Chinese Nursing Research 1 (2014) 17–24

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Chinese Nursing Research

journal homepage: http://www.journals.elsevier.com/chinese-nursing-research

Original article

Efficacies of different methods of teaching transcultural nursing practice in China☆

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ARTICLE INFO

Article history:
Received 16 September 2014
Received in revised form
19 November 2014
Accepted 20 November 2014
Available online 10 April 2015

Keywords:
Transcultural nursing
Case study
Traditional didactic teaching
Self-directed learning
Cultural competency
China

ABSTRACT

Purpose: This study assessed the effectiveness of three teaching methods for developing cultural competency based upon Leininger's theoretical framework with nursing students in China: case studies, traditional didactic learning, and self-directed learning. These methods were used in transcultural nursing teaching practices to identify the method that resulted in the greatest improvements in the nursing student's understanding and clinical application of transcultural nursing.

Methods: The Transcultural Nursing Questionnaire (TNQ) was used for pre-and post-test comparisons of all participants in four areas of cultural knowledge and the Evaluation of Transcultural Nursing Competency (ETNC) was applied via role-play to evaluate the cultural competency of 120 of the 305 participants from three general hospitals in the PuDong New District, Shanghai, China. Individual transcultural nursing courses that focused on case study, traditional didactic or self-directed methods persisted for four months in three hospitals.

Results: Statistical analyses of the cognitive scores of the participants in the transcultural nursing courses revealed a significant difference($P < 0.01$)between scores collected before and after the teaching with the three methods. Comparisons of the three hospitals revealed that the scores for transcultural nursing cognition and simulating service assessment were significantly different($P < 0.01$) for the case study nursing students. The scores of the students who were taught with the traditional didactic and self-directed methods were not significantly different across the three hospitals($P > 0.05$).

Conclusion: The results revealed that the case study, traditional didactic and self-directed method effectively improved the transcultural nursing cognitive levels of the nursing students. The case study method appeared to be the most effective approach based upon the TNQ pre-and post-tests and the ETNC cultural competency scores.

1. Introduction

Market globalization and the entrance of China into the World Trade Organization (WTO) have resulted in greater contact between nursing professionals and an increasingly multicultural patient base. A growing number of foreign nationals are establishing residency in the Shanghai, Pudong New District and throughout China which has resulted in a significant increase of patients from culturally diverse backgrounds in medical institutions.[1,2] The numbers of foreign-born patients who visited public hospitals in the Shanghai Pudong New District were 4979, 7001, 15280, 24653, 30082 and 40091 in 2005, 2006, 2007, 2008, 2009 and 2010, respectively, which represents a rate of increase of 705% over a five year period.[3] However, formal education programs that teach cultural competency in China are lacking, and nurses are not prepared to provide optimal care for patients from different cultures.[4–7] As the healthcare landscape in China undergoes dramatic changes, meeting the needs of a multicultural patient population will become more complex and demanding. It might be difficult to determine the best practices for educating nurses to achieve cultural competency because few instructional programs that focus on this challenge have been developed in China. There is also limited evidence from the West or from within China with which to determine which teaching strategies and what content are best for

☆ This work was supported by the Science and Technology Development Committee of Pudong New District in Shanghai, China (PKJ2008-Y21).

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Peer review under responsibility of Shanxi Medical Periodical Press.

http://dx.doi.org/10.1016/j.cnre.2014.11.002

developing cultural expertise within the Chinese nursing educational system.

Driven by the urgency to provide quality care to diverse populations and confronted by a lack of research on what and how to teach cultural-specific phenomena in China, our research team embarked on a systematic process to develop, implement and evaluate an educational nursing program concerning cultural competency.

2. Literature review

Currently, didactic (teacher centered) teaching and self-directed learning are two of the principal methods for teaching nursing in China. China's pedagogical approach to nursing education is a subset of the Chinese higher education system, which embodies the central importance of the teacher and face-to-face lecture.[8] Whether the nature of knowledge is theoretical or applied, the preference for the lecture method honors a long-standing tradition of teacher-directed instruction. Traditional didactic teaching is considered to the best way to ensure that the standards for the transmission of knowledge are maintained at the highest level.[9] Although Chinese scholars have recognized the need to modernize higher education by adopting Western contemporary methods, such as problem-based learning and evidence based learning, according to Wang and Kreysa,[10] current and future Chinese teaching practices are likely to retain traditional didactic methods that are teacher-dominated.

Nursing researchers in China have recognized that with the marked increase in international mobility, the spread of cultural traits and ideas between societies and ethnic groups is accelerating. Cultural diffusion has progressed quickly in China with increased globalization and the opening of the Chinese economy and resulted in the need for cultural competency as an essential component in the preparation of healthcare professionals. With a foreign-born population that is rapidly expanding and a patient population that is becoming more diverse, cultural competence and cross-cultural communication are increasingly viewed as a prerequisite for addressing developing racial and ethnic disparities in healthcare in China.

As the Chinese nursing profession prepares to address increasingly diverse populations, the definition of health is being more closely examined. Nurse researchers in China have not reached a consensus on the definition of health; some maintain a traditional Chinese perspective, while others have attempted to integrate their views with Western beliefs. In the Theory of Culture Care,[11] Leininger's definition of health as culturally defined strengthens and broadens the view of the importance of culture in the conceptualizations of illness, health and wellness. As encounters with patient diversity grow, the notion of culture as an important dimension of care will likely receive increasing emphasis and support by the Chinese nursing profession. Leininger's theoretical tenets of the cultural diversities and universalities of human caring provide a framework to guide nurses in adapting care that is congruent with the patient's culture. Because change is occurring quickly, nurses need to be competent in recognizing and supporting cultural traditions and the evolution of care to greater universality for the Chinese people; nurses also require the ability to work with persons from other cultures who are receiving care in China.

Nurse educators in China acknowledge the importance of delivering care based upon the best evidence available and supported by the latest research. They have advocated for an integration of evidence based nursing with traditional nursing education curricula to improve the analytical and problem-solving abilities of nurses. A number of programs have been launched to address this need. One such program that was performed in Hubei province used self-directed learning and was organized around the students' clinical practice.[12] Self-directed learning was selected as the instructional method to provide maximum flexibility to accommodate work and study schedules based upon different shifts, encourage independent study and be consistent with the Chinese value of life long learning. Although the focus of this project was self-directed learning, students voiced a preference to combine this method of instruction with more direction and guidance from the teacher because they felt this combination would improve learning proficiency.[12]

As nurse educators in China anticipate the need to prepare nurses in cultural competency, they have examined literature to identify the learned that can be learning regarding the development of educational programs while maintaining respect for their teaching and learning traditions. Numerous strategies, whether through stand-alone courses or integrated across the curriculum, have been used to teach cultural content.[13] Examples of methodologies that have been used in cultural education in nursing include lectures, case scenarios, immersion, role modeling and service learning. Despite the widespread acknowledgement that cultural competence education is necessary, there is little agreement regarding the most effective approaches to teach this subject matter.[13] Future research is needed to determine the effectiveness of instructional methods in the preparation of culturally competent nurses. Therefore, the purpose of this study was to evaluate the effectiveness of three teaching methods, i. e., case study, traditional didactic and self-directed learning, in the development of cultural competency among nursing students in China.

3. Methods

The research team embarked on a systematic process to identify the learning needs and goals for developing expertise in cultural competency. The team conducted brainstorming sessions with senior nursing staff, medical doctors and foreign-born people working in a healthcare capacity in Shanghai to obtain a clearer picture of the desirable educational goals, objectives and practice outcomes. The team then continued with a closer analysis of the characteristics of the target students and their probable instructional needs in terms of attitudes and the extent of prior experience with cultural content. Reflection on the input from the healthcare professionals and the student needs guided the educational design process.

3.1. Setting and sampling

This study was performed with a random sample of 305 nursing students in three teaching hospitals (A, B and C) in Shanghai Pudong New District. Hospital A had 900 beds, and 108 students (35. 40%) participated in the study; hospital B had 850 beds, and 99 students (32. 46%) participated in the study; and hospital C had 900 beds, and 98 students (32. 13%) participated in the study. Among the 305 participants, 63 students were enrolled in a diploma-level program (20. 66%), 182 students were enrolled in an associate degree-level program (59. 67%), and 59 students were enrolled in a BSN-level program (19. 34%) (see Table 1).

Although the participants attended programs of different levels (i. e., diploma, associate, or bachelor) within the Chinese nursing education system, they were considered senior level students within each program during the time of their participation in the study.

3.2. Study procedure

The study was approved by each of the hospital ethics committees before its implementation. All participants from hospitals

Table 1
Survey respondent sample distribution (N = 305).

Variables	*n*	%
Hospital		
A	108	35. 40
B	99	32. 46
C	98	32. 13
Nursing Program		
Diploma	63	20. 66
Associate degree	182	59. 67
BSN	59	19. 34
Missing value	1	0. 33
Time spending on study the content per week		
<1 h	46	15. 08
1–2 h	101	33. 11
≥3 h	158	51. 80
Level of English Proficiency		
Level 6	24	7. 86
Level 4	76	24. 92
Level 3	107	35. 08
Fail	95	31. 14
Missing value	3	0. 98

A, B and C were informed about the purpose of the investigation, and those who agreed to participate signed consent forms before beginning their involvement in the study. The participants then completed the Transcultural Nursing Questionnaire (TNQ), which was designed by the research team as a pre-test, to determine their baseline knowledge of concepts of transcultural nursing. Two hundred ninety-nine (98%) of the students had never taken a course or training session related to culture prior to the study. None of the students received a good or outstanding score on the pre-test evaluation of cultural knowledge, and only 5. 56%(n = 17) received a minimum passing score. Once the pre test was completed, the majority of students(97. 7%) expressed a strong willingness to take the course on transcultural nursing (see Fig. 1).

After a careful review of various nursing models for culturally competent care, the research team selected Leininger's Theory of Cultural Care Diversity and Universality[11,14] as a framework to guide the study because this model is widely recognized in the nursing literature on culture and health. This model also provides a strong theoretical approach for navigating nursing care that is relevant to China's current situation in terms of the integration of extensive exposure to diverse values, habits, beliefs, etc. within the population and the need to provide care for many diverse individuals coming into the country. The participants were then provided a transcultural nursing manual that was prepared by the research team as a reference to be used throughout the study. The research team examined a number of transcultural publications based upon Leininger's theory[11,14] and selected topics that were specific to the healthcare contexts of the patient characteristics and work environments of the three participating hospitals.

The transcultural manual consisted of the following eight content areas based upon Leininger's theory[11,14]: theoretical foundations of transcultural nursing; culturally competent nursing care; religious beliefs and practice; health beliefs and nutrition; cultural beliefs and taboos; language and communication; rituals; and holidays and festivals of selected nations. The three teaching methods were then randomly assigned to each hospital as follows: Hospital A, case study; hospital B, traditional didactic; and hospital C, self-directed learning. The specific implementations of each of the teaching methods are described below. The same eight content areas were used consistently in each of the three teaching methods.

3.3. Case study

Case study was used as teaching method to engage students in critical and reflective thinking and problem solving.[15,16] This method relied on a paper-based narrative approach in which clinical cases featuring descriptions of a patient's background, health issues and cultural factors were used to facilitate learning by developing culturally sensitive nursing care solutions. Through student–teacher interactions, the narrative cases served to synthesize theory and practice by assisting the students in the application of their knowledge within the framework of transcultural theory, concepts and principles. The case study method consisted of

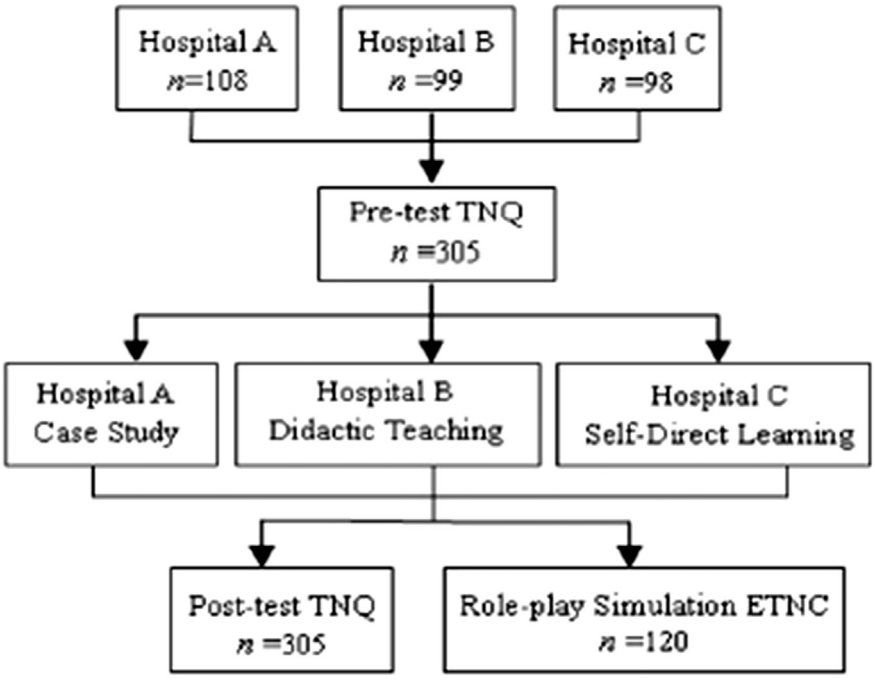

Fig. 1. Study procedure.

the following six segments: (a) the teacher presents a background of transcultural nursing concepts to provide context for the use of case studies, (b) the teacher presents a case with details of the clinical scenario that is based on real-life patient situations, (c) student analysis and discussion of the case leads to the development of a nursing diagnosis and care plan, (d) specific nursing actions are proposed by the student to address and solve the problems in the nursing care situation, (e) discussion of the case and outcomes via student teacher interaction is used to connect transcultural nursing theory and practice, and(f) the teacher conducts a review of the case-based instruction to summarize the outcomes with a focus on the application of theory and practice.

The process described above was repeated for each case. A total of eight cases that reflected the topics selected from the manual were presented. Two hours were allotted for the presentation and discussion of each case. The students were then responsible for presenting their conclusions and outcomes from each case analysis to their fellow classmates and teacher.

3.4. Traditional didactic teaching

The traditional didactic (teacher-centered) teaching method is based on formal classroom teaching that is information-based and supplemented by visual presentations.[17] Transcultural nursing theories and their application are taught using a traditional pedagogical approach that is teacher-centered and relies on the lecture method and textbooks. The lecture materials were based on the eight content areas in the manual and organized to cover the basic concepts, theoretical framework, patient cross-cultural assessment, and effectiveness of the nursing care plan. Each of the eight content areas was scheduled for a two-hour lecture that included 15 min for the students' questions.

3.5. Self-directed learning

In the self-directed learning teaching method the students progressed through the subject matter individually but met with their teacher once every two weeks to evaluate their learning progress.[18] The teacher selected two to three questions related to each of the eight content areas identified in the manual. After the students progressed through each of the topics, the answers to the questions were made available to them. The students reviewed each topic at their own pace within the two-week time period and were expected to learn the subject matter and answer the questions themselves. The students' answers to the questions were reviewed by the teacher on a bi-weekly basis with subsequent discussions to clarify any issues.

All three methods of teaching, i. e., case study, traditional didactic and self-directed learning, were implemented continuously over the four-month period from August to November, 2008. The total time dedicated to the case study and didactic teaching methods was 16 h divided over eight sessions. Regarding the self-directed learning method, the students spent an unlimited amount of time on each topic within the two-week window.

3.6. Evaluation method

Although many transcultural nursing questionnaires have been developed in other countries, variations in culture, language and lifestyle practices motivated the research team to design two instruments to evaluate the participants' fundamental knowledge of transcultural concepts. These instrument are the TNQ and the Evaluation of Transcultural Nursing Competency (ETNC). Prior to the study, both questionnaires were tested for validity and reliability by five content experts with graduate nursing degrees and who had worked as nursing faculty and/or nursing administrators in Shanghai.

The TNQ was used to evaluate the following four domains of knowledge: (a) theoretical foundations, (b) language and communication, (c) religious beliefs and practice, and (d) health beliefs and nutrition. The breakdown of the TNQ point system (the maximum score was 180) was as follows: theoretical foundations (12 questions, 48 points); language and communication (12 questions, 48 points); religious beliefs and practice (11 questions, 44 points); and health beliefs and nutrition (10 questions, 40 points). Pass, good and excellent scores in each section were defined as 60%, 75% and 90%, respectively.[19] The internal consistency and reliability of the TNQ instrument were determined by computing Cronbach's alpha coefficient, which was 0. 8322. The TNQ was used as a pre-test prior to the implementation of the three teaching methods and was then administered again as a post-test upon the completion of the learning experience. The response rate for the pre-test was 98%, and that for the post-test was 91. 48%.

The ETNC instrument was used to evaluate the following four areas of cultural competence in nursing care: (a) cultural awareness, (b) compassion, (c) cultural skills, and (d) cultural competency in practice (Table 2). The total possible score for the ETNC was 100. Higher scores corresponded to a higher levels of cultural

Table 2
Evaluation of the transcultural nursing competency (ETNC) Items.

Items	Description	Total possible points
Cultural awareness		25
	• value the importance of diversity in healthcare	
	• recognize patient's view of health and illness	
	• understand challenge of cross-cultural communication	
	• respect for differing values, cultures and beliefs	
	• acknowledge patient's beliefs and practices related to religion, gender, food preference and others	
Compassion		15
	• value curiosity, empathy and respect	
	• authentic presence	
	• provide respectful interactions with patient	
Cultural skills (50)		50
	• respect privacy	
	• listen attentively and nonjudgmentally	
	• appropriate personal distance	
	• appropriate verbal/nonverbal communication patterns	
	• pay attention to the culture taboos/customs	
Cultural competence in practice		10
	• implement culturally sensitive care plan	
	• involve family members in nursing process	

Table 3
Difference between pre-test and post-test on TNQ of three teaching methods.

Teaching Methods	Time	*n*	Total Score	Theoretical Foundations	Language and Communication	Religious Beliefs and Practice	Health Beliefs and Nutrition
			M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Case Study	Pre-test	108	101.89(8.88)	22.36(5.98)	27.02(2.28)	29.36(3.06)	23.04(2.58)
	Post-test	95	120.67(9.69)	39.52(6.66)	27.44(2.89)	30.33(2.69)	23.66(2.43)
	t		-14.380	-19.930	-1.041	-2.479	1.904
	p		0.000	0.000	0.299	0.014	0.058
Didactic Teaching	Pre-test	*99*	107.69(9.25)	28.93(5.53)	26.89(2.95)	29.41(3.56)	22.51(1.92)
	Post-test	*91*	117.73(8.87)	38.01(5.38)	27.09(3.28)	31.33(2.89)	23.40(2.43)
	t		-7.990	-11.490	-0.466	-2.030	0.216
	p		0.000	0.000	0.642	0.044	0.829
Self-direct Learning	Pre-test	98	105.89(9.44)	26.57(6.68)	26.80(3.08)	29.40(3.31)	23.13(1.98)
	Post-test	93	113.00(9.85)	31.31(6.77)	28.89(3.73)	29.72(2.70)	23.09(2.28)
	t		-5.088	-11.490	-4.240	-7.350	0.151
	p		0.000	0.000	0.000	0.463	0.880

competency. The internal consistency and reliability of the scores were determined by computing Cronbach's alpha coefficient, which was 0. 8121.

After the students completed the transcultural instruction, the ETNC instrument was used to evaluate the effectiveness of the teaching-learning experience by evaluating student performance in a role-play scenario; specifically, the abilities of the nursing students to communicate effectively and provide culturally competent care with patients from diverse backgrounds were evaluated. Role-play scenarios provide a nonthreatening setting without the stresses associated that are with taking care of an actual patient.[20] A total of 120 participants, 40 from each hospital, were randomly chosen to be evaluated in the scenario sessions. Two types of volunteers were used to role-play patients. The first type consisted of non-native Chinese people from various cultural backgrounds residing in the Shanghai Pudong area who were associated with the hospitals in some capacity. The second type consisted of faculty and staff who were Chinese citizens and had spent significant amounts of time overseas for education and work. Although they were Chinese citizens, they had lived and worked extensively overseas and had in-depth knowledge of the language and cultural practices of at least one foreign country.

Working cooperatively with the volunteers, the research team constructed scenarios to provide the students an opportunity to practice what they had learned from the content covered in the education sessions. The scenarios were designed to offer an appropriate amount of realism while being cautious to avoid false stereotypes and generalizations that might have resulted in cultural conflicts and misunderstandings. Although role-play scenarios are often used as a teaching strategy, they are less frequently an integral component of the assessment process. The structure and content of the role-play scenarios were decidedly different from the formation and organization of the paper-based narrative case study approach to nursing situations. For this study, the face-to-face role-play encounters were principally constructed to serve the purpose of evaluation and were designed with active nursing dialogs that were oriented toward interpretation, meaning and the use of judgment to understand, explain and respond to cultural phenomena that influence nursing care. Therefore, the role-play scenarios were used as part of the process of learning and a summative measure of learning.

Table 2 provides a brief description of the ETNC evaluation criteria. The time required for each scenario evaluation session was approximately 15–20 min. Family members accompanied the patient during the role-play in many of the scenarios.

3.7. Evaluators

Using the ETNC instrument, each hospital designated one evaluator to assess the transcultural nursing care role-play situations. The three evaluators had the same qualifications; they had prior experiences either studying or working abroad, they had advanced degrees and were knowledgeable about various culture beliefs and practices, they had clinical experience taking care of foreign-born patients, and they understood Leininger's theory and had a working knowledge of the curriculum the students had completed. Additionally, the evaluators were interested in promoting transcultural nursing education and research.

3.8. Data analysis

The data were entered into SPSS 14. 0 for analysis. The statistical analyses included descriptive studies, T-tests and one-way ANOVAs to compare the effectiveness of the three teaching methods. Statistical significance was set a priori at $P < 0.05$.

4. Results

All of the participants were female and had Han nationality backgrounds. A large number of the participants were enrolled in an associate degree program (see Table 1). The ages ranged from 18 to 22 years old with a mean age of 20. 47(SD = 0. 99). The majority of the participants came from major cities located in the Shanghai, Jiangsu, Zhejiang, Anhui, Guangdong and Hebei provinces. One hundred and eighteen (38. 69%) of the students came from rural areas. On the demographic questionnaire, all of the participants checked “no specific religious beliefs” when asked about their religious preference. There were no significant differences between the groups in terms of age, years of education or the amount of time spent on the subject of culture during this research.

Due to the high probability of using English to communicate with foreign-born patients in the three hospitals, English proficiency was considered as a possible factor that might have influenced the outcomes of the test scores. However, the results indicated that English proficiency did not significantly affect the test scores.

The results revealed that the differences between the pre- and post-test scores were significant for each of the three teaching methods (Table 3). The case study method elicited the highest post-test total scores (M = 120. 67, SD = 9. 69) followed by traditional didactic teaching (M = 117. 73, SD = 8. 8) and self-directed learning (M = 113, SD = 9. 8). Additionally, the case study method resulted in the greatest improvement between the pre- and post-test scores among the three methods, which suggests that the case study method was the most effective instructional approach.

Comparisons of the four domains of knowledge of the TNQ across the three teaching methods revealed that the case study method was the most effective in the first domain of Theoretical Foundation(M = 39. 52, SD = 6. 66)followed by traditional didactic teaching(M = 38. 01, SD = 5. 38) and self-directed learning(M = 31.

Table 4
Transcultural competency ETNC scores for the three teaching methods.

Teaching methods	*n*	Total score	Cultural awareness	Compassion	Cultural skills	Cultural competence in practice
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
Case study	38	81.11(4.64)	19.97(1.64)	12.00(0.74)	40.79(2.33)	8.34(0.75)
Didactic teaching	35	71.54(6.37)	16.71(2.13)	11.51(0.66)	35.91(3.50)	7.40(0.81)
Self-directed learning	39	70.13(7.02)	16.13(2.14)	11.46(0.82)	35.33(3.72)	7.10(0.91)
Total/Mean	112	74.26(7.31)	17.62(2.61)	11.66(0.78)	37.37(4.05)	7.62(0.98)
F		8.098	10.54	5.807	9.094	6.707
p		0.000	0.001	0.000	0.004	0. 002

31, SD = 6. 77). Regarding the second domain of Language and Communication, self-directed learning was the most effective (M = 28. 89, SD = 3. 73) followed by case study (M = 27. 44, SD = 2. 89) and traditional didactic teaching (M = 27. 09, SD = 3. 28). Regarding the third domain of Religious Beliefs and Practice, the traditional didactic teaching proved to be the most effective (M = 31. 33, SD = 2. 89) followed by case study (M = 30. 33, SD = 2. 69) and self-directed learning (M = 29. 72, SD = 2. 70). There were no significant differences in the Health Beliefs and Nutrition domain across the three teaching methods.

Regarding the assessments made with the Evaluation of Transcultural Nursing Competency(ETNC) tool, Table 4 reflects the effectiveness of the three teaching methods. The assessments were based on evaluations of cultural competence during role-play scenarios related to nursing care. The students in the case study group received the highest evaluation scores across all four competencies; these scores were as follows: Cultural Awareness (M = 19. 97, SD = 1. 64); Compassion (M = 12, SD = 0. 74); Cultural Skills (M = 40. 79, SD = 2. 33); and Cultural Competence in Practice (M = 8. 34, SD = 0. 75). The scores of the traditional didactic teaching and self-directed learning groups did not exhibit any significant differences.

5. Discussion

Changing demographics in China and the heightened awareness of a patient population that is growing in diversity have prompted Chinese nursing scholars to examine content and pedagogy to prepare nurses in cultural competency. Establishing an effective teaching program that is based upon cultural knowledge and practice represents an important step in the development of culturally competent healthcare providers who are capable of addressing the needs of an increasingly multicultural patient population. This study explored three teaching methods (i. e., case study, traditional didactic and self-directed learning) to determine which is the most effective in the educational preparation of culturally competent nursing students. The research team spent considerable time and effort to examine the content and teaching methods related to cultural theory and competency. After a review of the literature, the team found little agreement among nurse educators regarding the most effective instructional approaches or the specific content needed to develop cultural expertise regardless of whether the goal was to develop such expertise in the West or China.[13–21] Accordingly, the research team began a systematic process to identify educational goals, objectives and practice outcomes for the development of expertise in cultural competency. The educational design process resulted in a program that entailed the following: (a) three teaching methods, (b) Leininger's Theory of Transcultural Nursing as the theoretical framework, (c) a customized transcultural reference manual with carefully selected topics, (d) two instruments for evaluating the participant's pre-and post-instruction knowledge of transcultural principles and the effectiveness of the teaching-learning experiences, and (e) role-play scenarios for evaluating student performance.

The teaching formats were selected to provide a level of contrast to facilitate a comparative analysis to determine the effectiveness of each method. The effectiveness of the teaching format was defined by the research team according to the ability of the student to master the theoretical content and demonstrate culturally competent care through role-play with patients from different cultural backgrounds. The traditional didactic classes were primarily teacher lead and information-based, and the self-directed learning classes were facilitated by the teacher, but the students progressed at their own pace. Finally, using a case study approach, clinical cases were presented in a narrative format that involved patient and family dilemmas that required the participants' evaluations.

There were no significant differences in the TNQ Pre-or post-test scores according to age, gender or level of nursing program. Of the participants from rural areas of China, 38. 69% suggested that they might have had limited contact with foreign-born people before beginning their nursing training in Shanghai. These participants expressed a heightened sense of interest in understanding the important influences of cultural factors in health care. Those who were returning to a rural setting stated that they were anxious to share their newly found insights with fellow healthcare colleagues.

The results of this research (Tables 2 and 4) indicated that case study, traditional didactic teaching and self-directed learning all significantly improved the students' knowledge of transcultural nursing. Of the three teaching methods, the case study approach appeared to be the most effective based on the TNQ pre-and post-test scores and the ETNC cultural competency results. Traditional didactic teaching appeared to be the next most effective teaching method followed by self-directed learning. By design, the research team emphasized putting knowledge into practice in the form of becoming culturally competent as the goal of all three teaching methods. Although each of the three teaching methods successfully met this goal, the case study approach was deemed to be the most effective in terms of connecting transcultural knowledge with evaluative skills to resolve patient situations and resulting in a higher level of integration between theory and practice. Notably, the case study method might not be ideal for entry level nursing students because they might lack adequate foundational knowledge and experience to analyze and interpret a clinical scenario. The participants in this study were all senior level nursing students who were capable of using their past experiences as a framework to master transcultural theory and knowledge and then attempt to make culturally appropriate judgments. The Theoretical Foundation scores significantly increased with all three teaching methods possibly due to the emphasis the teachers placed on linking transcultural knowledge to decisions related to patient care based upon cultural concepts and phenomena from a theoretical framework. In the debriefing sessions that were held after completing the ETNC evaluations, the participants indicated that, in the past, they had found it difficult to understand the significance of nursing theory because it was seldom connected to practical settings of solving patient problems and improving nursing care. The participants felt that by underscoring the association between knowledge and competency, the faculty created a learning environment that

was conducive to appreciating transcultural nursing theory. Of the three methods, the case study approach resulted in the greatest increase in TNQ scores. The Language Communication scores reflected the participant's knowledge of the verbal and non-verbal communication skills that are necessary to develop rapport between patients and nurses from different cultures. The TNQ results indicated that the language communication scores significantly improved with each of the three teaching methods. Prior to this training, the students appeared to have limited knowledge about the critical importance of culturally informed patterns of communication such as gestures, body language, eye contact, touch, and the use of space. After completing this program, the students increased their understanding and sensitivity of cross-cultural communication. Of the three teaching methods, the self-directed learning group exhibited slightly higher scores than the other two groups. The students in this group were more autonomous in terms of their learning and might have recognized the immense challenge of comprehending the numerous communication patterns of various ethnic groups. With less direction from the faculty, these participants might have been more attentive to this issue and devoted more preparation time to this subject area.

The Religious Belief and Practice scores were significantly different in across each of the three teaching methods with minor variation. These differences might have been due to the fact that little attention has been paid to the relationship between religion and health in Chinese nursing studies. Religious and spiritual beliefs are not generally within the scope of nursing practice in China and are seldom brought into clinical settings. After completing the transcultural training, the association between religion and health became more important to some degree because this was a new issue to the students.

The Health Beliefs and Nutrition scores were not significantly different among the three teaching methods. This finding might have been due to the fact that the nursing students had prior knowledge of culturally relevant foods for the promotion of health and were able to anticipate the need to respect the food practices of patients from different cultures. The connection between health and nutrition is strongly embedded in Traditional Chinese Medicine and in Chinese culture in general. Additionally, as residents of a large international city, the people of Shanghai are exposed to foods from many parts of the world. The knowledge and information provided in the transcultural manual was consistent with their existing beliefs and confirmed the importance of food practices that are associated with health beliefs and nutrition-related health promotion.

Finally, it should be noted that role-play scenarios were used as an evaluative technique to determine whether the students were able to appropriately apply their transcultural knowledge and principles to practice. The role-play scenarios were carefully constructed to assess the student's abilities to seek out, listen to and accommodate the patients' diverse beliefs and practices, to understand the patients' perspectives of their illnesses in a culturally sensitive manner and to negotiate a culturally competent plan of care. The plan to use role-play scenarios for student assessment was identified by the research team as an essential component of the total learning and assessment process. Of particular importance was the use of the debriefing sessions as an educational strategy to reinforce the learning objectives, to emphasize important teaching points and to clarify students' thinking and answer their questions. Most importantly, the role-play scenarios and the debriefing process were used as an integration experience to transfer transcultural knowledge and theory to the nursing process. As a link to the "real world",[22] this process provided a safe environment for the students to practice cross-cultural skills while providing an indication of their levels of preparedness in terms of the competence with which they could provide culturally sensitive nursing care. Overall, the students responded favorably to the evaluation and debriefing processes and felt that these processed added meaning and purpose to the study of transcultural nursing. Some of the students felt that they needed to review the material in the manual and asked for further opportunities to learn from role-play scenarios.

6. Conclusion

With the increasing diversity in China, the importance of preparing nurses to be culturally competent is becoming widely recognized. As a key strategy to address this need, educational programs must be prudently planned and give careful consideration to identifying a defined set of learning outcomes for nursing students. To that end, an important part of this teaching learning program was the inclusion of a focused, integrated and consistent evaluation component, i. e., the TNQ and ETNC instruments, to provide performance information to the students that could be readily applied to individual development. Additionally, the evaluation results provided feedback to faculty and researchers regarding how the educational program can be improved. Quality evaluation processes will support the ongoing development of nursing student learning outcomes and improvements in cultural competency education. Future research should explore additional teaching methods and incorporate evidence based practice and problem-based learning strategies into educational programs to develop cultural competence in nursing. For China, the development of an effective cultural competency educational program will most likely be accomplished by adopting contemporary teaching methods and doing so within the framework of the traditional Chinese education system.

7. Limitations

The research was conducted in only a single geographical area of China; i. e., the Shanghai Pudong New District. All participants were of a single nationality and female. The results might not generalize to a larger population or to other countries.

Conflicts of interest

All contributing authors declare no conflicts of interest.

Acknowledgments

Thanks are due to Haiping Yu, Xiaoli Zhang, and Dan Li for valuable discussion.

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