Introduction

As the population has become more diverse and new nursing programs have emerged to address the nursing shortage, culturally competent care has become necessary to assist the client in reaching favorable health outcomes [1,2]. Curriculum in nursing programs is subject to changes necessitated by educational demands, state and national regulations, and societal demands, which keeps the curriculum evolving to meet professional standards. Faculty are held responsible for monitoring curriculum to ensure relevance, evidenced-based knowledge, and use of teaching strategies that facilitate student learning. Nursing programs are responsible for producing evidence of achievement of their program outcomes, and typically rely on evaluation of program effectiveness, implementation/delivery of curriculum, and student performance [1].

While exemplars of cultural competence are included in accreditation literature, there is no consistent method of teaching cultural competence or incorporating it into nursing curriculum. As such, nursing programs are at risk of not meeting required program outcomes based on a misinterpretation of cultural competence [3,4]. Cultural competence is defined as the practice of recognizing and considering cultural diversity between the nurse, the client, and the family when providing nursing care [3,5].

A review of the literature shows many baccalaureate nursing programs using cultural exemplars such as story-telling, cultural projects, and cultural excursions to assist students gain cultural competence [4]. Although recognized by nurse educators as a “stepping stone” to nursing practice, associate degree nurses comprise the majority of the registered nurse workforce in health care today [6]. Since review of the literature shows research being conducted primarily on baccalaureate programs, it is not known whether graduates of associate degree programs, who make up the majority of nurses entering the workforce today, are meeting the goal of providing culturally competent nursing care, an important nursing role identified by the IOM, in the wake of health care transformation (2010).

The purpose of this research is to evaluate cultural competency levels of graduates from a two year nursing program, who are now qualified to become licensed registered nurses. These nursing graduates completed a five semester curriculum in an Associate Degree Program (ADN), which is comprised mainly of medical-surgical courses without any additional cultural exemplars, and determine if program outcomes of cultural competency have been met. These students have attended clinical rotations in urban hospital and long term health care settings over the course of their program. Previous research on congruency with program outcomes and accreditation standards on cultural competency laid the groundwork for the use of Campinha-Bacote’s Model on Cultural Competence and her cultural competence tool modified for the use of nursing educators with nursing students [7].

Research Question

Is there a difference in scores of cultural competency concepts between those entering an Associate Degree Nursing Program versus those who have completed the Associate Degree Nursing Program?

Research Methodology

The theoretical framework for this research was Program Theory-Driven Evaluation, a conceptual framework evaluates program inputs and outputs for congruency (Chen, 2006). After establishing congruency between program outcomes and the Accreditation Commission for Education in Nursing (ACEN) accreditation standards on cultural competency [8,9], this research took the next step to review the impact of curriculum on cultural competency for nursing students. As a result, a causal comparative non-experimental research study was conducted to review cultural competency levels of those students who had just completed their nursing course work to those students who were just starting their course work in the ADN Program. As this research was conducted...
as part of a dissertation for a doctorate degree, IRB approval was received from awarding university and associate degree program, as well as approval from authors of the tools used in the research [9].

**Background of Nursing Program**

The Associate Degree Nursing Program used in this causal-comparative non-experimental research study is part of a private college located in the Northeast.

This nursing program is incorporated into a non-profit academic institution whose mission is to educate culturally diverse students with program majors that are educationally relevant to commerce and community. The college population of 3,500 students has a composition of 19% male and 81% female with a median age of 28. The nursing program comprises approximately 300 of those students with a similar male/female ratio and with a median age range between ages 30-35.

Nursing students enrolled in this two year program were the sample population used to determine the impact of the core nursing curriculum on levels of cultural competence. The control group was comprised of 61 nursing students who were taking their first nursing course, Nursing 100, an introduction to nursing theory, nursing process, and health promotion. The experimental group was comprised of 60 nursing students who were completing their last nursing course, Nursing 220, a medical-surgical course that reviewed acute nursing care, and also incorporated a short segment on mental health nursing. Both courses had clinical components – Nursing 100 in a long term care facility and Nursing 220 in an acute care hospital.

The nursing curriculum is spread over five consecutive semesters and composed of five courses; one introductory course to nursing process and nursing theory (Nursing 100); one course covering Pediatric nursing and Maternity Nursing (Nursing 210); two courses reviewing general medical-surgical nursing concepts (Nursing 110 and 200); and one course covering Psychiatric nursing and advanced medical-surgical nursing concepts (Nursing 220). Each course has a clinical component with clinical rotations held in subacute and acute care setting located in urban and suburban settings. No cultural modules or cultural exemplars are utilized in the curriculum; however, the faculty acknowledged that cultural concepts are threaded throughout the curriculum via course materials (textbooks and their web-based learning activities) and cultural skills such as communication, identification of cultural implications, and honoring cultural differences when providing nursing care are practiced in the nursing lab. Clinical instructors are encouraged to provide opportunities to students to enhance cultural knowledge and cultural skill in clinical settings.

**Data Collection**

After informational sessions providing an overview of the research to students and providing an opportunity to answer questions, students were given Informed Consents, Cultural Competency Surveys, and Demographic Surveys for completion. The Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals – Student Version, by Campinha-Bacote, consisted of 20 items that measure the five cultural constructs of cultural awareness, cultural knowledge, cultural skill, cultural encounters and cultural desire [7]. The IAPCC-SV has been identified as a valid and reliable tool used in research on cultural competence in nursing students and her interpretation of cultural competence has been adopted by accrediting bodies for both associate degree and baccalaureate degree nursing programs [4,8]. To help ensure anonymity, no identifying information other than course number, gender or age were included in data collection.

Data was collected from a total of 121 students in the first nursing course (Nursing 110: N=61) and the last nursing course (Nursing 220: N=60), from archival data contained in the student files regarding admission requirements to the nursing program. The admission requirements for the program was based on a points system, where points are given for previous college education, completion of college courses taken at the parent college, points for GPAs earned on 12 credits or more at the parent college, and scores taken from the NLN Pre-admissions Exam, for a total of 25 possible points. Demographic data (age and years in the U.S.) was collected from participants in both groups to identify possible extraneous variables, which may impact on cultural competency, as identified in the literature [4].

To ensure appropriateness of using Campinha-Bacote’s Cultural Tool for data collection, nursing faculty were asked to respond to three survey questions soliciting agreement of the five cultural concepts as (a) being consistent with becoming culturally competent as a health care professional; (b) being consistent with cultural concepts included in their course curriculum; and, (c) being consistent with cultural concepts included in their associate degree program outcomes (goals). Data was then collected from students using the paper and pencil version of the IAPCC-SV in both groups. Sixty-one students from the control group and 49 students from the experimental group completed the IAPCC-SV Tool. Eleven surveys from the experimental group were not fully completed, and were not included in this study. Data was then analyzed by an independent statistician (Figure1).
Analysis

Statistical analysis of admission points between the two nursing groups showed there was no statistical significance, as the p-value was above .05. Therefore, based on this analysis, these two groups can be interpreted as being equivalent for admission into the nursing program (Table 1).

| Table 1: T-test results from Nursing Program Point System |
|---|---|---|---|---|---|---|
| Variable | Group | n | M | SD | t | df | p |
| Final Points | Control | 61 | 19.67 | 1.14 | 1.33 | 110 | p>.05* |
| Final Points | Experimental | 60 | 19.35 | 1.49 | | | |

* p<.05 (statistical significance) – no significant difference between groups

Determined the homogeneity of groups based on admission criteria into the nursing program

Table 1: Nursing Program Point System

Statistical analysis of demographic data showed only a significant difference in age between the two groups (p value below .05). The mean age was 35 years old for the experimental group and the mean age was 31 years old for the control group (Table 2).

| Table 2. T-Test results from Student Demographics Form: Age and Years in the US |
|---|---|---|---|
| Variable | Group | n | M (SD) |
| Age | Experimental | 49 | 34.92 | 8.095 |
| | Control | 61 | 31.46 | 8.364 |
| Years in the US | Experimental | 49 | 18.69 | 9.068 |
| | Control | 61 | 20.06 | 9.850 |

In analysis of the demographic data, the only significant difference was shown in age between the two groups (p value below .05).
Since its inception, the IAPCC-SV has been used in numerous research studies and is considered a valid instrument in detecting cultural competency levels of nursing students [7,8,10]. In research conducted by Young (2009), data collected using the IAPCC-SV was shown as having a Cronbach’s alpha reliability coefficient of .84 and in research conducted by Fitzgerald, Cronin, and Campinha-Bacote (2008), a Cronbach’s alpha of .783 (Transcultural C.A.R.E., 2014). Given the strength of the validity and reliability data for the instrument, it can used with confidence to generate research data [11]. Faculty agreed that Campinha-Bacote’s Model was consistent with their perceptions of cultural competency, and the five constructs were threaded into their course curriculum, as well as in the nursing program outcomes.

Analysis of data using a two-tailed t-test for Equality of Means revealed statistically significant differences between the experimental and control groups in the cultural concepts of knowledge and skill. However, there was no significant difference between the two groups on the other cultural concepts of awareness, encounters, and desire. In addition, there was a statistically significant difference in total scores from the IAPCC-SV between the two groups, and based on these scores, reflected that both groups were considered culturally competent (Table 3).

Table 3: T-Test Results from IAPCC-SV Cultural Competence Tool.

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<thead>
<tr>
<th>Variable</th>
<th>Group</th>
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<tbody>
<tr>
<td>Age</td>
<td>Experimental</td>
<td>49</td>
<td>34.92</td>
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<td></td>
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<td>61</td>
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In analysis of the demographic data, the only significant difference was shown in age between the two groups (p value below .05).

Limitations

Limitations to this research include the use of a small convenience sample of 110 participants; although this sample had a confidence level of .95 with a 7.45% margin of error [12]. Another limitation is in the use of a small, private college with a nursing program population of 300, rather than a public community college with a larger nursing program population. Additionally, this program runs three consecutive semesters in an academic year, which does not align with two year programs running on a two semester academic calendar, without a summer semester. Also, as described in the literature, each nursing program individually identifies what they consider to be culturally competent concepts for their graduates, and further identifies individual exemplars from these assumptions [4]. Thus, differences in interpretations can impact generalization.

Relevance to Nursing Education

Historically, nursing has focused on developing awareness through cultural sensitivity rather than on constructing behavior through cultural competence [5]. Defined as the practice of recognizing and considering cultural diversity between the nurse, the client, and the family, when providing nursing care, cultural competence is the essence of the reciprocal nurse-client relationship that mutually works towards positive health outcomes through learning from each other [3,5,13]. With the push for an increase in baccalaureate prepared nurses based on the Institute of Medicine’s Report on health care education [14], this research reflects data on an Associate Degree Program meeting accreditation standards on cultural competency through the causal effect of its curriculum. Since the accreditation standards on cultural competency are similar, the RN-BSN Programs can use this research as a reference in developing curriculum which builds upon the other two concepts - cultural encounters and cultural desire - as RN-BSN students returning to college seek to develop a better understanding and knowledge of their nursing practice [15].

Recommendations for Future Research

As stated in the research, cultural competency is a lifelong process that entails a combination of cultural awareness, cultural knowledge, and cultural skill. Additionally, it is through cultural desire and cultural encounters that one builds cultural competence [16,17]. As such, nursing programs could benefit from future research on ways to engage the student with cultural learning in both the classroom and the clinical setting. Whether it be cultural course work, clinical lab simulation, or interactive websites, associate degree programs would benefit from research that would
detail the inclusion of cultural exemplars and their impact on cultural concepts similar to research done on baccalaureate programs by [10].

**Conclusion**

In conclusion, this research has yielded data which shows nursing graduates of an associate degree nursing program are considered culturally competent. The significant differences in cultural knowledge and cultural skill components contributed to the significant differences in cultural competence levels between the experimental and control groups. Additionally, the statistical difference between each group’s scores reflects the impact of the curriculum on raising the level of cultural competence. A review of the curriculum reveals the majority of medical-surgical nursing concepts threaded through the courses and clinical experiences offered. As a core curriculum is adopted by ADN Programs, set forth by the National League of Nursing [1], these findings may be considered generalized to other associate degree nursing programs, for which there has been few studies [9].

An important focus of the nursing process is to deliver holistic, cost effective care, and an important focus of nursing practice is to partner with the patient to develop mutual goals. Maybe focusing on the basic nursing principles and laying a solid nursing foundation for the student may just be the best way to build upon cultural constructs and meet accreditation standards.

**References**