations that try their best to support the New Orleans community.” E5

“The last exhibit that focused on the ideas of children and their interpretation of important ideas turned into art showed the inequities faced by the black community. Many black people fear and resent the police due to its long and continuing history of racially motivated violence. I learned that children at such a young age also think that these topics are important to talk about and face.” E3

“The Tremé tour was the most eye-opening and thought-provoking tour that we went on. I learned a lot about the history and realities of slavery that we do not learn about in school growing up.” E1

“I enjoyed walking around the museum and seeing the exhibits for each southern state. At the museum, I learned a little bit more about New Orleans foods and some of the food that originates from Louisiana.” E1

Desire

Desire was present during the conclusion of all experiences. There was a heightened motivation to learn more about slavery and its influence on African American culture, how it has shaped our present society, and historical information about this period. In their reflective journals, several students felt inspired to volunteer and have more encounters with the homeless and individuals that utilize food pantries. Advocating for those experiencing hardships and inequities through educating others about the danger of stigmas and providing service within these communities was also mentioned. During a visit to a community bookstore specializing in African American literature, several students purchased books to further their knowledge and identify supportive approaches when being advocates. Random mention of wanting to work more with children and families, further develop culinary skills, and research how hurricane damage influences

communities was expressed after the health fair at the Louisiana Children's Museum, Southern Food and Beverage Museum event, and exploration of communities in disarray respectively.

"The motivation to learn more about slavery and the influence on the African American culture before visiting the plantations was very little. While I know this was privileged of me because I haven't had to worry about learning it, the motivation wasn't there at all.

After these tours it made me want to look more into the African American culture." E4

"I am so glad that I got to experience the Mission today. I am so eager to do work for the homeless in Chicago." E7

"The art that I viewed here made me more curious about inequities experienced by the black community. I had already known of some of the inequities, but I am curious about learning more about the issues, possible solutions, and how I can contribute to diminishing these inequities." E1

"She was really passionate about everything she had to say, and it made me feel motivated to contribute more to society but also stand up for others when they cannot."

E8

"I loved New Orleans cuisine so much that I made a pot of gumbo just last week that was my best one yet. I added kale to the recipe, and I'm excited for the next rendition." E6

"I would like to learn a little bit more about how children best learn and how to approach different learning situations. I would also like to learn more about how approach different teaching styles based on different areas and cultures that children grew up in." E3

"Seeing the damaged property and knowing that lower income communities were most affected by the hurricanes has motivated me to learn more about the impact it had on its community members." E3

Awareness

Awareness was present during all experiences except for the Southern Food and Beverage event. In coordination with knowledge and encounters, the planation and Tremé tours, community service events, and Studio Be visit provided numerous examples of students becoming more aware of historical and current inequities present in the African American and Black communities, and how the past is influencing the present. Police brutality, discrimination, stigmas about careers, and inequities in sports were mentioned as topics brought to the awareness of students during the Studio Be visit. One student noticed how the clientele at the Louisiana Children's Museum were mostly white and unrepresentative of New Orleans demographics and wondered if this symbolized an inequity within the community due to the cost of admission. In addition, the lack of safety in some areas of New Orleans was an awareness related to inequities in infrastructure funding.

During the community service events, stories shared by the homeless and those receiving food helped the students become more aware of why health disparities in the community exist and conditions that led clients to utilize these services. One student observed that everyone at the pantry received the same amount of food regardless of how many individuals this needed to serve.

“The Field of Angels, dedicated to all the lost children on the plantation, had the most effect on me. It was emotional to see the names of the children with the age in which they passed. I could only imagine the pain and suffering that the children who were not only born, but who gave birth at such a young age.” E3

“These same individuals explained how some people don’t see them as human beings and often are treated like they are not. People will either ignore them, walk past them, are pretend that they are not present.” E3

“Most of the art pieces were about the inequalities in the black communities with gun violence and cop violence. This hurts because kids are worrying about things like this when they should be focusing on living, growing, and having the most fun they could possibly have.” E4

“But this picture still doesn’t represent the real demographics of New Orleans, where, according to the Census Bureau, there are almost 60% of Black or African American population. So, was it just a coincidence that the majority of visitors were white people? Or is it just a sad reality in which black people still suffer from inequality? I believe the latter is still the case.” IB

Encounters

Due to this being a service-learning experience, students had more face-to-face cultural encounters through preparation and distribution of food, serving lunch and snacks to the homeless in a dining room and outdoors, conversing with participants at a cooking demonstration and health fair, and interacting with community members during free time. There was no evidence of encounters occurring at the Studio Be event. On the last day of the trip, four students were invited to a local block party in the area they were housed, while two others took daily morning walks. This was a time in which they had conversations with community members and learned more about how they supported each other and challenges present in the environment.

“After lunch we put together lunch bags to distribute to the homeless community under the bridge, which is next to the New Orleans Mission. While handing lunches we were able to talk to the people, hear their stories, and pray for them.” E6

“The tour guide for this experience was the reason that it was so impactful. She was very intense, and even acknowledged this by saying that it’s the best way to keep people engaged.” E7

“I was able to speak one-on-one with a lot of members of the community that had no idea how much sugar and sodium is added into common foods that they consume. I also was able to interact with some adorable kids and help them learn about healthy eating, which I feel like is so important to teach them young so that they don’t fall into bad habits into adulthood.” E7

“For this event I had the Fruits and Vegetables Table. The dish I made to be sampled was a banana and chocolate chip brownie. The brownies turned out exceptional, so much so that I ran out before the conclusion of the event. I had a lot of parents requesting the recipe.” E6

“We spent a lot of time walking around the neighborhood our town house was in and it was beautiful. We got to interact with people who lived there, see the cemetery, and so many more things.” E4

Skill

The Southern Food and Beverage Museum cooking demonstrations and health fair at the Louisiana Children’s Museum where the only two events in which skill was developed. Students paired up to provide nutrition education as they prepared a common southern recipe that had been slightly modified to provide more health benefits. At the health fair, healthy snacks,

activities, and recipes were provided to parents and their children visiting the museum. These experiences allowed the students to share their nutrition knowledge and culinary skills.

“The cooking demonstration at the Southern Food and Beverage museum was one of my favorite experiences from the whole trip. I really enjoyed being able to work on a modified recipe of a cultural dish and share it with others.” E5

Post-IDI Reflections

Control students fell into one of three categories; positive, negative, or neutral, and none were doubtful or questioned the accuracy of the results as some did with the first IDI, but they later mentioned doubtfulness when asking about the accuracy of results. About 75% had positive feelings about their results with the remainder being negative or neutral. Experimental students also fell into one of these three categories and only one student was positive about outcomes. One student expressed negative thoughts, and most did not express any negativity or positivity with their post-IDI.

All the students overestimated their level of IC. For the control group, less students were decisive as to if they agreed or disagreed with the results. Almost half of the students were not willing to agree with the results for multiple reasons with most expecting the work they did to equate to a greater than expected change. Students that agreed with their scores mentioned being more aware of similarities and differences as a sign of progress, and one student who disagreed felt it was due to flaws with the IDI.

“After completing three activities I feel a big difference. Perhaps completing three more activities will amplify this and continue to narrow my gap. It makes sense that to completely eliminate the gap, the process must be long than a couple months.

Technically, I've had my mindset for years. That means it won't be completely shifted in a matter of month, it is something that must continue to be worked on." C41

Concluding Reflections

Students were asked to reflect upon how IC skills were enhanced by the activities they completed and the influences their experiences would contribute to their future as an RDN. The thought that emerged from both groups were personal growth and development, recognition of similarities and differences between their own and unfamiliar cultures, enhanced knowledge of specific cultures, working with interpreters, creating culturally sensitive educational materials, and learning how to adapt when pushed out of one's comfort zone.

Personal growth and development were mentioned most frequently, especially in relation to recognizing personal biases and becoming more knowledgeable about multiple topics within unfamiliar cultures, as well as awareness of similarities and differences. Students in the control group mentioned being out of their comfort zone when visiting an unfamiliar ethnic restaurant in comparison to the NOLA students who frequently felt challenged when having to present during food demonstrations, talking to parents and children at the health fair, and interacting with the homeless and food insecure on several occasions. Only a few students experienced several of the other themes. Interactions with an interpreter and creating culturally sensitive educational materials occurred for one student.

For personal influence as a RD, due to the knowledge gained, many felt they will be more able to create culturally appropriate educational materials and care, and this was mentioned the most. Enhanced personal interactions with clients in the form of being less biased, more proactive when seeking information about a culture, and building a better rapport with clients of different cultures were included in a moderate number of responses.

“Going on this trip made me realize that the community is important in our field, and in order to better emphasize with people, we can put ourselves in their shoes and help when it is needed.” E8

“In my future profession as a dietitian, this experience can serve as a lesson to me that I should not make prejudices about people but instead accept their religion and way of behaving as usual for them. I should not look at it negatively.” C43

“However, I can now see that I can indulge in my own culture while also being accepting and excited for other cultures.” C52

“Reflection is a powerful tool and I can take this exercise into my future as a way to assess what I’ve experienced and what I’m currently experiencing and sort of complete a gap analysis of what needs conscious improvement and what is currently working.” C52

Most of the students in the control group mentioned at least two approaches for improving IC in the future which included reading books and research articles, completing exercises like the IDI personalized plan, listening to webinars and “talks,” watching movies/documentaries, attending cultural events in the community, and visiting museums. Students who went to NOLA mentioned this as well as volunteering in their own and surrounding communities.

Chapter 5: Discussion

In the United States, a future increase in minority group representation requires that nutrition students receive training to develop their IC skills, especially since the field of nutrition lacks diversity. For future CC training and research, the need exists for standardizing approaches, identifying valid and reliable tools to evaluate skills, mixed methodology studies, and focusing on nutrition students instead of interdisciplinary approaches as highlighted by the AND and PI. This study provides two approaches to CC training that contribute to developing standardized training protocols and serves as an introduction to using the IDI to measure IC skills in future studies involving nutrition students.

The DO scores of both groups substantially increased, which indicates improved IC skills. Participation in both approaches also substantially increased PO scores, which was undesirable since improved perception of one's actual level of IC as indicated by DO would require a decrease or maintenance comparing pre-to-post PO scores. The SL experience allowed for development of more constructs included in the CBMCC within each activity, more so when compared to control students, as was expected.

There was a decrease in OG scores, but it was only substantial with control students. This indicates increased awareness of one's actual placement on the IC continuum. It was expected that the experimental group would have a more substantial improvement in DO and OG scores compared to controls since they were able to have more face-to-face interactions within the communities served, and during free time, conversations occurred with members of the community in which the students were staying. While the control group learned a lot about inequities and other challenges of communities of color, the students in NOLA were exposed to this mostly through tour guides, community members, and the art museum they visited, which

should have been more impactful than reading about it as many students did in the control group. During the focus group, SL students mentioned certain activities were not appealing, which could explain why their improvement in DO and OG scores was not substantially different in comparison to the controls. If one is not able to fully engage in an experience, skill development may occur less than hoped.

When the PI planned the itinerary for the SL trip, activities with the potential to develop all constructs of the CBMCC were chosen. The reflective journals from the experimental group supported inclusion of four to five constructs in each planned activity while controls were two to three, which was expected. Most of the control students chose activities that were knowledge-based and did not require interactions with others. Convenience and easy accessibility influenced their choices of activities due to busy schedules as several expressed in their journals, and the current environmental state at the time of this study was caution when interacting with others to prevent the spread of COVID.

Cultural skill occurred the least in both groups, but the nine students in NOLA participated in more skill-building activities in comparison to two from the control group. Cultural knowledge, desire, awareness, and encounters are often required to develop cultural skill. Since it takes more effort to develop cultural skills, this often needs to be directed by professors. The PI was able to direct the experimental students by planning encounters in the community, having guest speakers and tour guides to bring forth awareness of inequities in the community, and planning events in which students were able to develop skills through educating the community.

Reactions of students whose post-IDI scores improved were more positive in the control group when compared to the experimental. Many of the students were guided by the progress or lack of that they made during the study period. Since students on the SL trip spent about sixty

total hours in planned activities and countless hours exploring NOLA, some expressed disappointment their gains were not larger, and they expected more of themselves. It is refreshing to see the students set high standards for themselves, but hopefully this will not discourage them from continuing to improve their IC. During the IC training seminar completed by the PI, it was mentioned several times that it takes about 30-40 hours of work to move up an orientation, and this information was highlighted during individual debriefings. When considering that SL students felt some activities were not appealing, we must realize that being present without processing may not result in any beneficial gains in IC.

Comparison to Existing Literature

While waiting for the gap in diversity to lessen between the field of dietetics and the US population, it is crucial for nutrition students to have advanced CC training. It has been shown that CC in healthcare may provide numerous benefits such as increased safety, effectiveness of care, and patient/client satisfaction, improved health outcomes, and decreases in health disparities and cost.⁴ However, there are no standardized, universal training or evaluation approaches to measure the effectiveness of approaches.

Two studies that utilized the IDI but did not meet the literature search criteria involved nursing and graduate counseling students.^{8,19} While these populations differed from ours, and results from the former are pre-interventional, there are similarities. From the nursing study, researchers documented that two percent of students were able to accurately identify their DO.⁸ All of the students in our study overestimated DO as shown by PO scores that exceeded DO scores. Minority students in the nursing study had higher DO scores in comparison to non-minority students.⁸ There was no correlation between ethnicity and pre-DO scores in our study. This may be due to the smaller sample size of 27 subjects being insufficient to establish

correlation, compared to 314 in the nursing study. Anecdotally, several minority students in this study verbalized negative thoughts and feelings towards their own culture due to undesirable conditions that forced them to leave their home countries or feeling no connection from lack of historical documentation. These students had DOs in the lower half of the IDC. While we were able to document substantial increases in DO scores within both groups, the same was not true for the graduate counseling students.¹⁹ However, the researchers reported a sample size that was too small to detect a difference.¹⁹

It was mentioned that students often have simplistic views regarding what makes one culturally competent as well as how to obtain these skills. This was evident in their pre-experience reflections as to why they did not agree with their DO scores since they mentioned having friends of different cultures and traveling as self-characteristics that made them culturally competent. One student had the experience of living in another country for several years, but the vacations others embarked upon were likely not enough to reach the adaptation orientation they may have believed they belonged.

This was like the nursing study in which traveling abroad was not associated with higher levels of CC.⁸ In addition, 57% of first year psychology students at a diverse United Kingdom campus experienced no change, and 28% declined when cultural skills were measured.⁹ This possibly means more exposure to different cultures in social settings is not enough to enhance CC skills, as our students learned from the results of their pre-DO scores.

The post-experience reflections and focus group discussions showed a shift in this simplistic mindset as to what they thought made them culturally competent, since many in the experimental group mentioned an enhanced ability to see similarities and differences between themselves and those that need community services, being out of their comfort zones since they had never

interacted with the homeless out of fear or due to stigmas, and appreciating how the tours connected the past with the present. In the control group, most of the students felt that their cultural competence improved because they were more aware of where they need to improve, appreciated the challenges that other cultures have had to endure, and respect towards other cultures was more positive.

SL Approaches

There is evidence of gains in CC and reflective thinking skills amongst the few research studies involving students from health-related fields on SL trips. Anecdotal outcomes from the reflective journals of two nutrition students on a Haitian medical mission showed improved cultural awareness, and communication and counseling skills while providing assessments and basic nutrition education.¹³ The NOLA experience was not as focused on building cultural skills in comparison to Haiti, but students provided nutrition education in multiple settings. Their reflective journals demonstrated improved cultural awareness from a personal and systemic perspective when interacting within the homeless community and attending historical tours, while those of the control group focused more heavily on the systemic. These results support SL as a more ideal approach to develop personal and systemic cultural awareness in comparison to self-directed activities.

The mixed methods study with six dietetic interns involved a week-long experience of providing supervised dietetic practice in multiple Belize community and clinical facilities.¹⁰ Students in both groups of our study had no or very small amounts of actual dietetic practice, but their reflective journals were analyzed for the presence of constructs from the CBMCC, like the group blogs created by students in Belize.¹⁰ In both studies, constructs of the CBMCC were present, supporting the use of various activities to develop CC.

We used the IDI to quantify changes in IC, while the researchers conducting the Belize study chose two cultural awareness questions from a 33-item Health Professions Schools Service to the Nation student survey before and one week post-trip.¹⁰ From those two questions, it was found that students “strongly agreed” feeling more comfortable working with people different from them and had increased awareness of personal biases and prejudices.¹⁰ The IDI does not measure cultural awareness on its own, but reflective journals of both groups in our study demonstrate comparable increases. This was more prevalent amongst students in NOLA who expressed feeling more comfortable being around the homeless and clients utilizing food pantry services and being more aware of their biases and prejudices towards these populations.

The trip to Belize was interdisciplinary, and in addition to dietetic interns, there were six doctorate physician’s assistant students.¹¹ As a group, daily blogs were analyzed in a separate study for presence of reflective elements and transformational learning.¹¹ Transformative learning occurs in seven phases, starting with a realization that past thought and beliefs are not accurate, intermediate phases involving assessment of these thoughts and beliefs, plans for change through acquiring knowledge and active change, and concluding with self-efficacy to maintain new thoughts and beliefs.³³ While the PI did not seek to define and identify transformational learning, reflective journaling of both groups included awareness of how past thoughts and beliefs about other cultures were biased, with concluding intentions to change to develop strong rapport during future cultural encounters.

Students completing one-week of observational field visits in Mexico experienced a greater realization of cultural sensitivity and perceived value of traditional Mexican foods in their reflective journals.¹² This was an interdisciplinary trip that included four upper-level undergraduate nutrition students and ten public health graduate students.¹² Our study included

several activities and experiences that did not involve SL but were valuable in building CC skills. Similar to the Mexico experience, students sampled traditional foods in NOLA that represent its diverse cultural history and documented an enhanced awareness of their value so past generations continue to be recognized.

During their SL at food pantries, both groups in our study were aware of how available foods may not meet cultural needs. In NOLA, students were aware of foods not being distributed in an equitable manner. Even though the trip to Mexico did not include SL, it was evident that these students were able to realize the importance of cultural sensitivity in care as our students did while distributing food. It is the belief of the PI that having SL combined with observational visits and education by community members made for an approach that can be more beneficial.

Combined Course Work and Service-Learning

Two studies in which students did local SL with coursework in community settings resulted in increased cultural awareness.^{14,15} The first utilized a non-validated tool to measure CC before and after the experience, and 27% of the 31 students were from the university's nutrition program. These students had no statistically significant changes in perceived level of CC per the pre-and-post survey, and they completed course evaluations that allowed for reflective responses.¹⁵ This study is somewhat comparable to ours because students implemented a health fair for children and parents and completed SL at a community agency.¹⁵ What differed was the inclusion of 24 classroom hours over a 16-week semester.¹⁵

The students in NOLA had no class time but implemented a health fair at the local children's museum and experienced a wider variety of activities with opportunities for cultural encounters, when compared to the 16-week semester course. This may explain why our students achieved higher DO scores after their experience. Students in both studies experienced an increase in CC,

cultural awareness, and self-awareness as reported in their course evaluations or reflective journals. Reflection is necessary as shown throughout ours and past studies since qualitative findings demonstrate the impact of experiences that the quantitative data may not capture.

The number of nutrition students in the second combined course work and SL study is unknown, but end-of-experience written reflections documented an increased awareness of the populations served and their socioeconomic barriers to health care.¹⁴ Their intervention included providing 20 hours of medical and social services to underserved community members.¹⁴ Our students did not practice cultural skill through client assessment, but similar realizations occurred during encounters with the homeless that relate to inequities in the health care system.

Social Media

Lastly, the interdisciplinary prospective randomized controlled trial that utilized an online weekly curriculum for 130 subjects the last semester before and a few months post-graduation provided a novel approach to CC training.¹⁶ In addition to the validated survey measuring CC, browsing rates, likes, and shares of topics on social media were monitored.¹⁶ Our study was not comparable due to the drastically different interventional approaches, but the results support possible use of social media since increases in knowledge and awareness when comparing baseline and immediate post-graduation scores occurred.¹⁶

Strengths

There are several strengths of this study with the first being a thorough application and selection process. Since it is more feasible to take a smaller group of subjects on a SL experience, the PI wanted students to have a high level of motivation and commitment, which was represented by the submitted applications.

The SL experience provided multiple experiences in different communities that challenged the adaptability of students and prepared them for a future of changing internship and work environments. In addition, the IDI is a validated tool to measure IC, and the use of qualitative data provided support for quantitative measurements since the sample size of both groups may have been too small to show significance of the results. The inclusion of a control group for comparison measured the impact of SL versus self-guided skill development.

Limitations

When addressing limitations, the two-week NOLA experience or completion of three self-selected activities may not have been enough to foster a positive change in IC. The possibility of a negative change in IC may occur with students who complete the pre-IDI with over-confidence, then realize they are not at the level they initially placed themselves, reflected as a decline from pre-to-post experience. A high level of motivation and commitment was required to complete either arm of the study, and potential for subjects to drop out was possible at any time. In addition, the financial expectations of students traveling to NOLA was a deciding factor for several interested subjects who would have preferred to attend.

Both groups had small sample sizes and there were almost twice as many students in the control group. While this was not an issue when analyzing qualitative data, the quantitative comparisons within and between the groups may not represent the true amount of change in IC skills, and significant changes were less likely to be identified. If there had been 18 students on the NOLA trip, there may have been a more substantial change than the control group as the PI had predicted. These results are not generalizable to the population of nutrition students with our population being from one university nutrition program, and more diverse when compared to the dietetics profession.

As mentioned earlier, the PI is an instructor of three courses at the university in which recruitment took place. Participation in the study was open to all students enrolled in the nutrition program, but selection bias could have occurred during the recruitment process since the PI had more interaction with students in three courses during the spring semester in which details of the study were shared with students. For the students that were not in the PI's courses, their instructors served as the main recruiters.

Several students in the PI's courses knew about the SL experience prior to active recruitment and had expressed motivation and the intent to be committed if chosen to participate. This could introduce further bias if the PI chose students based on prior verbalizations, even if their written application was sub-par. To prevent this from occurring, the PI intended to have a panel of reviewers to assist in the selection process, but this became unnecessary since the total number of applications dropped to ten before monetary deposits were due.

Environmental and social factors posed several challenges from the planning to initiation phases of the SL experience. NOLA was dealing with cyclical changes in COVID-19 cases as well as damage from a recent hurricane, making it difficult to obtain commitment from organizations or receive responses from those in which the PI reached out. Two contacts had planned events with the PI nine months before the scheduled trip but were unresponsive to multiple attempts of contact a few months later. These events were replaced by others as new contacts were sought and fostered. During the trip, two events were cancelled due to inclement weather, a four-hour shift at a food pantry and two-hour gardening project.

The most significant limitation was the lack of previous research focusing on developing CC in nutrition students. There were several factors that made this study original and unable to compare to the research studies that have been completed. Amongst these unique features was

the experience taking place in the city of NOLA, having the comparison to the control group be a SL trip, utilizing a set of activities in NOLA for the first time, and using the IDI to measure IC in nutrition students.

Implications for Research and Practice

Future studies limited to nutrition students and utilizing mixed methodology are pertinent for building standardized CC training programs and establishing consistency in evaluating skills.

The IDI should be used as the quantitative component of future studies since it identifies DO and PO and assists users in realizing the degree to which they may over-or-underestimate skills.

This study serves as a contributor to past research in training and evaluation of CC for nutrition students, and the beginning of developing a standardized approach for skill development utilizing both self-guided and service-learning modalities. Students in both groups recommended more structure and opportunities to process experiences at certain time frames during focus group sessions. Stress associated with having to decide what to do, and processing thoughts in a group setting immediately after experiences instead of reflective journaling were the rationale for enhanced structure voiced by students in the control and experimental groups respectively.

To assist students with direction in the self-directed approach, establishing parameters such as choosing one activity from each provided list of possibilities may lessen stress while allowing choice. As an example, there could be a list of community, media-based, and self-reflection activities, and students would select one activity from each. They enjoyed being entertained by fictional movies and television series which could be detrimental and guidance for choosing this form of media is necessary to ensure they provide a truthful representation of the represented culture. Convenience was a factor for the students when choosing activities due to busy

schedules, and some felt uncomfortable with face-to-face interactions. The discomfort was related to COVID exposure, but some expressed other reasons such as being unfamiliar with other cultures and having an introverted personality.

While non-face-to-face activities are more convenient, they may not provide the insight needed to really learn about a culture due to sub-cultural and individualized practices that occur. However, when expressing future intentions, more than half planned on having encounters with other cultures through conversations, showing that they realize the value of cultural encounters. Experiencing more constructs of the CBMCC within each activity is desirable for future self-directed approaches. With more guidance, students could be encouraged to step out of their comfort zone for more cultural encounters while still meeting the preference for activities that are more convenient.

A desire to continue developing IC skills was evident from reflective and focus group feedback and was often preceded by knowledge more so than the other constructs of the CBMCC. Both groups had an eagerness to create educational materials with the knowledge they gained, which shows readiness to take IC to the next level and attempt to meet the needs of a culture. Of concern was a suboptimal level of desire expressed to learn more about inequities and marginalized cultures, which is necessary to practice empathetic and culturally sensitive care. In addition, it takes a combination of knowledge, awareness, and encounters to compare what is learned to actual practices of a culture. More awareness-related activities devoted to the struggles and challenges and conversations with individuals of unfamiliar cultures would help prepare students to provide for the needs of future clients.

Cultural skill development occurred the least within both groups. Some of the undergraduate students had no or limited experience assessing nutritional needs of unfamiliar cultures and

students on the trip used materials that had already been created for the food demonstrations and health fair. For the two students in the control group who were able to apply their nutrition knowledge to create a class and recipes, both took place in food pantries, which are common facilities for students to begin interacting with community members. Food pantries are also more open and accessible to students in comparison to other volunteer activities. While physical labor is usually involved, these experiences can be more meaningful by providing some form of education or resources to clients. Opportunities to do food demonstrations, health screenings, and classes as clients frequent the pantry are approaches that should be embedded more frequently into future itineraries for skill development.

Even though students in NOLA were provided with prompting journal questions, it seemed as though they preferred to share an account of what they did instead of responding with deeper thoughts and feelings. Since they were given until the end of the trip to submit reflective journals, those thoughts and feelings may not have been at the forefront of their minds. Instead of having individual reflective journals for each designated event, mini focus groups following experiences led by a group mentor or PI would foster the immediate sharing of thoughts and feelings.

Through multiple visits to New Orleans in which the PI assessed community needs, the service-learning itinerary was created in hopes that there would be equal balance between service and acquiring new knowledge. There was a learning curve associated with developing the experience since the research was limited, and the focus group assisted the PI in identifying what was impactful in developing skills. Future trips could be planned by modifying the original itinerary, so students have more opportunities to develop cultural awareness, encounters, and

skill, constructs of the CBMCC that allow for more application of nutrition education and counseling.

Chapter 6: Conclusion

Using a self-directed assignment and SL trip increased CC skills in nutrition students and interns. When self-directed, students are more likely to choose knowledge-based activities in comparison to having a planned itinerary in which the PI included opportunities to apply nutrition knowledge. Both approaches can be enhanced to provide more activities that develop awareness and skills and include more opportunities for encounters. There was a strong desire to continue enhancing IC skills, and students need support and encouragement. The mixed methods design motivated students to complete reflective assignments so they could improve IDI scores. Future studies with the same methodology could contribute to development of standardized CC training programs in nutrition programs.

REFERENCES

1. US Census Bureau. (July 2021). *Population Estimates, July 2021, (v 2021)*. United States Census Bureau Quick Facts.
<https://www.census.gov/quickfacts/fact/table/US?PST045219>. Accessed September 30th, 2022.
2. Abrishami D. The need for cultural competency in health care. *Radiol Technol*. 2018;89(5):441-448. PMID: 29793905.
3. Wynn CL, Raj S, Tyus F, Greer YD, Batheja RK, Rizwana Z, et al. Barriers to and facilitators of dietetics education among students of diverse backgrounds: results of a survey. *J Acad Nutr Diet*. 2017;117(3):449-468. doi:10.1016/j.jand.2016.06.010.
4. Tulane University School of Public Health and Tropical Medicine. (2021, March 1st). How to improve cultural competence in health care. *Tulane University School of Public Health and Tropical Medicine*. <https://publichealth.tulane.edu/blog/cultural-competence-in-health-care/>. Accessed September 30th, 2022.
5. Brunett M, Shingles RR. Does having a culturally competent health care provider affect the patients experience or satisfaction? a critically appraised topic. *J Spors Reh*. 2018;27(3):248-288. doi:10.1123/jsr.2016-0123.
6. Stockwell DC, Landrigan CP, Toomey SL, Westfall MY, Liu S, et al. Racial, ethnic, and socioeconomic disparities in patient safety events for hospitalized children. *Hosp Pediatr*. 2019;9(1). doi:10.1542/hpeds.2018-0131.
7. Accreditation Council for Education in Nutrition and Dietetics (2021). *ACEND Accreditation Standards for Nutrition and Dietetics Coordinated Program*.
<https://www.eatrightpro.org/-/media/eatrightpro-files/acend/accreditation-standards/2022->

- standards-and-templates/2022standardscp-82021-3.pdf?la=en&hash=936924CB892559B61364824601E4C59D13BEC51E. Accessed September 30th, 2022.
8. Kruse JA, Didion J, Perzynski K. Utilizing the intercultural development inventory® to develop intercultural competence. *Springer Plus*. 2014;3(1):1-8. doi:10.1186/2193-1801-3-334.
 9. Lantz-deaton C. Internationalisation and the development of students' intercultural competence. *Teaching in Higher Education*. 2017;22(5):532-550. doi:10.1080/13562517.2016.1273209.
 10. Wright L, Lundy M. Perspectives of cultural competency from an international service learning project. *J Acad Nutr Diet*. 2014;114(7):996-997. doi:10.1016/j.jand.2014.02.028.
 11. Wright L, Lundy M. Blogging as a tool to promote reflection among dietetic and physical therapy students during a multidisciplinary international service-learning experience. *J Allied Health*. 2012;41(3):e73-78. PMID: 22968780.
 12. Gilboy MB, Bill DE. Cultural immersion experience: promoting an understanding of Mexican American nutrition and food traditions. *Journal of Nutrition Education and Behavior*. 2011;43(5):419-420. doi:10.1016/j.jneb.2011.02.001.
 13. Christaldi J, Bodzio JR. Cultural competence and the global role of dietitians: a haitian medical mission and inter-professional, service-learning nutrition course. *Open Nutr J*. 2015;9(Suppl. 1-MS), 35-41. doi:10.2174/1876396001509010035.
 14. Palmer VS, Mazumder R, Spencer PS. Interprofessional global health education in a cosmopolitan community of North America: The iCHEE experience. *Acad Med*. 2014;89(8):1149-1152. doi:10.1097/ACM.0000000000000363.

15. Horacek T, Brann L, Erdman M, Middlemiss MA, Raj S. Educating dietetic and other health professional students through and interdisciplinary, service-learning experience. *Top Clin Nutr.* 2009;24(1):6-15. doi:10.1097/TIN.0b013e3181977fae.
16. Chang L-C, Guo JL, Lin H-L. Cultural competence education for health professionals from pre-graduation to licensure delivered using facebook: twelve-month follow-up on a randomized control trial. *Nurse Education Today.* 2017;59:94-100. doi:10.1016/j.nedt.2017.09.005.
17. Hammer, MR. Additional cross-cultural validity testing of the Intercultural Development Inventory®. *Int J Intercult Relations*, 35, 474-487.
18. Intercultural Development Inventory® (2020). *Intercultural Development Plan*. <https://idiinventory.com/wp-content/uploads/2019/05/Sample-Intercultural-Development-Plan.PDF>. Accessed September 30th, 2022.
19. Jones SW, Hof DD, Tillman DR. Assessing global service-learning: a mixed-methods approach to evaluating students' intercultural development. *Int J Psychol: a Biopsychosoc Approach.* 2016;18:29-50. doi:10.7220/2345-024x.18.2.
20. McCabe CF, O'Brien-Combs A, Anderson OS. Cultural competency training and evaluation methods across dietetics education: a narrative review. *J Acad Nutr Diet.* 2020;120(7):1198-1209. doi:10.1016/j.jand.2020.01.014.
21. Hammer MJ, Cartwright-Alcares F, Budin WE. (2019). Theoretical Frameworks and Philosophies of Care. In J.K. Payne E (Ed), *Current Trends in Oncology* (pp.1-32). Oncology Nursing Society. https://www.ons.org/sites/default/files/2019-02/0673_sample.pdf.
22. Grant C, Osanloo A. Understanding, selecting, and integrating a theoretical framework in

- dissertation research: creating the blueprint for your "house." *Administrative Issues Journal Education Practice and Research*. 2015;4(2):12-26. doi:10.5929/2014.4.2.9.
23. Hammer, M. R. (2019). Why consider using the Intercultural Development Inventory® (IDI®). <https://idiinventory.com/wp-content/uploads/2019/08/Why-Consider-the-IDI-2019.pdf>. Accessed October 3rd, 2022.
 24. Alexander S, BeLue R, Kuzmik A, Boltz M. The evolution of cultural competence theories in American (United States) nursing curricula: an integrative review. *J Nurs Educ Pract*. 2020;10(12):30-37. doi:10.5430/jnep.v10n12p30.
 25. Campinha-Bacote J. The process of cultural competence in the delivery of healthcare services : a model of care. *J Transcult Nurs*. 2002;13(3):181-184. doi:10.1177/10459602013003003.
 26. Bennett MJ (2004). Becoming interculturally competent. In J.S. Wurzel (Ed). *Toward multiculturalism: a reader in multicultural education*. Newton, MA: Intercultural Resource Corporation. https://www.idrinstitute.org/wp-content/uploads/2018/02/becoming_ic_competent.pdf. Accessed October 3rd, 2022.
 27. Organizing Engagement. *Developmental model of intercultural sensitivity*. Organizing Engagement website. <https://organizingengagement.org/models/developmental-model-of-intercultural-sensitivity>. Accessed October 3rd, 2022.
 28. Bennett, M. J. (2017). Development model of intercultural sensitivity. In: Kim, Y. (Ed.), *International Encyclopedia of Intercultural Communication*. Hoboken, NJ: John Wiley & Sons.
https://www.researchgate.net/publication/318430742_Developmental_Model_of_Intercultural_Sensitivity/link/5c49d6c6299bf12be3e05f91/download. Accessed October 3rd, 2022.

29. Transcultural C.A.R.E. Associates. The process of cultural competency. Transcultural C.A.R.E. Associates website. 2020. <https://www.transculturalcare.net/the-process-of-cultural-competency-in-the-delivery-of-healthcare-services/>. Accessed October 3rd, 2022.
30. Hammer, M. R., Bennett, M. J., & Wiseman, R. (2003). Measuring intercultural sensitivity: The intercultural development inventory. *International Journal of Intercultural Relations*. 27, 421-443.
31. Hammer, M. R. (2011). Additional cross-cultural validity testing of the Intercultural Development Inventory. *International Journal of Intercultural Relations*, 3, 474-487.
32. Wiley, A. (2016). Intercultural Development Inventory (IDI): Independent review. Research report from ACS Ventures. <https://idiinventory.com/wp-content/uploads/2017/12/2016-IDI-Validation-ACS-Independent-Review-Phase-3.pdf>. Accessed October 4th, 2022.
33. Western Governors University. (2020, July 17th). What is the transformative learning theory? Western Governors University website. <https://www.wgu.edu/blog/what-transformative-learning-theory2007.html#close>. Accessed November 11th, 2022.

Appendix A: Approvals for Reproduction



Clinical, Administrative, Research
& Educational Consultation
in Transcultural Health Care

J. Campinha-Bacote,
PhD, MAR, PMHCNS-BC, CHNA, FAAN
Transcultural Healthcare Consultant

November 16, 2021

To: Michel Harris
From: Dr. Josepha Campinha-Bacote
President, Transcultural C.A.R.E. Associates
RE: Contractual Agreement for Limited Use of Campinha-Bacote's
Model of Cultural Competency

This letter grants one-time permission to Michel Harris to copy my 2018 model of cultural competency as it appears on my website at <http://transculturalcare.net/the-process-of-cultural-competence-in-the-delivery-of-healthcare-services/> in an academic paper/dissertation to be submitted to a professor.

TIME FRAME: Permission to use my model is a one-time use as stated above in November of 2021 and this permission ends on December 31, 2021.

RESTRICTIONS OF COPYING: This permission only allows the copying of my model in this academic paper and Michel Harris agrees that my model cannot be copied for any other reason outside of this paper. This includes, but not limited to, being copied in another format or informed publication or academic paper, handouts, Power Point presentations, in another scholarly project, presentations to faculty, students or colleagues, poster presentations or in any hard copy or electronic format for presentations or for any other purpose.

Michel Harris will use the following citation when citing my model in her paper:

**The Process of Cultural Competency in the Delivery of
Healthcare Services**
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GOVERNING LAW: All parties acknowledge that this Contractual Agreement for Limited Use of Campinha-Bacote's Models of Cultural Competency is a valid contract. This contract shall be governed and construed under the laws of the State of Ohio except as governed by Federal law. Jurisdiction and venue of any dispute or court action arising from or related to this contract shall lie exclusively in or be transferred to Hamilton County Municipal Court, Hamilton County Court of Common Pleas, or the Federal Court situated in the County of Hamilton, Ohio.

ATTORNEY'S FEES AND COSTS: In any action to enforce any provision of this Agreement, the prevailing party will be awarded reasonable attorney's fees and costs.

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11108 Huntwick Place
Cincinnati, Ohio 45241

Dr. Josepha Campinha-Bacote
Michel Harris

Date
11/16/21

Appendix B: Schedule for Service-Learning Experience

Date	Activity	Contact Person
Sunday May 15th	Arrival: Check-in and orientation (Townhouses open at 3 pm)	PI
Monday May 16th	Whitney and St. Joseph Plantation tours (9 am - 4 pm)	Tours by Isabelle guide
Tuesday May 17th	French Quarter Tour (1 – 3 pm)	Friends of the Cabildo guide
Wednesday May 18th	New Orleans Mission: Hot lunch service/bagged meal distribution to homeless (10 am - 3 pm)	Deonne Beard Sarah Wartham
	Studio Be tour (5 - 6 pm)	Museum guide
Thursday May 19th	Edible Schoolyard New Orleans: Help in gardens (10 am - 1 pm)	Amelia Bird
Friday May 20th	African American cultural tour in Treme (2 - 6 pm)	All Bout Dat Tours representative
Saturday May 21st	Cultural food demonstrations and nutrition education at Southern Food and Beverage Museum (9 am – 3 pm)	Jennie Merrill
Sunday May 22nd	Free Day	
Monday May 23rd	Kermit Ruffins: Cooking dinner meal for client's of Kermit's Mother in Law Lounge Bar & Restaurant (12 – 6 pm)	Kermit Ruffins and Harmonese Pleasant
Tuesday May 24th	Giving Hope NOLA: Preparation and distribution of food at pantry (9 am – 3 pm)	Lan Hoang
Wednesday May 25th	Blaine Kern Mardi Gras Museum Tour (11 am – 12 noon)	Tour guide
	Culture Aid NOLA: Evening distribution of food and nutrition education handouts at pantry (4 - 8 pm)	Ellie Duff
Thursday May 26th	Free Day	
Friday May 27th	Children's Health Fair at the Louisiana Children's Museum (9:30 am – 12	Mary Bongiovanni

	pm)
Saturday May 28th	Free Day

Appendix C: Advertisement for Service-Learning Trip



Costumes from Mardi Gras

Submitting your Application

If you are interested in attending, contact Michel Harris at mharris@dom.edu for an application.

Cost

\$1,300 (estimate)*

**Tuition is not included*

Faculty and External Leaders

Michel Harris is a Lecturer in the Nutrition Sciences Department at Dominican University. She just became a Doctorate Candidate in December of 2021 and this experience was created from her desire to provide nutrition students and interns with the opportunity to develop their intercultural competence skills and love for the city of New Orleans. She believes that New Orleans can provide an international experience within the United States. She is being supported by her professors at the University of North Florida, Dr. Laurie Wright, and Dr. Andrea Arikawa.

For more information, please contact Michel Harris at:

Phone: (312) 550-3612

Email: mharris@dom.edu

Appendix D: Control and Experimental Information Packets

The Intercultural Competence Skill Development Assignment & Research Participation

The Intercultural Competence Skill Development Assignment is part of the course curriculum, with the opportunity to participate in a research study that is part of your instructor's (also the primary investigator) doctorate research. Thank you for your interest in participating as a control individual for this research study, which is titled, "The efficacy of a service-learning experience in the New Orleans area in improving intercultural competence of nutrition and dietetics students." You received a detailed explanation the week of January 31st when in class. The following sections of this document will review everything discussed, including but not limited to the background of how this research study developed, objectives and aims of the study, and requirements should you choose to participate. After reading the entire document it is the intent of the PI that you will be able to make an informed decision as to whether you would like to participate. If you have any questions, please contact the PI at mharris@dom.edu.

Diversity and the Field of Dietetics

In the year 2019, the United States (US) Census Bureau estimated that minority groups represent about 24% of the US population,¹ and this is expected to increase to about 50% by 2060.² A recent survey that sought to identify barriers and facilitators of dietetics education reported demographic data of students and Registered Dietitian Nutritionists (RDNs) who have been registered less than five years does not come close to matching US minority numbers; about 86% white and 14% minorities.³ This large gap between minority representation in the field of dietetics, and the US population, indicates the possibility of minorities feeling as though they are not receiving desirable nutrition care when it comes to having cultural needs fulfilled. As one African American client verbalized to a white RDN, "I learned a lot from you, but I really wish there were more dietitians out there who have experienced what it is like being a black woman." It will take time and effort to recruit more minorities into the field of dietetics, and while waiting for this gap to lessen, advanced cultural competence (CC) training for all nutrition students is vital.

Cultural and Intercultural Competence

Registered dietitian nutritionists in all areas of dietetics work with diverse populations, but it is impossible to know the cultural practices of every single client that presents for treatment. Learning the skills needed to effectively obtain and apply personal information to medical nutrition therapy (MNT), in a culturally appropriate manner, requires training and practice.

There are multiple definitions of CC available from research studies addressing this topic. When it comes to healthcare, CC is the ability of an individual to personalize treatment so it is effective and of high-quality, after gaining knowledge about the beliefs, attitudes, and behaviors of clients.⁴ Registered Dietitian Nutritionists take this into consideration to create beneficial and respectful MNT for diverse groups or individuals. Cultural competence in healthcare is important because it may increase safety, effectiveness of care, and patient/client satisfaction, improve health outcomes, and decrease health disparities and cost.⁴

Intercultural competence (IC), which is defined as "the capability to shift perspective and adapt behavior to cultural difference and commonality,"⁵ goes a bit further than CC because an individual fully immerses himself or herself in an unknown culture, identifies differences between his or her own and unknown culture, and behaves in a manner that respects the unknown culture.⁵ As an example, if you provide a Russian patient with a meal plan that includes his or her culturally preferred foods, this is an example of CC. After researching and discussing etiquette during interactions with Russian individuals with friends from this culture, you also change your usual social behaviors to interact verbally and nonverbally according to Russian cultural norms, which

Gaps in the Literature

A thorough review of studies on the topic of CC training in nutrition and dietetics students was completed by the PI. The findings are summarized below, but if you would like to see the complete literature review, please contact the PI.

- A lack of standardization with approaches to develop CC skills in nutrition students
 - Both course work and provision of services to communities in need were popular approaches
 - Actual instructional hours, content of material, and number of hours spent within communities are unknown
 - The limited number of studies and variability of approaches provides no basis for creating standardized CC training programs
- A lack of mixed methodology studies
 - Evaluating the effectiveness of approaches is limited when utilizing one method of analysis
 - Anecdotal reports are common, which have limited validity and reliability due to bias and lack of quantitative and qualitative analysis
 - Quantitative measures utilized to measure outcomes often lacked validation
 - The small number of subjects in most studies did not allow for detection of significant changes, making a mixed design more appropriate
- Most studies involve an interdisciplinary sample of subjects
 - Combining nutrition with dental, medical, nursing, and social disciplines was common
 - Identifying portions of an intervention that are most beneficial for nutrition students is difficult

The Framework Guiding this Research

The Campinha-Bacote Model of Cultural Competence (CBMCC) was used as a framework in several of the studies from the literature review and guided the development of this research study. Dr. Josepha Campinha-Bacote has updated the model five times over the past thirty years.⁶ Cultural awareness, knowledge, skill, encounters, and desire are the five constructs of this model that are continuously used to develop CC skills.⁶ The key word is “continuous” because healthcare workers, including RDNs, will usually encounter unfamiliar cultures throughout their entire career. In other words, it is the achievement of applicable CC skills, and not complete CC that one should strive for. One could never be 100% competent with the diversity that exists in the world. The five constructs of the CBMCC are described below with an example of how a participant in the control group of this study could possibly experience each construct.

Cultural Awareness

Cultural awareness involves an individual identifying biases towards unknown cultures and taking the time to examine his or her own culture.⁶⁻⁷ Asking oneself, “What ideas and beliefs do I have about other cultures that are more related to what I have heard or observed instead of taking the time to ask a person from that culture?” As an example, a participant may have “heard” that the food-related culture of a community is unhealthy, but after watching a cooking demonstration by a person from that culture the bias of this information is recognized.

Cultural Knowledge

Obtainment of cultural knowledge allows one to become more educated about the multiple facets that make an unfamiliar group similar and unique to his or her own culture.⁶⁻⁷ This could involve reading, traveling, viewing documentaries, dining at authentic restaurants, and speaking with members of the unfamiliar culture. Oftentimes, a person considers completion of these actions to be equivalent to a high level of CC, but this is usually not the case. A person could be very knowledgeable but continue to struggle with acceptance of other cultures. The participants in this study can choose from multiple opportunities to develop their knowledge base as suggested by the Intercultural Development Plan (this will be defined later).

Cultural Skill

Cultural skill requires a healthcare worker to gather assessment data and provide education and counseling that is culturally appropriate to clients and patients.⁶⁻⁷ This involves moving away from “cookie-cutter” recommendations provided to the general population and assuming that “one size fits all.” Several chosen experiences can involve creation of events and educational materials that are culturally appropriate for communities in need.

Cultural Encounters

Cultural encounters relate to cultural skill but go a bit further with the individual changing his or her biases and learning the truth about unfamiliar cultures.⁶⁻⁷ During this self-guided experience, the participants can choose to engage with members of a community and turn their pre-conceived ideas into truthful and realistic thoughts. A participant with the belief that cultural foods in a certain community are unhealthy may discover that most individuals utilize fresh produce and whole grain sources for most of the meals they cook at home.

Cultural Desire

Lastly, an individual that achieves cultural desire looks forward to developing the other four constructs when presented with unfamiliar cultures.⁶⁻⁷ Once this assignment is initiated and after the experience, it is the hope of the PI that participants will want to continue learning about the community and be inspired to learn about new cultures.

What is the Intercultural Development Inventory?

You will be taking the Intercultural Development Inventory (IDI) during the week of February 7th and April 4th in class or from a chosen remote location. The IDI is based on the five orientations of the Intercultural Development Continuum (IDC); denial, polarization, minimization, acceptance, and adaptation.^{5,8} It measures IC with denial representing the lowest level of IC, and acceptance the highest.^{5,8} There are three outcome measurements of the IDI; Perceived Orientation (PO) (orientation individual believes he or she falls), Developmental Orientation (DO) (orientation individual actually falls), and Orientation Gap (OG) (difference between PO and DO).⁸ When completing the IDI, the Intercultural Development Plan, an individualized document based on one’s DO score is provided to improve upon IC skills.⁸ The plan is composed of reflective activities when considering past experiences, and after completion of suggested experiences.⁸ In order to administer the IDI in research studies, a person must attend training sessions and the PI is certified to administer and review the results with individuals. Your pre-and-post scores will be utilized for the quantitative arm of this mixed methods study design.

Service-Learning and Reflective Learning

Short-term study abroad programs, Facebook® instruction, and academic courses were broad approaches for CC training in nutrition and dietetics curriculum. Each of these three approaches incorporated at least one other activity in addition to classroom instruction, with the most popular being service-learning and reflective-learning exercises.

Service-learning involves hands-on experiences in underserved communities that relate to academic program objectives,⁹ and reflective-learning occurs when these experiences lead to an expanded level of knowledge and new meaning.¹⁰ You will be provided with multiple suggestions when receiving the individualized plan after completing the IDI, which includes seeking opportunities to do service-learning activities. The reflective journals and focus group that will be explained later in this document will serve as the qualitative arm of this mixed methods study design.

The Research Question, Objectives, and Aims

A non-randomized mixed methods design is being proposed to evaluate the IC in nutrition students before and after a self-guided approach or service-learning experience. The IDI, and reflective journals and post-experience focus groups will serve as the quantitative and qualitative arms respectively. There are three aims that will serve to answer the research question.

- To develop a two-week SL experience in the New Orleans area

- To assess the impact of a self-guided and service-learning experience on IC of subjects
- To identify experiences during the self-guided and service-learning experience that contribute to the development of IC

The research question for this study is does participation in a service-learning experience in New Orleans improve IC of nutrition students more than a self-guided approach? It is hypothesized that students will improve PO and DO scores and decrease the OG when comparing pre- to post-experience scores, the self-guided and service-learning experiences will provide opportunities to improve IC within each construct of the CBMCC, and the experimental group will have a larger improvement when compared to the control group.

Inclusion Criteria

Before making the final decision regarding your participation in this research study, please confirm that you meet the inclusion criteria below.

- Status is one of the following: Junior or senior undergraduate status pursuing a bachelor of science in nutrition; graduate enrolled in or applying for a dietetic internship; student pursuing a certificate in nutrition and dietetics
- Overall and nutrition grade point average (GPA) at or above 2.5 and 3.0 respectively after completing fall of 2021 semester
- Intent to participate in all data collection methods
- Intent to complete all required activities of the self-guided experience and focus group

Participant Expectations

If you meet the inclusion criteria and have decided to participate in the research study as part of your cultural competence assignment, below is the step-by-step process that each control group participant will follow.

1. You must sign, date, and submit the informed consent form by February 6th to the PI (during office hours or in class) or email (online courses; mharris@dom.edu).
2. After signing the consent form, the PI will provide you with an identification code that you will need to record on all further documents you submit to the PI. This code ensures that no reported information will reveal your identity. In other words, this is how your personal information will be kept confidential from others besides the PI.
3. At the end of class or from a remote location of choice, the week of February 7th, 2022, you will take the first IDI and complete a brief survey collecting the following demographic data; age, identified gender identify, race, ethnicity, and academic status. Both surveys are online and you will receive a link in your university email account for access. Both surveys must be completed by February 11th, 2022.
4. Soon after completing the IDI, you will receive your results and a personalized plan to develop your IC. Please read through these materials before meeting with the PI.
5. You will need to meet with the PI for 30-60 minutes on or before February 21st, 2022. There will be a link sent to your university email account with available days and times. Please schedule a meeting and include if you would like a face-to-face or virtual meeting.
6. During the meeting with the PI, your results and personal plan will be explained in detail according to the guidelines of the IDI organization. This is also an opportunity to ask any questions. You must submit (in-class or email to mharris@dom.edu) Reflective Assignment I, which is found at the end of this document, by February 28th, 2022.
7. You will choose activities based on suggestions from your personalized plan. You may do as many activities as you desire, but only need to complete a reflective assignment for three (Reflective Assignment II, III, and IV found at the end of this document). You may submit (in-class or email to mharris@dom.edu) these to the PI as you finish them or all at the same time on or before April 4th, 2022.
8. At the end of class or from a remote location of choice, the week of April 4th, 2022 you will take the second IDI. This must be completed by April 8th, 2022. Once again, the survey is online and you will receive a link to access it in your university email. You must submit (in-class or email to mharris@dom.edu) Reflective Assignment V, which is found at the end of this document, by April 11th, 2022.
9. During class the week of April 11th or 18th, we will have a private focus group. Depending on the number of participating subjects there may be two groups, and each will meet for 75-90 minutes. The purpose of this focus

1. You will receive your grade for the completed assignment by April 25th. Once the manuscript is completed by the PI, all participants will receive a copy.
2. The point breakdown for the assignment is as follows:
 - a. Due February 6th: Completion of consent form and demographic data questionnaire (10 points)
 - b. Due February 11th: First IDI available the week of February 7th (20 points)
 - c. Due February 21st: Meeting with PI (20 points)
 - d. Due February 28th: Reflective Assignment #1 (20 points)
 - e. Due April 4th: Reflective Assignments #2, #3, and #4 (20 points each = 60 points)
 - f. Due April 8th: Second IDI available the week of April 4th (20 points)
 - g. Due April 11th: Reflective Assignment #5 (20 points)
 - h. Date/Time to be Determined: Focus Group Participation (50 points)

Works Cited

1. Quick facts United States. US Census Bureau Website. <https://www.census.gov/quickfacts/fact/table/US?PST045219>. Updated July 2021. Accessed January 3rd, 2022.
2. Abrishami D. The need for cultural competency in health care. *Radial Technol*. 2018;89(5):441-448. PMID: 29793905
3. Wynn CL, Raj S, Tyus F, Greer YD, Batheja RK, et al. Barriers to and facilitators of dietetics education amongst students of diverse backgrounds: results of a survey. *J Acad Nutr Diet*. 2017;117(3):449-468. doi:10.1016/j.jand.2016.06.010
4. McCabe CF, O'Brien-Combs A, Anderson OS. Cultural competence training and evaluation methods across dietetics education: a narrative review. *J Acad Nutr Diet*. 2020;120(7):1198-1209. doi:10.1016/j.jand.2020.01.014
5. Intercultural development inventory® intercultural development plan. IDI Website. <https://idiinventory.com/wp-content/uploads/2019/05/Sample-Intercultural-Development-Plan.pdf>. Published 2017. Accessed January 3rd, 2022.
6. The process of cultural competency. Transcultural C.A.R.E. Associates Website. <https://transculturalcare.net/the-process-of-cultural-competence-in-the-delivery-of-healthcare-services>. Published 2020. Accessed January 3rd, 2022.
7. Campinha-Bacote J. The process of cultural competence in the delivery of healthcare services : a model of care. *J Transcult Nurs*. 2002;13(3):181-184. doi:10.1177/10459602013003003.
8. Hammer MR. Additional cross-cultural validity testing of the intercultural development inventory. *Int J Intercult Relations*. 2011;35(4):474-487. doi:10.1016/j.ijntrel.2011.02.014
9. Wright L, Lundy M. Perspectives of cultural competency from an international service learning project. *J Acad Nutr Diet*. 2014;114(7):996-997. doi:10.1016/j.jand.2014.02.028
10. Wright L, Lundy M. Blogging as a tool to promote reflection among dietetic and physical therapy students during a multidisciplinary international service-learning experience. *J Allied Health*. 2012;41(3):73-78.

Reflective Assignment I

Date:

Identification Code:

Please answer the following questions (at least 5 complete sentences for each)

- What are your developmental and perceived orientations? Describe how you felt after receiving these results.
- Before taking the Intercultural Development Inventory, which orientation did you feel described you best and what led you to make that choice?
- Discuss your thoughts regarding the following statement: "The IDI accurately identified my developmental and perceived orientations."
- Which activities are you going to choose for developing your intercultural competency skills and what led you to select them?

Reflective Assignment II

Date:

Identification Code:

Please answer the following questions (at least 5 complete sentences for each)

- Describe the activity you completed.
- How did the activity improve your intercultural competence skills?
- How can this experience contribute to your future as a professional in the field of dietetics?

Reflective Assignment III

Date:

Identification Code:

Please answer the following questions (at least 5 complete sentences for each)

- Describe the activity you completed.
- How did the activity improve your intercultural competence skills?
- How can this experience contribute to your future as a professional in the field of dietetics?

Reflective Assignment IV

Date:

Identification Code:

Please answer the following questions (at least 5 complete sentences for each)

- Describe the activity you completed.
- How did the activity improve your intercultural competence skills?
- How can this experience contribute to your future as a professional in the field of dietetics?

Reflective Assignment V

Date:

Identification Code:

Please answer the following questions (at least 5 complete sentences for each)

- What are your updated developmental and perceived orientations? Describe how you felt after receiving these results.
- Discuss your thoughts regarding the following statement: "The IDI accurately identified my updated developmental and perceived orientations."
- How do you plan on continuing to develop your intercultural competence skills?

New Orleans Service-Learning Experience & Research Participation

Completion of the New Orleans Service-Learning Experience and Research Participation provides course credit for DIE 4906 (University of North Florida) or NUTR 299 (Dominican University) if you choose to seek this option. In addition, you will receive a certificate of participation and individualized letter of support should you want to include the experience on a resume or with a personal statement. Michel D. Harris, the primary investigator (PI), is a doctorate candidate at the University of North Florida. Thank you for your interest as a participant in this research study, which is titled, “The efficacy of a service-learning experience in the New Orleans area in improving intercultural competence of nutrition and dietetics students.” You received an introduction of this experience by Dr. Jenifer Ross during your meeting on January 10th (University of North Florida) or the PI at an orientation with the date to be determined (Dominican University). The following sections of this document will provide a more detailed overview of how this research study developed, objectives and aims of the study, and requirements for interested participants. After reading the entire document it is the intent of the PI that you will be able to make an informed decision as to whether you would like to participate. If you have any questions, please contact the PI at n01443380@unf.edu or join me for the virtual session (date and time to be announced).

Diversity and the Field of Dietetics

In the year 2019, the United States (US) Census Bureau estimated that minority groups represent about 24% of the US population,¹ and this is expected to increase to about 50% by 2060.² A recent survey that sought to identify barriers and facilitators of dietetics education reported demographic data of students and Registered Dietitian Nutritionists (RDNs) who have been registered less than five years does not come close to matching US minority numbers; about 86% white and 14% minorities.³ This large gap between minority representation in the field of dietetics, and the US population, indicates the possibility of minorities feeling as though they are not receiving desirable nutrition care when it comes to having cultural needs fulfilled. As one African American client verbalized to a white RDN, “I learned a lot from you, but I really wish there were more dietitians out there who have experienced what it is like being a black woman.” It will take time and effort to recruit more minorities into the field of dietetics, and while waiting for this gap to lessen, advanced cultural competence (CC) training for all nutrition students is vital.

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Russian individuals with friends from this culture, you also change your usual social behaviors to interact verbally and nonverbally according to Russian cultural norms, which is an example of IC.

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A thorough review of studies on the topic of CC training in nutrition and dietetics students was completed by the PI. The findings are summarized below, but if you would like to see the complete literature review, please contact the PI.

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Cultural Encounters

Cultural encounters relate to cultural skill but go a bit further with the individual changing his or her biases and learning the truth about unfamiliar cultures.⁶⁻⁷ During this experience, participants will engage with community members in multiple New Orleans neighborhoods and turn their pre-conceived ideas into truthful and realistic thoughts. A participant with the belief that cultural foods in a certain community are unhealthy may discover that most individuals utilize fresh produce and whole grain sources for most of the meals they cook at home.

Cultural Desire

Lastly, an individual that achieves cultural desire looks forward to developing the other four constructs when presented with unfamiliar cultures.⁶⁻⁷ Once this assignment is initiated and after the experience, it is the hope of the PI that participants will want to continue learning about the community and be inspired to learn about new cultures.

What is the Intercultural Development Inventory?

You will be taking the Intercultural Development Inventory (IDI) three weeks before departing to New Orleans and three weeks after returning. The IDI is based on the five orientations of the Intercultural Development Continuum (IDC); denial, polarization, minimization, acceptance, and adaptation.^{5,8} It measures IC with denial representing the lowest level of IC, and acceptance the highest.^{5,8} There are three outcome measurements of the IDI; Perceived Orientation (PO) (orientation individual believes he or she falls), Developmental Orientation (DO) (orientation individual actually falls), and Orientation Gap (OG) (difference between PO and DO).⁸ When completing the IDI, the Intercultural Development Plan, an individualized document based on one’s DO score is provided to improve upon IC skills.⁸ The plan is composed of reflective activities when considering past experiences, and after completion of suggested experiences.⁸ In order to administer the IDI in research studies, a person must attend training sessions and the PI is certified to administer and review the results with individuals. Your pre-and-post scores will be utilized for the quantitative arm of this mixed methods study design.

Service-Learning and Reflective Learning

Short-term study abroad programs, Facebook® instruction, and academic courses were broad approaches for CC training in nutrition and dietetics curriculum. Each of these three approaches incorporated at least one other activity in addition to classroom instruction, with the most popular being service-learning and reflective-learning exercises.

Service-learning involves hands-on experiences in underserved communities that relate to academic program objectives,⁹ and reflective-learning occurs when these experiences lead to an expanded level of knowledge and new meaning.¹⁰ You will be provided with multiple suggestions when receiving the individualized plan after completing the IDI, which includes seeking opportunities to do service-learning activities which can supplement planned activities. The reflective journals and focus group that will be explained later in this document will serve as the qualitative arm of this mixed methods study design.

The Research Question, Objectives, and Aims

A non-randomized mixed methods design is being proposed to evaluate the IC in nutrition students before and after a self-guided approach or service-learning experience. The IDI, and reflective journals and post-experience focus groups will serve as the quantitative and qualitative arms respectively. There are three aims that will serve to answer the research question.

- To develop a two-week SL experience in the New Orleans area
- To assess the impact of a self-guided and service-learning experience on IC of participants
- To identify experiences during the self-guided and service-learning experience that contribute to the development of IC

The research question for this study is does participation in a service-learning experience in New Orleans improve IC of nutrition students more than a self-guided approach? It is hypothesized that students will improve PO and DO scores and decrease the OG when comparing pre- to post-experience scores, the self-guided and service-learning experiences will provide opportunities to improve IC within each construct of the CBMCC, and the experimental group will have a larger improvement when compared to the control group.

Inclusion Criteria

Before making the final decision regarding your participation in this research study, please confirm that you meet the inclusion criteria below.

- Status is one of the following: Junior or senior undergraduate status pursuing a bachelor of science in nutrition; graduate enrolled in or applying for a dietetic internship; student pursuing a certificate in nutrition and dietetics
- Overall and nutrition grade point average (GPA) at or above 2.5 and 3.0 respectively after completing fall of 2021 semester
- Intent to participate in all data collection methods
- Intent to complete all required activities of the self-guided experience and focus group
- Ability to meet financial obligations
- Evidence of full Coronavirus Disease 2019 (COVID-19) vaccination with any required booster injections submitted with the application
- Evidence of fulfilling COVID-19 guidelines for vaccination and boosters 2 weeks prior to departure

Participant Expectations

If you meet the inclusion criteria and have decided to participate in the research study as part of below is the step-by-step process.

1. Complete the application by January 31st, 2022.
2. Once the PI communicates that your application has been approved, sign, date, and submit the informed consent form to participate by February 7th and a partial payment of \$250.00.
3. During the first week of March, the PI will have a virtual orientation to discuss the experiences and pre-departure expectations since a small amount of preparation work will be involved.
4. Submit the final deposit by April 15th (\$750.00).
5. The week of April 24th you will take the first IDI and complete a brief survey collecting the following demographic data; age, identified gender identify, race, ethnicity, and academic status. Both surveys are online and you will receive a link in your university email account for access.
6. Soon after completing the IDI, you will receive your results and a personalized plan to develop your IC. Please read through these materials before meeting with the PI.
7. You will need to meet with the PI for 30-60 minutes on or before May 2nd. There will be a link sent to your university email account with available days and times to schedule a meeting.
8. During the meeting with the PI, your results and personal plan will be explained in detail according to the guidelines of the IDI organization. This is also an opportunity to ask any questions.
9. On May 9th, we will have one last meeting before departure to finalize the schedule and other details.

1. During the week of June 20th, you will take the second IDI and participate in a focus group. Once again, the survey is online and you will receive a link to access it in your university email. The focus groups will be virtual or face-to-face depending on your location, lasting 75-90 minutes.
2. At the end of the Summer 2022 semester, your group will present the results of the neighborhood needs assessment assignment at a date and time to be determined.

Works Cited

1. Quick facts United States. US Census Bureau Website. <https://www.census.gov/quickfacts/fact/table/US?PST045219>. Updated July 2021. Accessed January 3rd, 2022.
2. Abrishami D. The need for cultural competency in health care. *Radiol Technol*. 2018;89(5):441-448. PMID: 29793905
3. Wynn CL, Raj S, Tyus F, Greer YD, Batheja RK, et al. Barriers to and facilitators of dietetics education amongst students of diverse backgrounds: results of a survey. *J Acad Nutr Diet*. 2017;117(3):449-468. doi:10.1016/j.jand.2016.06.010
4. McCabe CF, O'Brien-Combs A, Anderson OS. Cultural competence training and evaluation methods across dietetics education: a narrative review. *J Acad Nutr Diet*. 2020;120(7):1198-1209. doi:10.1016/j.jand.2020.01.014
5. Intercultural development inventory® intercultural development plan. IDI Website. <https://idiinventory.com/wp-content/uploads/2019/05/Sample-Intercultural-Development-Plan.pdf>. Published 2017. Accessed January 3rd, 2022.
6. The process of cultural competency. Transcultural C.A.R.E. Associates Website. <https://transculturalcare.net/the-process-of-cultural-competence-in-the-delivery-of-healthcare-services>. Published 2020. Accessed January 3rd, 2022.
7. Campinha-Bacote J. The process of cultural competence in the delivery of healthcare services : a model of care. *J Transcult Nurs*. 2002;13(3):181-184. doi:10.1177/10459602013003003.
8. Hammer MR. Additional cross-cultural validity testing of the intercultural development inventory. *Int J Intericult Relations*. 2011;35(4):474-487. doi:10.1016/j.ijntrel.2011.02.014
9. Wright L, Lundy M. Perspectives of cultural competency from an international service learning project. *J Acad Nutr Diet*. 2014;114(7):996-997. doi:10.1016/j.jand.2014.02.028
10. Wright L, Lundy M. Blogging as a tool to promote reflection among dietetic and physical therapy students during a multidisciplinary international service-learning experience. *J Allied Health*. 2012;41(3):73-78.

Estimated Cost

- We will be staying in two townhomes with fully equipped kitchens in each unit. Each unit has the capacity to house at least 6 individuals. The estimated number of individuals staying in each unit will be 5-6. Transportation to events is included in the estimated cost, and the PI will have a car in case of any need in which an individual cannot access public transportation. For an out-of-pocket expense, you can purchase a "Jazzy Pass" which provides access to the buses, streetcars, and ferries. To learn more use the link <https://www.norta.com>.
- Estimated cost is \$1,000.00 + transportation to and from New Orleans (purchased separately)
 - Cost includes
 - Lodging for 14 days (arrive May 15th, depart May 29th)
 - 14 meals
 - Tours (plantations, Treme neighborhood, Cabildo, Mari Gras museum, culinary)
 - Transportation to planned events
 - Materials for presentations
 - The above is an estimate; if prices change, you will be notified by April 15th when the final deposit is due (\$750.00).
 - The cost does not include tuition and fees, transportation to and from New Orleans, some meals, and personal expenses

- **Reflection journal prompting questions**
 - Discuss the most impactful information you learned about African American culture during today's tours.
 - How did today's experience make you feel about the following?
 - The acceptance of your culture in society compared to other cultures
 - The impact on your thoughts as to how minorities were treated in the past and currently
 - How you will interact with other cultures in the future
 - Your motivation level to contribute to a more equitable society
 - How you will contribute to creating a more equitable society
 - What impact did the various memorials at the Whitney Plantation have on you personally?
 - Describe any interactions you had with staff and individuals visiting the plantation (outside of our group).
 - Think back to the article written by Benji Hart. Describe any similarities and differences you experienced at the plantations and how did you deal with any negative events?
 - What advice would you offer to others who have never visited a plantation but plan on doing so?
 - How did this experience relate to nutrition and food culture?
 - Individuals tend to verbalize, "At least it (slavery) doesn't happen today, it's in the past." However, our present environment still reflects the suppression and inequities of the past. Provide your thoughts about these two statements and what would your response be to an individual who verbalizes the first statement?
 - Compare your motivation level to learn more about slavery and its influence on African American culture before and after this experience.

- **Reflection journal prompting questions:** You only need to do one journal for the community service experiences you complete.
 - Briefly share which events you attended and what led you to your choices.
 - Describe the interactions you had with staff and clients served during the hours you provided service and how they personally impacted you.
 - Discuss how the inequities, health disparities, and needs compared and differed amongst the populations you served.
 - What factors contributed to the inequalities and health disparities you identified in the populations you served.
 - Share a few ideas for interventions that would lessen or eliminate the inequalities and health disparities you identified in the populations you served.
 - Compare your level of empathy towards the populations you served before and after these experiences. Explain what contributed to any changes you may have experienced after completion of service.
 - How did today's experience make you feel in regards to the following...
 - The stigmas surrounding the populations served by the organizations (for example, those that are often heard about the homeless, individuals with addictions, ex-prisoners, those in the low-income bracket of society, etc.)
 - The importance of eliminating these stigmas
 - How you will react to others that promote these stigmas
 - As a future nutrition professional, how will you apply what you learned from these experiences as you continue to develop your intercultural competence?
 - Discuss your level of desire to continue serving similar populations once arriving back home. How would you serve these populations?

APPLICANT INFORMATION					
Last Name:		First:		M.I.	Date
Street Address:				Apartment/Unit #:	
City:		State:		ZIP:	
Phone:					
University Email Address:			Personal Email Address:		
Planned Date of Program Completion:			Current GPA: _____		
Current Status: Senior in Undergraduate Program: _____ Intern (indicate current rotation and those that have not been completed): _____					
EDUCATION					
College			Address		
From	To	Did you graduate?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Degree
College			Address		
From	To	Did you graduate?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Degree
REFERENCES - PLEASE LIST TWO PROFESSIONAL REFERENCES. At least one should be from a university professor/instructor.					
Full Name			Relationship		
Company			Phone		
Address					
Full Name			Relationship		
Company			Phone		
Address					

- **Reflection journal prompting questions**
 - After reading the information on the website, what expectations did you have before arriving to Studio BE?
 - What was your overall impression of Studio BE after the tour, and how did this compare to your expectations described above?
 - Discuss what you learned about inequities experienced by the Black community and contributing factors.
 - Describe the pieces of artwork that were most impactful to you on a personal level and what made this so.
 - Describe the interactions you had with the staff and other visitors during the tour.
 - Which solutions to resolving inequities were most interesting to you and what made them so? Share other solutions you have that were not expressed in the displayed artwork and how do you envision them leading to change?
 - How did the artwork make you feel in regards to the acceptance of your culture in society?
 - As a future nutrition professional, how will you apply what you learned from this experience as you continue to develop your intercultural competence?
 - Discuss your level of desire to learn more about the inequities experienced by the Black community and solutions.

- **Reflection journal prompting questions**
 - Discuss the most impactful information you learned about Black life in New Orleans during today's tour.
 - What inequities, health disparities and needs did you identify in the Treme community from the past and present?
 - What factors contributed to the inequalities and health disparities you identified above?
 - Share a few ideas for interventions that would lessen or eliminate the inequalities and health disparities you identified.
 - How did today's experience make you feel about the following?
 - The acceptance of your culture in society compared to other cultures
 - The impact on your thoughts as to how minorities were treated in the past and currently
 - How you will interact with other cultures in the future
 - Your motivation level to contribute to a more equitable society
 - How you will contribute to creating a more equitable society
 - Describe any interactions you had with the tour guide, individuals in the community, and business owners.
 - Discuss challenges the business owners have faced in this community and how they have responded.
 - How did this experience relate to nutrition and food culture?
 - As a future nutrition professional, how will you apply what you learned from these experiences as you continue to develop your intercultural competence?
 - Comment on the importance of providing an authentic and honest view of Black life for individuals inside the Black community and individuals that are not a part of the Black community.
 - How motivated are you to continue learning about the Treme community?

- **Reflection journal prompting questions**
 - What knowledge about New Orleans food culture did you gain from this experience?
 - Discuss if your comfort level when interacting with large audiences changed because of this experience.
 - Describe the interactions you had with the staff and attendees of the event.
 - From your observations, do you feel the participants enjoyed the event? If yes, what made it successful? If no, what could have been done differently with the curriculum?
 - Prior to this service-learning trip, your experiences with providing nutrition education to others may have been limited to strictly providing information. What are the advantages and disadvantages when using food demonstrations to teach others about nutrition?
 - How will this experience influence your future teaching approaches?
 - What importance do events such as todays serve, in shaping the nutritional status of a community?
 - What information about nutrition and culture was most impactful throughout this experience?
 - How did the participants react to the modified food samples? Describe the challenges one may experience when faced with maintaining the cultural aspects of a recipe while improving its health profile.
 - How will this experience change the way in which you approach clients and patients during nutrition education and counseling sessions?
 - How can the DGAs and MyPlate be more culturally sensitive during their next revisions?
 - Discuss your level of motivation to continue learning about New Orleans food culture because of this experience.

- **Reflection journal prompting questions:** You only need to write one reflection for this and The Edible Schoolyard Project experience.
 - Discuss if your comfort level when interacting with children/adolescents changed because of these experiences.
 - Describe the interactions you had with the staff and children/adolescents.
 - From your observations, do you feel the participants enjoyed the event? If yes, what made it successful? If no, what could have been done differently with the curriculum?
 - Prior to this service-learning trip, your experiences with providing nutrition education to others may have been limited too and/or directed towards an adult audience. If you are used to working with adults, how did you adjust your approach to meet the learning needs of children?
 - How will these experiences influence your future interactions with children?
 - What importance do these programs serve in shaping the nutritional status of a community?
 - How did today's experience make you feel in regards to the following...
 - Any inequalities, health disparities, and needs that may have been identified
 - Your motivation level to contribute to a more equitable society
 - How did this experience relate to nutrition and food culture?
 - Address your level of motivation to continue working with children/adolescents in the future and what you hope to accomplish in your own and other communities when it comes to the future nutritional status of children and their families.

Appendix E: Consent Form for Participation

01/22/2022

The efficacy of a service-learning experience in the New Orleans area in improving intercultural competence of nutrition and dietetics students

You are being invited to participate in a research study about the development of intercultural competence skills in nutrition students. As a participant, you have chosen to be part of the control group (those participating in a self-guided approach) or interventional group (those participating in a service-learning trip to New Orleans). This study is being conducted by Michel D. Harris (the primary investigator), a lecturer of nutrition sciences at Dominican University and doctorate candidate at the University of North Florida.

You were selected as a possible participant in this study because you voluntarily expressed acceptance of participation and met stated inclusion criteria.

There are no known risks if you decide to participate in this research study. In the event that certain activities or the focus group invokes an emotional response that a participant expresses difficulty in processing, the primary investigator (PI) will discuss the level of care that participant may need to come to comfortable terms with the situation. There are no known costs for control subjects. If you are going to New Orleans, the cost of the trip was communicated to you, and you know that this may change prior to departure. Any changes may require further payment or reimbursement.

The information you provide will be used to develop intercultural competence training and curriculum for nutrition programs. In regards to completion times, both the control and interventional participants will spend 20-30 minutes taking the Intercultural Development Inventory (this will be taken twice), time to complete self-guided activities selected by control group participants will vary, participants of the New Orleans trip will be occupied for two weeks, and the focus groups for control and interventional participants will take 75-90 minutes (each participant will only attend one focus group). You have also been made aware that reflective journaling assignments are required for both the control and interventional groups, and the amount of time needed to complete these will vary. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

Any information that identifies you will be stored on a secured server or in a locked and secured file cabinet. You will receive an identification code that should be used instead of your personal identifying information when submitting future items to the PI. When reporting the results of this study, you will remain anonymous. Individuals from the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing the IDI, reflective journals, focus groups, and in the case of the interventional group, the New Orleans service-learning experience, you are voluntarily agreeing to participate. You are free to remove yourself from the study at any time and for any reason without penalty.

If you have any questions about the study, please contact Michel D. Harris at n01443380@unf.org.

University-IRB at 708-488-5113 or email tcaldwell@dom.edu.

Appendix F: Demographic Data Collection Sheet

Demographic Survey

Preferred Name (first, middle initial, last):

University email address:

Birthday (month, date, year):

Please indicate the gender in which you identify with

- ☐ Male
- ☐ Female
- ☐ Transgender male
- ☐ Transgender female
- ☐ Gender variant/Non-conforming
- ☐ Other: _____
- ☐ Prefer not to answer

Which academic status do you currently identify yourself as?

- ☐ Sophomore undergraduate student nutrition major
- ☐ Junior undergraduate student nutrition major
- ☐ Senior undergraduate student nutrition major
- ☐ Nutrition Certificate Program student
- ☐ Dietetic Intern and not a graduate student
- ☐ Dietetic Intern and graduate student
- ☐ Prefer not to answer

Which category best describes yourself (Check all that apply)?

- ☐ Black or African American (example: African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali)
- ☐ Hispanic, Latino, or Spanish origin (example: Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Columbian)
- ☐ American Indian or Alaska Native (example: Navajo nation, Blackfeet tribe, Mayan, Aztec, Native Village or Barrow Inupiat Traditional Government, Nome Eskimo Community)
- ☐ Asian (example: Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese)
- ☐ Native Hawaiian or Other Pacific Islander (example: Native Hawaiian, Samoan, Chamorro, Tongan, Fijian)
- ☐ Middle Eastern or North African (example: Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian)
- ☐ White (example: German, Irish, English, Italian, Polish, French)
- ☐ Other
- ☐ Prefer not to answer

Application G: Service-Learning Application Form

STUDENT APPLICATION FOR SERVICE-LEARNING EXPERIENCE TO NEW ORLEANS APPLICATION DEADLINE: DECEMBER 15TH, 2021 AT 12 PM CST			
Company #1 (Work/Volunteer Experience):		Phone:	
Address:		Supervisor:	
Job Title:	Start Date:	End Date:	
Responsibilities:			
Reason for leaving:			
May we contact your previous supervisor for a reference? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Was this position, volunteer, or part of a course requirement?			
Paid <input type="checkbox"/> Volunteer <input type="checkbox"/> Course Requirement <input type="checkbox"/> Clubs/Extracurricular Activities <input type="checkbox"/>			
Company #2 (Work/Volunteer Experience):		Phone:	
Address:		Supervisor:	
Job Title:	Start Date:	End Date:	
Responsibilities:			
Reason for leaving:			
May we contact your previous supervisor for a reference? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Was this position, volunteer, or part of a course requirement?			
Paid <input type="checkbox"/> Volunteer <input type="checkbox"/> Course Requirement <input type="checkbox"/> Clubs/Extracurricular Activities <input type="checkbox"/>			
Company #3 (Work/Volunteer Experience):		Phone:	
Address:		Supervisor:	
Job Title:	Start Date:	End Date:	
Responsibilities:			
Reason for leaving:			
May we contact your previous supervisor for a reference? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Was this position, volunteer, or part of a course requirement?			
Paid <input type="checkbox"/> Volunteer <input type="checkbox"/> Course Requirement <input type="checkbox"/> Clubs/Extracurricular Activities <input type="checkbox"/>			
APPLICATION CHECKLIST – DUE DECEMBER 15TH, 2021 AT 12 PM CST			
<div style="display: flex; align-items: center;"> <div style="width: 20px; height: 20px; background-color: #0056b3; margin-right: 10px;"></div> <div>Completed application uploaded with the personal statement to mharris@dom.edu.</div> </div>			



Official transcripts from ALL college-level institutions attended. Please email transcripts to mharris@dom.edu.



Personal statement. Personal statement should be 2-3 pages, double-spaced, with one-inch margins all around.

Please address each of the following topics in your personal statement:

1. What is your definition of intercultural competence?
2. What experiences have you had when working with others from different cultures?
3. What do you hope to learn from this experience?
4. Why do you feel the committee should select you to participate in this experience?



Two professional references. At least one should be from a university professor/instructor. All recommendation letters should be sent directly from each reference to Michel Harris at mharris@dom.edu with "Service-Learning Experience Recommendation" in the subject line.

Appendix H

Interview Guide for Post-Experience Focus Groups

Question Type	Questions: Experimental Group
Introduction	<ul style="list-style-type: none"> • Welcome and how are all of you today? Congratulations to all of you for completing the two-week service-learning experience in New Orleans. I am so gracious for your participation and motivation, and I thank all of you for being here. The consent form that you signed prior to this meeting outlined the purpose of this focus group, which is to discuss your impressions of the preparation and service-learning experience, and further share how the activities you participated in helped develop your intercultural competence skills. In addition, I am interested in your feedback as to how the experience can be improved for future students. This information will help myself and others develop a standardized service-learning experience for ACEND programs to implement in the future. • This focus group should take about 60-90 minutes, and if you need to take a short break at any time just let me know. Feel free to have some of the snacks and beverages provided at the entrance to this room (if applicable). I will be using my I-phone and laptop to record the session so I can focus on your comments. My observer in the back of the room will also be taking notes to support the recorded version. • You already signed the consent form prior to our focus group, and I just want to reassure you that your identity will remain anonymous when submitting my research manuscript, and the only individuals that will know your identity are myself and the research team. You may choose not to answer a question or questions, and you may leave the meeting at any time if you do not feel comfortable continuing. Details about what was discussed during this focus group and individuals present should also remain confidential. Take a moment to consider if you are still interested in continuing with this meeting. Are you all ready to start?
Opening	<ul style="list-style-type: none"> • What led you to apply to participate in this service-learning experience? <ul style="list-style-type: none"> ◦ Further probing question: What expectations did you have before departing on the service-learning experience?
Introductory	<ul style="list-style-type: none"> • Could you tell me about the activities during the preparation and service-learning experiences that were most and least interesting. Further probing question: What made the (insert name of activity) most/least interesting?
Transition	<ul style="list-style-type: none"> • Describe your impression of the communities you were involved with during the service-learning experience. <ul style="list-style-type: none"> ◦ Further probing question: What other communities could be included in future trips? • Describe interactions you had with individuals of unfamiliar cultures during the service-learning experience. <ul style="list-style-type: none"> ◦ Further probing questions: Tell me about the more positive interactions and what you learned. Tell me about any negative interactions and what you learned. • Describe how the experiences and activities during the service-learning experience helped develop your intercultural competence skills. <ul style="list-style-type: none"> ◦ Further probing question: What unplanned experiences during the service-learning experience helped you develop your intercultural competence skills.
Key	<ul style="list-style-type: none"> • Which experiences and activities during the service-learning experience

	<p>were the most and least beneficial for developing your intercultural competence skills?</p> <ul style="list-style-type: none"> ○ Further probing questions: Could you further explain how (insert experience/activity) was most/least beneficial? How could this service-learning experience be improved?
	<ul style="list-style-type: none"> • Tell me how the service-learning experience met your expectations. <ul style="list-style-type: none"> ○ Further probing questions: What was most memorable about the experience? If your expectations were not met, what led you to feel this way?
Closing	<ul style="list-style-type: none"> • Do you have any other thoughts or comments related to this service-learning experience that you would like to share? • Thank you for your time today. Your contributions will be helpful in improving the curriculum of programs for future nutrition students. I will send you a copy of my findings after analyzing the data and please feel free to contact me if you have any further questions or concerns.

Interview Guide for Post-Experience Focus Groups

Question Type	Questions: Control Group
Introduction	<ul style="list-style-type: none"> • Welcome and how are all of you today? Congratulations to all of you for completing the two-week service-learning experience in New Orleans. I am so gracious for your participation and motivation in the self-directed intercultural competence development, and I thank all of you for being here. The consent form that you signed prior to this meeting outlined the purpose of this focus group, which is to discuss your share how the activities you participated in helped develop your intercultural competence skills. In addition, I am interested in your feedback as to how this experience can be improved for future students. This information will help myself and others develop a standardized service-learning experience for ACEND programs to implement in the future. • This focus group should take about 60-90 minutes, and if you need to take a short break at any time just let me know. Feel free to have some of the snacks and beverages provided at the entrance to this room (if applicable). I will be using my I-phone and laptop to record the session so I can focus on your comments. My observer in the back of the room will also be taking notes to support the recorded version. • You already signed the consent form prior to our focus group, and I just want to reassure you that your identity will remain anonymous when submitting my research manuscript, and the only individuals that will know your identity are myself and the research team. You may choose not to answer a question or questions, and you may leave the meeting at any time if you do not feel comfortable continuing. Details about what was discussed during this focus group and individuals present should also remain confidential. Take a moment to consider if you are still interested in continuing with this meeting. Are you all ready to start?
Opening	<ul style="list-style-type: none"> • What led you to apply to participate in this self-guided experience? <ul style="list-style-type: none"> ○ Further probing question: What expectations did you have before participating in this experience?
Introductory	<ul style="list-style-type: none"> • Could you tell me about the activities in your individualized plan that were most and least interesting. <ul style="list-style-type: none"> Further probing question: What made the (insert name of activity) most/least interesting?
Transition	<ul style="list-style-type: none"> • Describe your impression of any communities you were involved with

	<p>during the self-guided experience.</p> <ul style="list-style-type: none"> ○ Further probing question: What other communities could be included in future experiences? <ul style="list-style-type: none"> • Describe interactions you had with individuals of unfamiliar cultures during the self-guided experience. <ul style="list-style-type: none"> ○ Further probing questions: Tell me about the more positive interactions and what you learned. Tell me about any negative interactions and what you learned. • Describe how the experiences and activities during the self-guided experience helped develop your intercultural competence skills. <ul style="list-style-type: none"> ○ Further probing question: What unplanned experiences during the self-guided experience helped you develop your intercultural competence skills.
Key	<ul style="list-style-type: none"> • Which experiences and activities during the self-guided experience were the most and least beneficial for developing your intercultural competence skills? <ul style="list-style-type: none"> ○ Further probing questions: Could you further explain how (insert experience/activity) was most/least beneficial? How could this service-learning experience be improved? • Tell me how the self-guided experience met your expectations. <ul style="list-style-type: none"> ○ Further probing questions: What was most memorable about the experience? If your expectations were not met, what led you to feel this way?
Closing	<ul style="list-style-type: none"> • Do you have any other thoughts or comments related to this self-guided experience that you would like to share? • Thank you for your time today. Your contributions will be helpful in improving the curriculum of programs for future nutrition students. I will send you a copy of my findings after analyzing the data and please feel free to contact me if you have any further questions or concerns.

Appendix I: IRB Approval Letter



7800 W. Division Street (708) 866-3160 • dom.edu
River Forest, Illinois 60305 (708) 824-8980 f

December 20, 2021

To: Michel Harris
Project: "The Efficacy of a Service-learning Experience in the New Orleans Area in
Improving Intercultural Competence of Nutrition and Dietetics Students"
IRB #: 128

Thank you for submitting the revisions of your application to the Dominican University Institutional Review Board (IRB). The IRB has received and evaluated these revisions and has determined that this protocol can now be approved.

You may begin your study immediately. If the study will take place over several years, you will need to renew your study annually as of the date of this letter by submitting a continuing review every 12 months until your study is fully complete; including data analysis.

This approval is limited to the activities described in the approved protocol narrative, and extends to the performance of these activities at each respective site identified in the *Application for IRB Review*. In accordance with this approval, the specific conditions for the conduct of this research must comply with Federal Policy (Common Rule) for the protection of human subjects and informed consent from the subjects must be obtained as indicated.

If you have any questions regarding this guidance, please contact me at tcaldwell@dom.edu.

Sincerely,

A handwritten signature in black ink, appearing to read "Tracy Caldwell".

Tracy L. Caldwell, Ph.D.
Chair, Institutional Review Board

[Where Learning Doesn't Stop](#)