IMPROVING THE CULTURAL COMPETENCY OF REGISTERED NURSES IN A BACHELOR’S COMPLETION PROGRAM

by

Christal L. Saffee, MSN, RN, FNP-C

DR. CATHERINE SUTTLE, PhD, Faculty Mentor and Chair

DR. TYRA OUSLEY, PhD, Committee Member

DR. JOHN KOWAL, PhD, Committee Member

Patrick Robinson, PhD, Dean, School of Nursing and Health Sciences

A DNP Project Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Nursing Practice

For submission to Journal of Transcultural Nursing

Capella University

October 2015
Abstract

**Purpose:** To evaluate the effectiveness of an educational intervention project that was designed to increase cultural competence of registered nursing (RN) students who were completing their bachelor’s degree.

**Design:** This quasi-experimental project utilized a convenience sample. The Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Revised (IAPCC-R) was administered as a pre- and posttest. The interventions included completing a simulation-based educational program about cultural competence and a service learning project.

**Findings:** Students had an increase in their overall cultural competency scores as measured by the IAPCC-R (70 ± 6 to 74 ± 6). However, this increase was not statistically significant as measured by paired t-tests. (1.49  $p < .05$,  $df = 11$).

**Conclusion:** This project supports the need for cultural competency training for nurses.

**Implications for Practice:** Future research should include a meta-analysis of the literature related to cultural competency and look specifically at the constructs tested by the IAPCC-R.

**Keywords:** cultural competence, simulation software, service learning, nursing students, IAPCC-R
BACHELOR’S COMPLETION PROGRAM

Introduction

Cultural competence brings awareness to healthcare providers regarding the essential skills to meet the healthcare needs of diverse populations in the current healthcare setting (Smit & Tremethick, 2013). Nurses are expected to provide care to a diverse population and deliver this care to each patient which they interact without judgment. Nurses are better prepared to do this when they have an awareness of their own attitudes which may be different from the attitudes of their patient population. The American Association of Colleges of Nursing (AACN) makes specific recommendations regarding cultural competency in nursing education.

Cultural Competence in Nursing Education

The American Association of Colleges of Nursing (AACN) is a national organization that makes recommendations for educational requirements for nursing schools. One of these recommendations, the Essentials of Baccalaureate Education for Professional Nursing Practice, highlights cultural competence in several of the outcome competencies for graduates (AACN, 2008). It outlines the need for nurses to advocate for the health of vulnerable populations to help eliminate health care disparities for these groups (AACN, 2008). AACN’s recommendations are consistent with other national organizations such as the Health Resources and Services Administration (HRSA).

The HRSA is an agency of the United States Department of Health and Human Services. This federal agency aids individuals who are uninsured or medically vulnerable by improving their access to health care (HRSA, 2014). The HRSA distributes federal funding for areas in the United States that provide services to the medically underserved. In addition, this agency
Improving the Cultural Competency

provides grants that support primary care training programs. These programs increase diversity in the providers. A major goal of HRSA is to use cultural competency in all healthcare curriculums including nursing to improve the quality of care for ethnically diverse populations (HRSA, 2010).

Healthcare Disparities

The Agency for Healthcare Research and Quality (AHRQ) produces an annual report that examines disparities in healthcare. The 2014 National Healthcare Disparities Report, mandated by Congress, provides snapshots of access and quality inequities by race and ethnicity (United States Department of Health and Human Services, 2014). While access to care for adults 18-64 years of age is improving there are still marked healthcare disparities for minorities (Wallace, 2014). The 2014 Report by AHRA revealed that African Americans and Latinos receive lower quality healthcare as opposed to American Indians and Alaska Natives in 40 percent of healthcare indicators (Wallace, 2014).

An example of a poor healthcare outcome is the increase in mortality and morbidity rates for ethnic minorities in the United States. In 2002 the Institute of Medicine (IOM) published its report, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. This report was written in response to a request made by the U. S. Congress in 1999, asking for an IOM study to assess the extent of disparities in the types and quality of health services received by patients in the U. S. (IOM, 2003). According to the IOM (2003) report, there is a large body of research that underscores the existence of disparities. For example, many minorities are less likely to be medically managed for cardiovascular disease and complications of diabetes such as chronic kidney disease. These minorities are less likely to receive kidney dialysis or transplants
(IOM, 2003). A suggestion to improve these healthcare outcomes is to improve the cultural competency of health care providers.

The need for a culturally competent workforce to improve healthcare outcomes is reflected in the standards of those organizations that employ nurses. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is the leading accreditation organization for hospitals nationally. JCAHO supports the provision of care and services in a manner that is conducive to the cultural, spiritual, and religious needs of each individual (Esposito, 2013). This standard reflects the expectation of employers to employ a culturally competent nursing workforce.

**Purpose of the Project**

The use of simulation software and a service learning project with an international organization reinforced an existing gap in the current curriculum and the need for practice change. The purpose of this study was to evaluate the effectiveness of this educational intervention to improve the cultural competency of the participants.

**Method**

**Design**

This project utilized a quasi-experimental design in which a single group completed a pretest and posttest. The participants were registered nurses in a baccalaureate completion nursing program. This project site required that all students should complete Nursing 360 course, Health Assessment, Promotion and Diagnostic Reasoning, during their first year of the program. Full IRB approval was obtained from both Capella University and the site where the project was completed.
Sample

There were 12 participants who completed the IAPCC-R pretest and posttest. The participants ranged in age from 26 years of age to 58 years of age. The mean age of the group was 42 years of age. The participants included two males and 10 females. The group included four African Americans participants, eight Caucasian participants and one Middle Eastern participant. Even though the sample size was small, it was a diverse group of participants.

Assessment Tool

The Inventory for Assessing the Process of Cultural Competence among Healthcare Professionals Revised (IAPCC-R) tool uses a 4-point Likert scale (Campinha-Bacote, 2014a). There are twenty-five questions on the questionnaire and each question is worth a maximum of 4 points. The IAPCC-R measures the five constructs of Campinha Bacote’s Process of Cultural Competence in the Delivery of Healthcare Services. The five constructs are cultural encounters, cultural awareness, cultural knowledge, cultural skill, and cultural desire (Campinha-Bacote, 2014b).

The questions on cultural awareness assess the participants’ awareness of any preconceived feelings or stereotyping of cultural groups different than their own. Cultural desire is another construct that is measured by the IAPCC-R tool. According to Campinha-Bacote cultural desire is the motivation of the healthcare professional to be involved in the process of becoming culturally aware, culturally knowledgeable, culturally skillful and in seeking cultural encounters (Campinha-Bacote, 2011).

The third construct is cultural knowledge. Cultural knowledge is defined as the process by which the healthcare professional seeks and obtains a sound educational base about culturally diverse groups (Campinha-Bacote, 2014). Cultural knowledge is essential for the fourth
construct cultural skill. Cultural skill is the capability in the patient assessment to include pertinent cultural practices and values which may impact the patient’s health. (Campinha-Bacote, 2011).

Dr. Campinha-Bacote (2014) describes cultural encounters as the pivotal construct of cultural competence in that it provides the energy source and foundation for one’s journey towards cultural competence. The fifth construct of cultural competency is cultural encounters.

**Intervention**

The project intervention included the completion of both a service learning project and a simulation software program. The participants completed the Shadow Health Digital Clinical Experience (DCE). The Shadow Health DCE is software used for teaching physical assessment (Shadow Health, 2015). Culturally competent care is essential when completing a health assessment. A comprehensive health assessment requires expert clinical skills as well as cultural skills (Quickfall, 2014).

The Shadow Health DCE software can be tailored to meet different educational objectives through edits to the lifespan and self-reflection questions (Dr. Benjamin Lok, personal communication, July 24th, 2014). The educational objective for this project was to increase cultural competency. Software edits were completed in the lifespan section which gave the simulation patient, Tina, cultural values and beliefs consistent with the Dominican Republic ethnicity. Questions were asked about healthcare practices in the Dominican Republic. In addition self-reflection and lifespan questions about other cultures were also introduced.

Healthcare professionals need to be aware of sociocultural differences between themselves and their patients in order to deliver culturally competent care (Jarvis, 2012). When utilizing the simulation software the subjects must learn to be culturally sensitive and have
culture knowledge about the simulation patient, Tina, who is from the Dominican Republic. Individuals from rural Dominican Republic value and use both generic (folk) and professional care practices (Schumacher, 2010). Tina believes in the Dominican folk practice of poor blood distribution. She believes this has contributed to her headache. The participants were asked to respond in a culturally sensitive matter to Tina’s cultural beliefs. The participants also responded to questions on ethnopharmacy, ethnic predisposition to some diseases, and anatomical differences for some racial groups. Different patient scenarios were introduced in the Digital Clinical Experience to illustrate these concepts.

The participants were asked to identify which racial group is predisposed to a bifid uvula. In addition, the participants were asked general questions such as which racial groups had the smallest chest sizes. These assessment questions helped the participants identify anatomical variations that are influenced by race or ethnicity.

In addition, certain health problems may have an ethnic or racial predisposition. The students were asked which racial group may be more predisposed to hypertension. Some African Americans may be prone to hypertension due to decreased renin levels which increases vascular expansion resulting in hypertension (Purnell, 2014). The participants were also asked about their concept of lactose intolerance. Tina, the simulation patient, asked if her lactose intolerance was inherited and the participant responded to her. The model response is that certain ethnic groups, in particular individuals from Asia have a higher risk for lactose intolerance. It may appear that lactose intolerance is genetic but it is actually more influenced by racial predisposition (Jarvis, 2012). These are examples of several scenarios which were added to illustrate cultural variations in disease presentation, drug metabolism, and anatomical variations. In addition to
the computer-based training exercises, the participants were asked to complete a service learning project with Vision Trust International.

Vision Trust International is a Christian humanitarian organization dedicated to working with children, families, and their communities worldwide to reach their full potential by tackling the causes of poverty and injustice (Vision Trust International, 2014). The participants designed a brochure for school-aged children who lived in the Dominican Republic to teach them the importance of hand washing. Vision Trust did not utilize the brochures, but this exercise was a vital learning activity for the participants. This project augmented the simulation software which also had learning objectives about the cultural practices of patients from the Dominican Republic. A criterion for designing the brochure was cultural sensitivity to Dominican Republic residents. The concept of germs causing disease is a concept embraced by Westernized medicine (Jarvis, 2014). Frequently school-aged children from this region do not understand that germs can cause disease. The participants needed to introduce this concept in their hygiene brochures.

Results

Table 1 reports the IAPCC-R scores prior to the intervention. The sample number (N) was 12. The pretest mean on the IAPCC-R scores was 69.83. Standard deviation is the amount of variation or dispersion of a set of values (Portney & Watkins, 2009). The pretest scores had a relatively low standard deviation of 6.48.

The posttest scores on the IAPCC-R had an even smaller standard deviation of 6.17. The posttest mean after the intervention increased to 73.92 (See Table 1) from a pretest mean of 69.83. The posttest IAPCC-R scores ranged from 63-81 points while the pretest scores ranged from 58-79 points.
The paired t-test was used to determine if there was a statistically significant difference in the pretest/posttest IAPCC-R scores. Participants’ IAPCC-R scores were higher after the educational intervention (service learning & simulation software) \((M = 73.92, SD = 6.17)\) than prior to the intervention \((M = 69.83, SD = 6.48)\). However, this change was not a statistically significant difference in the scores, \(t(11) = 1.49, p < .05\). Table 2 illustrates the comparison between IAPCC-R scores prior to and after the intervention.

The lack of a statistically significant increase could be attributed to several factors. First, the pretest scores were relatively high with a standard deviation of 6.48. Scores of 25-50 points on the IAPCC-R correspond with the label of culturally incompetent; 51-74 points is considered culturally aware; whereas scores of 75-90 points indicates culturally competent and scores of 91-100 points, a participant is defined as culturally proficient. In the pretest group, ten of the participants were culturally aware and two were culturally competent. In the posttest group, eight were culturally competent and four were culturally aware (See Figure 1). It is of interest to note that none of the participants were culturally incompetent nor culturally proficient in both the pretest and posttest groups.

These scores are much higher than those in a study by Kardong-Edgren et al. (2010). In this study traditional bachelor’s completion students had lower IAPCC-R pretest scores but the average age of these students was much younger than those who participated in this project. Kardong-Edgren et al. (2010) found that the program with the youngest students had the lowest IAPCC-R pretest scores. Kardong-Edgren et al. (2010), administered the IAPCC-R to graduating students \((n = 515)\) from six different BSN programs. On average, the results were in the culturally aware range, even after the curriculum intervention (Kardong-Edgren et al., 2010). Culturally aware range is represented by lower scores ranging from 51 points to 74 points out of
100 points. The participants in this project scored in the culturally aware range (51-74 points) and culturally competent range (75-90 points) even prior to the intervention. These participants had much higher pretest scores as compared to the Kardong-Edgren (2010) study. These high pretest scores may contribute to no statistical significant difference in IAPCC-R scores after the intervention.

Lack of randomization may have also contributed to no statistical increase in IAPCC-R scores. According to Matthews, Cook, Terada and Aloia (2010) randomization may be necessary in small sample sizes since groups that are balanced on multiple variables are unlikely to emerge in small samples. It was not possible in an academic setting to withhold intervention strategies to randomize the groups. A larger sample size may have been more representative of the target population but was not possible due to course enrollment constraints.

The IAPCC-R tool measures the five constructs of Campinha Bacote’s Process of Cultural Competence in the Delivery of Healthcare Services. The five constructs are cultural encounters, cultural awareness, cultural knowledge, cultural skill, and cultural desire (Campinha-Bacote, 2014b). Each construct contributes a possible maximum score of 20 points. The total maximum score on the IAPCC-R is 100 points. The total score on the IAPCC-R corresponds to the continuum with labels of culturally incompetent (25-50 points), culturally aware (51-74 points), culturally competent (75-90 points), and culturally proficient (91-100 points).

According to Dr. Campinha-Bacote’s theory, The Process of Cultural Competence in the Delivery of Healthcare Services, all five constructs are essential in order to become culturally competent (Campinha-Bacote, 2011).

The first construct on the IAPCC-R is cultural awareness. The mean participants’ score on the IAPCC-R measuring cultural awareness was 16 points out of a possible 25 points (See
Figure 2). Cultural desire is another construct that is measured by the IAPCC-R tool. The mean score on questions measuring cultural desire in the posttest group was 19 points out of a possible 25 points. According to these scores, the group had cultural desire to obtain the skills and knowledge needed to care for a culturally diverse population.

The third construct is cultural knowledge. Questions related to this construct were the participants’ understanding of ethnopharmacy, cultural practices of different ethnic groups and anatomical variations among different ethnic groups. The data revealed their understanding that certain anatomical variations may vary with different ethnic groups. Chest sizes, acanthosis nigricans as well as bifid uvulas are examples of anatomical variations that have cultural and genetic predispositions.

In the Shadow Health educational program the majority of participants answered correctly that bifid uvulas may occur at a higher incidence in Native Americans. The participants also understood that acanthosis nigricans which is a velvety hyperpigmentation of the body folds that may occur with chronic elevation of blood sugars are rarely seen in the Asian population. Their responses indicated a poor understanding of ethnopharmacy. The mean score on the posttest questions measuring knowledge was 11.5 points out of a possible 25 points, as compared to their pretest score mean of 10 points.

The mean score for cultural knowledge was the lowest of all five constructs. These results are consistent with another study by Riley, Smyer, and York (2012). In this exploratory study fifty-three RN-BSN students completed the IAPCC-R to assess the cultural competency of registered nurses entering a baccalaureate program. These registered nurses had the lowest mean score on the construct of cultural knowledge.
The IAPCC-R also measured cultural skill. The participants were engaged in using the Shadow Health educational program to collect cultural information that would impact the health of their simulation patient, Tina. The participants’ assessment of Tina was comprehensive including questions about the family of origin, any special cultural practices for healing, and use of herbal or non-Westernized medicines for treatment. Tina, the simulation patient, believed in the concept of the imbalance of bad blood causing her headaches. The participants were able to incorporate this cultural practice into their care of the simulation patient by having the patient lie on her opposite side as well as completing a neurological assessment. The mean posttest score on questions reflecting cultural skill on the IAPCC-R was 15 points, as compared to a pretest score of 14 points out of 25 points.

The fifth construct of cultural competence that the IAPCC-R measured was cultural encounters. There was no change in cultural encounters scores with the educational intervention. The mean score on the questions measuring cultural encounters on the IAPCC-R was 15 points out of 25 points on both the pretest and posttest scores.

**Interpretation of Results**

The results suggest that cultural competency education for nurses is imperative to provide care to an increasingly diverse United States population. After implementation of the interventions, the majority of the nurses in this project were culturally competent (eight) and four nurses were culturally aware. None of the nurses scored over 75 points out of 100 which would be the culturally proficient level. These total IAPCC-R scores may be explained by the lower scores on the construct of cultural knowledge.

The low scores on the construct of cultural knowledge has been reported by other authors (Mahabeer, 2009; Riley, Smyer, & York 2012). Questions related to this construct were
related to participants’ understanding of cultural practices of different ethnic groups, anatomical variations among different ethnic groups and ethnopharmacy. The results of this project indicated that the majority of participants felt they lacked knowledge regarding the concept of ethnopharmacology. “Ethnopharmacology incorporates and studies the biological, psychological, and physiological genetic and genomic components within persons. Culture and the process of cultural competence are inherent components within each one of these study areas” (Warren, 2008, p. 292).

This lack of understanding about ethnopharmacy is also reported by Mahabeer (2009). The culture competency of 58 hemodialysis nurses was assessed using the IAPCC-R. These nurses scored the lowest on the construct of cultural knowledge. The majority of hemodialysis nurses (79.3%) responded on the IAPCCR questionnaire that they were not knowledgeable in the area of ethnic pharmacology (Mahabeer, 2009).

The understanding of ethnopharmacy means there is awareness that certain ethnic groups metabolize drugs at different rates. According to Purnell (2014) individuals from Asia may require lower doses of neuroleptics. Nurses working with this patient population should grasp the increased risk of drug toxicities at standard doses. When educating nurses on the construct of cultural knowledge, educational interventions should focus on the topic of ethnopharmacology.

Conclusion

Both ethnic minorities and patients of low socioeconomic class suffer poor healthcare outcomes. According to the U. S. Department of Health and Human Services, Office of Minority Health, culturally competent nursing care may be a potential positive factor in addressing health disparities and initiatives to improve healthcare outcomes (U.S. Department of Health and Human Services, 2012). This is consistent with the recommendations by both the
Health Resources and Services Administration and American Association of Colleges of Nursing (AACN). According to the AACN (2008) in the curriculum consensus, Cultural Competency in Baccalaureate Nursing Education, Competency V states that nurses should participate in continuous cultural competence development. The AACN stresses a curriculum that teaches cultural awareness in order to eliminate health disparities and to prepare nurses to be prepared to function in a global environment as well as be able partnership with other healthcare disciplines (AACN, 2008).

In order to decrease healthcare disparities in the United States, nursing education must include cultural awareness and competency in the curriculum. While study abroad programs are effective in teaching cultural competency, it is not always a feasible option for students. There are additional expenses and time commitments for study abroad programs. The mean age of the participants in this project was 42 years of age. Many students in this project were experienced nurses with multiple commitments outside of the classroom. Many do not have the time or financial resources to travel abroad. Therefore the curriculum should include pedagogies that increase cultural awareness and competency in the classroom.

This project supports the need for cultural competency training for nurses. It is essential to provide nursing education particularly related to cultural knowledge. The participants in this project scored the lowest on the construct of cultural knowledge. These results are echoed by Mareno, and Hart (2014) who discovered that undergraduate nurses had lower mean scores on cultural knowledge compared to nurses enrolled in graduate school. According to Mareno and Hart (2014) these higher scores on cultural knowledge were statistically significant as measured by $t$-tests ($t = 2.1, p < .05$). Cultural competency education is essential to nurses but overall, the emphasis of the educational training should be on cultural knowledge.
Recommendations for Research and Practice

The majority of research on cultural competency has looked at the whole concept of cultural competency and not any of the individual constructs. Long (2012) reviewed the literature on teaching methodologies for cultural competency. This research concluded that there were a variety of methods to teach cultural competency but no method was superior to improving cultural competency in nursing students. (Long, 2012). Long’s systematic review of the literature looked at the total composite scores instead of the individual components of cultural competency such as cultural awareness, or cultural knowledge. It is not surprising that the research and evidence-based practice has not found a preferred method for teaching cultural competency.

Just as different pedagogies are used to teach a technical skill (such as clinical experiences to teach venipuncture insertion versus didactic coursework to teach pharmacology), there may need to be different methods of teaching the constructs of cultural competency. The five constructs of cultural competency are desire, awareness, knowledge, skill and encounters (Campinha-Bacote 2014b). It may be possible that cultural encounters are improved through service learning projects while cultural knowledge may be increased through didactic lectures. Future research should include a meta-analysis of the literature related to cultural competency and should look specifically at the constructs tested by the IAPCC-R. This may provide valuable insights to guide evidence based practice in teaching cultural competency.
References


Table 1
IAPCC-R Scores prior to and after educational intervention

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>69.83</td>
<td>6.48</td>
<td>12</td>
</tr>
<tr>
<td>Posttest</td>
<td>73.92</td>
<td>6.17</td>
<td>12</td>
</tr>
</tbody>
</table>
Table 2

$t$-Test Results

<table>
<thead>
<tr>
<th></th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
<th>$t$-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>69.83</td>
<td>6.48</td>
<td>12</td>
<td>1.49**</td>
</tr>
<tr>
<td>Posttest</td>
<td>73.92</td>
<td>6.17</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**$p < .05$, $df = 11$.**
Figure 1: IAPCC-R Scores
Figure 2: Mean Scores on Constructs of Cultural Competency
Academic Honesty Policy

Capella University’s Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or capstone project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person’s ideas or works.

The following standards for original work and definition of plagiarism are discussed in the Policy:

Learners are expected to be the sole authors of their work and to acknowledge the authorship of others’ work through proper citation and reference. Use of another person’s ideas, including another learner’s, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)

Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else’s ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University’s Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:
Research misconduct includes but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

Statement of Original Work and Signature

I have read, understood, and abided by Capella University’s Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the APA Publication Manual.

Learner name and date Christal Saffee 7/16/2015

Mentor name and school Dr. Catherine Suttle, PhD, School of Nursing and Health Sciences