



Evaluating teaching strategies in community health nursing students: A quasi-experimental research study



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1. Evaluating teaching strategies in community health nursing

In the United States (U.S.) more than half of all Americans are projected to belong to an ethnic group other than non-Hispanic White by 2044; one in five Americans is expected to be 65 years old and over by 2050; and by 2060, nearly 20% of persons living in the U.S. is expected to be foreign born (U.S. Census Bureau, 2015). As populations begin to age, countries become more diverse, and immigration and world travel become more common place, schools of nursing need to be ready to produce graduates that have the cultural intelligence required to meet the needs of the changing population (American Association of Colleges of Nursing, 2008; National League of Nursing, 2011).

Cultural intelligence is a person's capability to function effectively in situations characterized by cultural diversity (Ang et al., 2007). Those with high cultural intelligence have four key capabilities: 1) they are able to anticipate what will happen in cross-cultural situations; 2) they have a wide understanding of multicultural situations; 3) they are confident of their capabilities; and 4) they are intrinsically interested in experiencing culturally diverse settings and are able to vary their verbal and nonverbal behaviors in response to cultural characteristics of the situation (Ang et al., 2007). This paper describes how the Cultural Intelligence Scale (CQS) (Ang et al., 2007) was utilized to perform a curriculum assessment to determine if cultural intelligence increased in undergraduate nursing students after the faculty teaching community health nursing implemented three different teaching strategies to globalize the community health curriculum.

2. Literature review

Globalization is an international phenomenon and nursing schools around the world are responding by developing new teaching curricula and teaching strategies to support local changes. The need for these changes is fueled by the call to increase cultural intelligence in nurses and students who face ever-increasing changes to the patient population (Allen et al., 2013; Kim et al., 2017). The need is also driven by the demand to prepare for and respond to population changes (Halabi and de Beer, 2018; Mayo et al., 2014), and to evaluate new curriculum and teaching strategies aimed at improving cultural knowledge and skills in

undergraduate nursing students (Kim et al., 2017).

To evaluate the ability of new teaching strategies, and produce students and nurses who are able to provide culturally congruent care, faculty are using qualitative, quantitative and mixed research methods to identify program outcomes (Kelleher, 2013; Maltby and Abrams, 2009; Wros and Archer, 2010). Several efforts to stimulate the development of cultural care competencies provide information about useful teaching strategies (Flood and Commendador, 2016; Utley-Smith, 2017) including the use of simulation (Fioravanti et al., 2018). In each of these cases the faculty was able to implement and evaluate teaching strategies, but not compare them.

Adding a comparison component to evaluate teaching strategies may provide a more rigorous study, even when using qualitative data. Wros and Archer (2010) took fifteen nursing students and three faculty to Cameroon Africa for a four-week immersion experience. The authors then compared the learning experiences of this group to students who were placed in an immigration and refugee service agency to work with elders with hypertension. Both groups gained an appreciation of the health challenges facing the population, learned to collaborate with a health care agency, and conducted culturally sensitive health care activities (Wros and Archer, 2010). The international travel experience allowed students to witness the effect of history, policy, economy, and culture on the population's attitudes toward health and health care; on the other hand, the local experience provided a similar experience and strengthened the partner organization to meet client needs through a two-year commitment between the agency and the school (Wros and Archer, 2010).

3. The intervention

Community health nursing faculty from a large midwestern university recently attempted to globalize their curriculum. Students attend a two-hour class each week and participate in six credit hours of clinical work; 4 h of seminar and 8 h of clinical practice; similar to other community health nursing models found in the literature (Miles et al., 2017). All students take part in a local experience; perform community assessment; design, implement, and evaluate interventions; write six reflective journals; participate in a class blog; and write a scholarly

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paper.

Attempts to globalize the curriculum included arranging to video conference with international schools of nursing, creating opportunities for international travel, and partnering with local agencies to provide students with a glocal clinical experience. Video-conferencing was arranged by faculty who made contact, developed relationships, and formalized arrangements with international universities that had a school of nursing (SON). This currently includes a SON in Haiti, India, and Botswana. Discussion about a selected Social Determinants of Health (SDOH) (U.S. Department of Health and Human Services (HHS), 2018) occurs each week between students in the two schools. Blue Jeans, a videoconferencing software, supports the connections between the two schools of nursing. International travel experiences to Grenada, Botswana, and New Delhi, India were also arranged. Finally, all local experiences were glocalized so that all community health nursing students could engage in developing relationships with agencies who work with vulnerable populations. This include urban and rural schools, public health departments, senior living centers, and faith-based and community agencies.

4. The curriculum assessment model

To assess if any of these three teaching strategies were producing different outcomes, Diamond's Course Assessment was utilized (Diamond, 2008). The model offers a structured method for identifying educational competencies, setting project goals, and forming teams. The model also offers suggestions on how to link course goals to curricular objectives and core competencies, encouraging the use of evaluation data as well as an external facilitator.

A core value of the SON is that nursing care is based on respect for human dignity and cultural variation. An expert from the University's Center for Research and Learning in Teaching served as an external facilitator, helping our team identify cultural intelligence as a course outcome, since it was a core competency of the community health nursing course and one that was consistent with SON's core values. The facilitator also helped the faculty team to identify a data collection scale for the project. The last step in the planning process was to state two project goals that would guide our assessment:

- 1) To evaluate teaching strategies to determine if the newly globalized community health nursing curriculum increased cultural intelligence in senior nursing students; and
- 2) To determine which, if any, of the three clinical strategies utilized in the newly globalized community health nursing curriculum are more effective in raising cultural intelligence among senior nursing students.

This study is based upon work supported by the Center for Research on Learning and Teaching's Investigating Student Learning Grant, 2015–16.

5. Methods

This quasi-experimental study focused on student outcomes and served as a curriculum assessment tool (Sauter et al., 2012). With data collection being an important part of the curricular assessment process, the Cultural Assessment Scale (Ang et al., 2007) was recommended by our facilitator and selected for use on this project.

5.1. Informed consent

The American Nurses Association (2015) Code of Ethics, Section 3.2, contains the Protection of Human Participants in Research. The section reads:

Stemming from the principle of respect for autonomy, respect for

persons, and respect for self-determination, individuals have the right to choose whether or not to participate in research as a human subject. Participants or legal surrogates must receive sufficient and materially relevant information to make informed decisions and to understand that they have the right to decline to participate or to withdraw at any time without fear of adverse consequences or reprisal.

Information needed for informed consent includes the nature of participation; potential risks and benefits; available alternatives to taking part in the study; disclosure of incidental findings; return of research results; and an explanation of how the data will be used, managed, and protected. Those details must be commutated in a manner that is comprehensible to the patient or a legally authorized representative. Prior to initiation, all research proposals must be approved by a formally constituted and qualified institutional review board to ensure participate protection and the ethical integrity of the research.

(American Nurses Association, 2015, p. 26)

The study was reviewed by the University's Institutional Review Board (IRB) (HUM00111037). The IRB was provided with the following: 1) adapted CQS that included a request for students to include their unique university assigned identification number, age, clinical group number, race, and ethnicity; 2) a question requesting details if the student reported previous cross-cultural experience; and 3) Informed Consent. Once approved by the IRB, a paragraph was added to the course syllabus that included information about the study and the "informed consent" language approved by the IRB. This paragraph also included information about the student's ability to opt out of the study.

The course syllabus was available to students a week prior to the start of class. One the first day of class, before the survey was distributed, students were introduced to the study and the Informed Consent document was read to them. In addition, a letter with the Informed Consent language was placed on top of each survey. Students not wishing to participate in the survey were asked to draw a line on their survey and return it when the rest of the surveys were collected. A cover page on the survey prevented other students from viewing other students' survey answers or the line they placed indicating their choice not to participate. On the last clinical day, a survey was again distributed and the same procedures were followed. This process occurred over the course of seven semesters.

Surveys were collected, pre and post surveys were matched, and data was entered into IBM SPSS-23® (SPSS, Chicago, IL). Paper surveys were stored in a locked drawer, within a locked room. Descriptive statistics were run and the data and the reports were assessed for accuracy and completeness. No methods were used for imputing missing data and no blinding occurred during this study.

The power of the sample was calculated and found to vary by Group. The power was adequate for the sample of $N = 238$ with an effect size (ES) = 0.5 up to significance level of $\alpha = 0.01$. Power was adequate (0.9) with an ES = 0.05 for video conferencing group ($N = 40$); however, ES was increased to 0.08 in order to keep power above 0.8 in the international travel group ($N = 16$) (Faul et al., 2007; Stommel and Dontje, 2014).

5.2. Cultural Intelligence Scale

The CQS (Ang et al., 2007) includes 20 questions divided among four dimensions (Appendix A). The validity and reliability of the CQS was established by Ang et al. (2007) in three separate studies in different cultural, education, and work settings ($N = 794$) (Ang et al., 2007). The meta-cognitive dimension ($\alpha = 0.72$) includes four questions to measure the mental process that controls one's thoughts, whereas the six questions in the cognitive dimension ($\alpha = 0.86$) focus on knowledge acquired through life experiences. The five questions in the motivational dimension ($\alpha = 0.72$) measure the degree to which

someone directs attention and energy toward learning about functioning in situations. Finally, the five questions in the behavior dimension ($\alpha = 0.83$) serve as a measure of one's overall capability to function in a cross-cultural situation with appropriate verbal and non-verbal actions (Ang et al., 2007).

5.3. Data analysis strategy

Paired *t*-tests were conducted for each semester during the study period to compare mean scores in each of the four cultural intelligence dimensions at two points in time, before class started (Time 1) and on the last day of class (Time 2). This included seven semesters: winter 2016; spring 2016; fall 2016; winter 2017; spring 2017; fall 2017; and winter 2018. Then, to determine whether any of the three clinical strategies used to teach community health nursing were more effective in changing cultural intelligence in undergraduate nursing students, a one-way between-groups analysis of variance (ANOVA) was conducted using the entire dataset. Pairwise multiple comparisons using one-way ANOVA with Tukey was also conducted to determine where data differences observed in the ANOVA existed.

6. Data/results

6.1. Sample

An estimated 625 students were enrolled in the undergraduate nursing program during the two and a half year study period. In this study, senior nursing students enrolled in community health nursing were invited to participate ($N = 316$); 90% students agreed to participate in the study ($N = 285$). Students were assessed at the beginning and the end of their community health nursing course. The average nursing student was a 21-year-old (58%) (range 18–25 years), white (84%), non-Hispanic (92%), and female (91%); however African American (8%), American Indian or Alaska Native (0.5%), Asian (8%), and bi-racial (1%) students were also included in the sample (Table 1).

Paired-samples *t*-tests were conducted to evaluate the impact of the class on the students' cultural intelligence in each of the four dimensions of the CQS, in each of the seven semesters. Cultural intelligence increased for six of the seven cohorts that participated in this study ($p < .05$) (Study Goal 1). The spring 2016 cohort was the only group that did not show a statistical significance across all dimensions. However, mean cultural intelligence for the cohort was high and did increase over the term. The only dimension that did significantly increase for this small group ($N = 6$) who traveled to New Delhi, India, over the course of the spring/summer semester was the behavior dimension ($p < .05$) (Appendix B).

Within the four dimensions, there was a statistically significant increase in **cognitive** cultural intelligence scores from Time 1 ($M = 3.3$ to

Table 2
Cultural intelligence by dimension with overall cultural intelligence.

Semester	N	Dimension	Time 1	Time 2	SD	Sig
Winter 2016	37	Meta-cognitive	5.4122	6.2365	0.55860	0.000
		Cognitive	3.8324	4.6486	1.0942	0.000
		Motivation	5.3243	5.8162	0.61027	0.000
		Behavior	4.4886	5.4686	0.05203	0.005
		Overall	4.8889	5.4236	0.41181	0.000
Spring/summer 2016	7	Meta-cognitive	5.8214	6.2857	0.94017	0.239
		Cognitive	4.2571	4.8000	0.83038	0.134
		Motivation	6.2000	6.0571	0.48599	0.466
		Behavior	5.2571	6.0571	0.73937	0.029
		Overall	5.3839	5.6000	0.47482	0.274
Fall 2016	54	Meta-cognitive	5.1944	5.8148	0.91469	0.000
		Cognitive	3.5827	4.2704	1.11966	0.000
		Motivation	5.2037	5.8148	0.88006	0.000
		Behavior	4.8415	5.2302	1.23563	0.026
		Overall	4.6943	5.1185	0.56153	0.000
Winter 2017	66	Meta-cognitive	5.4250	6.2250	0.81127	0.000
		Cognitive	3.8268	4.7804	1.02148	0.000
		Motivation	5.5725	6.2157	0.95394	0.000
		Behavior	5.1059	5.8667	0.92953	0.000
		Overall	4.9973	5.5463	0.50751	0.000
Spring/summer, 2017	6	Meta-cognitive	5.1667	6.0000	0.70119	0.033
		Cognitive	3.3667	4.6667	1.05641	0.030
		Motivation	5.4000	6.3333	0.60222	0.013
		Behavior	4.6667	5.7333	0.84538	0.027
		Overall	4.6500	5.4167	0.36260	0.004
Fall 2017	37	Meta-cognitive	5.2905	5.8514	0.70810	0.000
		Cognitive	3.5514	4.1171	1.00841	0.000
		Motivation	5.4486	5.5622	0.7655	0.000
		Behavior	4.6054	5.3297	0.98697	0.000
		Overall	4.6965	5.0340	0.44475	0.000
Winter 2018	65	Meta-cognitive	5.3750	6.0530	0.73349	0.000
		Cognitive	3.4846	4.1508	0.93968	0.000
		Motivation	5.2646	5.7138	0.69824	0.000
		Behavior	4.7938	5.4031	0.97752	0.000
		Overall	4.7364	5.1782	0.44768	0.000

$M = 4.2$) to Time 2 ($M = 4.1$ to $M = 4.8$) in six of the seven semesters ($p < .05$) (Table 2). While students in the spring/summer 2017 group had a significant cognitive cultural intelligence ($p < .05$), the spring/summer 2016 cohort did not. Both spring/summer groups participated in international travel as part of their community health clinical experience. There was also a statistically significant increase in **meta-cognitive** cultural intelligence from Time 1 ($M = 5.2$ to $M = 5.8$) to Time 2 ($M = 5.8$ to $M = 6.2$) in six of the seven semesters ($p < .05$). Again, the meta-cognitive cultural intelligence was significant for the spring/summer 2017 cohort ($p < .05$) but not for the spring/summer 2016 cohort.

A paired-samples *t*-test was also conducted to evaluate the impact of the class on the student's behavioral and motivational cultural intelligence. There was a statistically significant increase in behavioral

Table 1
Undergraduate nursing essentials.

Nursing role	Undergraduate nursing essential
Promoting factors that create a culture of safety and caring	Essential II: Basic Organizational and Systems Leadership for Quality Care and Patient Safety (pg.14)
Collaborate with other health care professionals and patients to provide spiritually and culturally appropriate health promotion and disease and injury prevention interventions	Essential VI: Interprofessional Communication and Collaboration for Improving Patient Health Outcomes (pg. 22)
To assess health/illness beliefs, values, attitudes, and practices of individuals, families, groups, communities, and populations and when working in interprofessional and intraprofessional communication, collaboration, and socialization, nurses need to consider the principles related to communication with diverse cultures	
To consider the cultural, psychological, and spiritual implications of clinical prevention and population health and global health and to develop an awareness of patients as well as healthcare professionals' spiritual beliefs and values and how those beliefs and values impact health care	Essential VII: Clinical Prevention and Population Health (pg.25)

American Association of College of Nursing (2008). The essential of baccalaureate nursing practice. Retrieved from: <https://www.aacnursing.org/Portals/42/Publications/BaccEssentials08.pdf>

cultural intelligence from Time 1 (M = 4.6–M = 5.4) to Time 2 (M = 5.2–M = 6.1), this time in each of the seven semesters ($p < .05$). To finish, a paired-samples *t*-test was conducted to evaluate the ability of the class to increase motivational cultural intelligence. For this dimension, there was a statistically significant increase in motivational cultural intelligence from Time 1 (M = 5.2 to M = 6.2) to Time 2 (M = 5.6 to M = 6.3) in each semester ($p < .05$). Once again, there was a significant increase in motivational cultural intelligence for the spring/summer 2017 cohort ($p < .05$) but not for the spring/summer 2016 cohort.

To explore the impact of three different teaching strategies on cultural intelligence a one-way between-group analysis of variance (ANOVA) was also conducted (Study Goal 2). This involved the entire sample ($N = 285$) of students who were divided into three groups according to the teaching strategy the student was exposed to for their clinical experience. This included local experience only (LE), local experience and video conferencing (VC), and local experience and international travel (IT). Student assignment into each clinical section was random. However, students who participated in an international travel experience applied for the international program, enrolled in the special spring community health nursing course and traveled during the summer semester. There was a statistically significant difference at the $p < .01$ level in cultural intelligence scores for the LE and VC group: $F(2, 252) = 6.9, p = .003$. The actual difference in the mean suggests a somewhat moderate difference between the groups. The effect size, calculated using eta squared, was 0.05. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the LE Group was significantly different from VC Group in three of the four dimensions. The IT Group was significantly different from the LE Group in one of four dimensions (see Tables 3 & 4).

As a final note, when students responded “yes” to having a cross-cultural experience they were asked to describe the experience. The majority of students reported having cross cultural experience. Depending on the semester, 64% to 100% of the students reported having a cross-cultural experience before they entered the class; and, at the end of the semester, 69% to 100% of students reported having a cross-cultural experience ($N = 238$). A sample of the students' descriptions of their cross cultural experiences fit nicely into eight categories ($N = 238$): current clinical placement (30%), past clinical placement (18%), global mission work (8%), U.S mission work (< 1%), study abroad (14%), personal travel (15%), work (9%), and social experiences (12%). It should be noted that some students reported more than one type of experience.

7. Discussion

This project utilized cultural intelligence as an outcome measure to determine if the newly revised community health nursing curriculum increases cultural intelligence among undergraduate nursing students (Study Question 1); and if the three nursing strategies implemented in the undergraduate nursing program had the ability to increase cultural intelligence in senior nursing students (Study Question 2). The data

consistently demonstrates over seven semesters that self-reported cultural intelligence increased during the course of the semester when senior nursing students were enrolled in community health nursing (Table 2). The data also shows that video-conferencing with a local experience is more effective than a local experience alone, in raising cultural intelligence (Table 3). This finding is consistent with other nursing programs that have implemented strategies to improve cultural intelligence in the undergraduate nursing curriculum (Fioravanti et al., 2018; Kelleher, 2013; Utley-Smith, 2017).

What is different about this study however, is that a data collection tool that includes multidimensional constructs, CQS (Ang et al., 2007), was used to evaluate both the mental and behavioral capabilities of students. In addition to measuring overall cultural intelligence, which is discouraged by the Cultural Intelligence Center (conversation on December 12, 2018), this study also examines student cultural intelligence by measuring each of the four dimensions: cognitive, meta-cognitive, motivation, and behavior.

The three mental components of CQS, meta-cognitive, cognitive, and motivational, each increase in six of the seven semesters ($p < .05$). The only cohort that does not have a significant increase in the meta-cognitive, cognitive, and behavioral measures is the spring/summer 2016 cohort. The findings show, however, an increase in this cohort's already high levels of cultural intelligence. This is likely related to their small group size ($n = 6$) (Table 2). The behavioral component of the CQS is the only measure that indicates a statistically significant increase in cultural intelligence scores between Time 1 and Time 2 across all semesters ($p < .05$).

This study also compared teaching strategies the community health nursing faculty implemented to globalize the curriculum to determine if one is more effective than another in increasing cultural intelligence. The project team first examined cultural intelligence scores between Time 1 and Time 2 for each different clinical group, local experience only, local experience with video-conferencing and local experience with international travel (Table 3). Each of the three clinical groups had a significant increase in cultural intelligence ($p < .05$). When nursing students with a local experience are compared to students with a local experience with a video-conferencing experience, however, the changes at Time 1 and Time 2 are significantly different between the two groups of students in each of the three mental constructs of the CQS ($p < .05$) (Table 3). This includes significant differences in nine of the twenty CQS measures (Table 4). When nursing students with a local experience are compared to students with an international travel experience, the changes at Time 1 and Time 2 are significantly different between the two groups of students in the single behavioral construct of the CQS ($p < .01$). This includes significant differences in 10% or two of twenty CQS measures (Table 4).

An unexpected finding in this study is the high levels of cultural intelligence among the participants at the beginning of each semester. At Time 1, cultural intelligence ranges from 5.2 to 5.8 for meta-cognitive cultural intelligence; 3.4 to 4.3 for cognitive cultural intelligence; 5.2 to 6.2 for motivational cultural intelligence and 4.5 to 5.6 for behavioral cultural intelligence. A cultural intelligence score of four and a

Table 3
Clinical group comparisons: cultural intelligence by dimension.

	Group 1: LE			Group 2: VC			Group 3: IT		
	N	Mean	Standard deviation	N	Mean	Standard deviation	N	Mean	Standard deviation
Total CI	199	5.2	0.594	41	5.5*				
Meta-cognition	204	5.9	0.592	42	6.2*				
Cognition	204	5.7	0.735	41	6.0*				
Motivation	204	5.9	0.592	41	6.2*				
Behavior	201	5.4				0.789	16	5.9**	0.688

* Significant at $p < .05$.

** Significant at $p < .01$.

Table 4
Significant cultural intelligence measures compared to local experience.

Dimension & measure	Measure description	Clinical experience	N	Mean	SD
Meta cognitive Measure 4	I check the accuracy of my cultural knowledge as I interact with people from different cultures	Local	204	5.8	0.9225
		Video conference	42	6.2**	0.6917
		International travel	16	6.1	0.6191
Cognitive Measure 2	I know the rules of other languages	Local	204	3.7	1.467
		Video conference	42	4.3*	1.136
		International travel	16	3.2*	1.424
Cognitive Measure 5	I know the arts and crafts of other cultures	Local	205	4.1	1.270
		Video conference	41	4.6*	0.8937
		International travel	16	5.1**	1.123
Cognitive Measure 6	I know the rules for expressing non-verbal behaviors in other countries	Local	205	4.6	1.255
		Video conference	41	5.1*	0.8308
		International travel	16	5.0	1.095
Motivation Measure 1	I enjoy interacting with people from different cultures	Local	204	6.4	0.6867
		Video conference	41	6.6	0.5499
		International travel	16	6.9*	0.3416
Motivation Measure 2	I am confident that I can socialize with locals in a culture that is unfamiliar to me	Local	205	5.7	0.0691
		Video conference	41	6.1*	0.1592
		International travel	16	5.9	0.3145
Motivation Measure 4	I enjoy living in cultures that are unfamiliar to me	Local	205	5.0	1.287
		Video conference	41	5.3	1.339
		International travel	16	5.8*	0.981
Motivation Measure 5	I am confident that I can get accustomed to the shopping conditions in a different culture	Local	205	5.5	0.6867
		Video conference	41	6.0*	0.5499
		International travel	16	5.8	0.3415
Behavior Measure 1	I change my verbal behavior when a cross-cultural interaction requires it	Local	205	5.2	1.324
		Video conference	41	5.7*	0.9825
		International travel	16	5.8	0.2276
Behavior Measure 2	I use pause and silence to suit different cross cultural situations	Local	205	5.2	1.187
		Video conference	41	5.8**	0.9428
		International travel	16	5.8	1.341
Behavior Measure 3	I vary the rate of my speaking when a cross-cultural situation requires it	Local	205	5.4	1.094
		Video conference	41	5.9*	0.8182
		International travel	16	5.9	1.062

* Significance = $p < 0.05$.

** Significance = $p < 0.01$.

half reflects true cultural intelligence strength; whereas a score of three or less indicates the need for further training and development (Earley and Mosakowski, 2004).

This study raises two questions about how students in the school of nursing gain cultural intelligence: 1) Do schools of nursing tend to admit students with already high levels of cultural intelligence; and/or 2) Do schools of nursing develop culturally intelligence through their curriculum? Stokes and Kost (2012) discuss the complexity of the clinical environment and the cultural learning that occurs as a result. Stokes and Flowers (2012), on the other hand, discuss how university efforts to diversify the schools of nursing environment are promoting cultural learning experiences as are the reflective process that are used in nursing to promote students to examine their own beliefs and values. Consequently, this is an area in which more research is needed.

The second question relates to our finding that local experience with video conferencing is an effective way to increase cultural intelligence in undergraduate nursing students. This begs the question about whether is it possible to offer video conferencing to all undergraduate nursing students. At the current time, students who video conference with nursing students in other countries have intimate conversations about SDOH (HHS, 2018). In a 2016 study, using international video-conferencing to extend the global reach of community health nursing education, researchers found that video conferencing is lower-cost than global experience (Ziemba et al., 2016). Furthermore, faculty and researchers who have investigated cultural care competencies in nursing faculties (Brunn, 2016) and undergraduate nursing students (Alpers and Hanssen, 2014; McDermott-Levy et al., 2014) call on a combination of educational and clinical experiences to promote cultural intelligence. Again, this is a topic for further research.

8. Conclusion

In this study, community health nursing faculty set out to determine if the three new teaching strategies that were implemented to globalize the curriculum were producing different outcomes in our nursing students. This process increased the team's collective knowledge of the importance of measuring and comparing curriculum outcomes and teaching strategies and the resources that were available on campus to support this process. This paper contributes to nursing by highlighting the need for outcome based program assessment in nursing education; and underlines the value of comparing teaching strategies to identify the best practice to obtain desired outcomes. Placing teaching strategies within nursing programs to promote the development of cultural intelligence and other nursing competencies has implications for developing nursing students into nurses who can provide ethical and culturally congruent health care. Globalization is real and nurses need to be prepared to work with clients from all over the world; developing cultural intelligence is one small step toward that goal.

8.1. Limitations

Limitations to the generalization of this study include the study's reliance on self-reported data, the benefit of a mixed method study to evaluate the curriculum, and the inability to measure patient outcomes as part of this process. The study was also limited by the small number of students participating in international travel along with the diverse clinical sites and experiences in all three groups.

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Michigan's Institutional Review Board (HUM00111037).

Ethical approval

Declaration of Competing Interest

The study also received an exemption from the University of

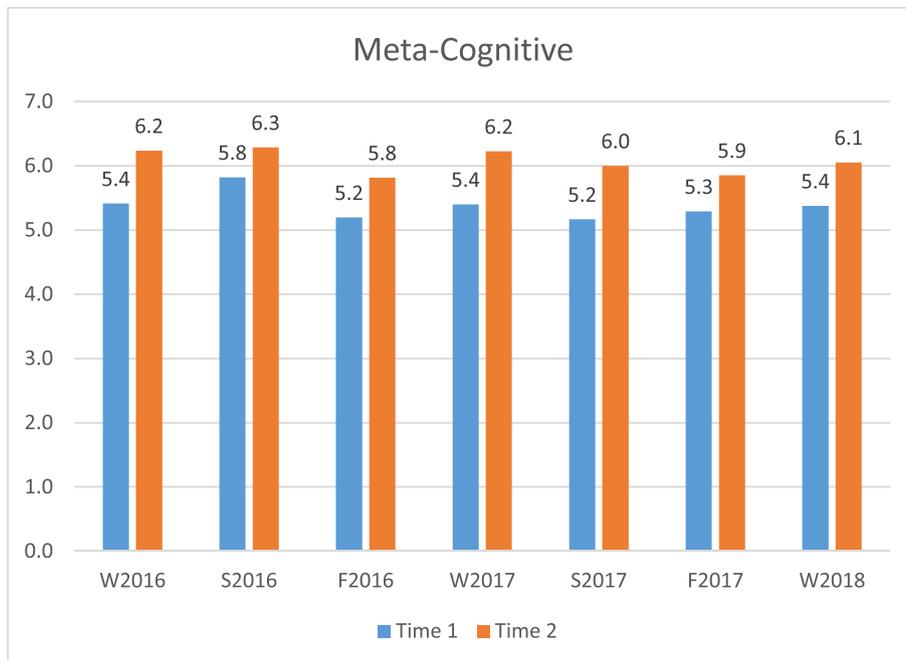
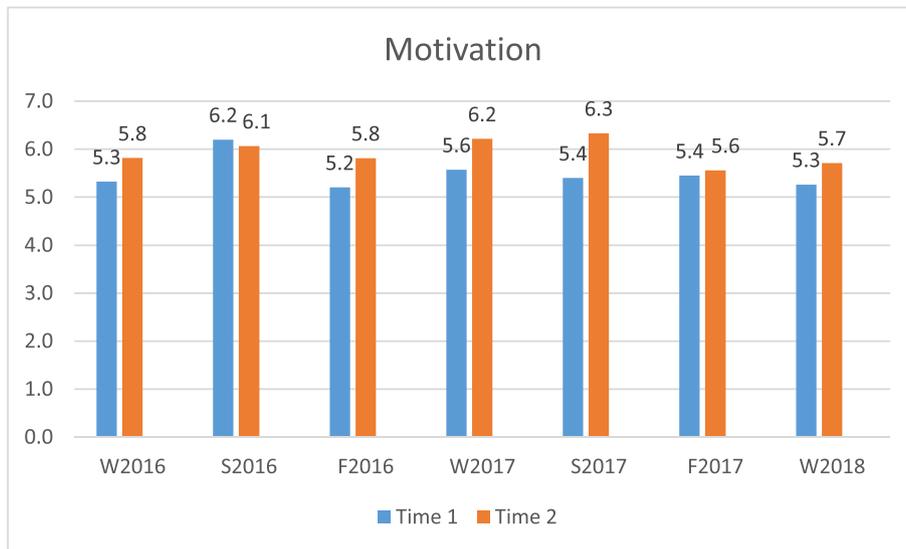
None declared.

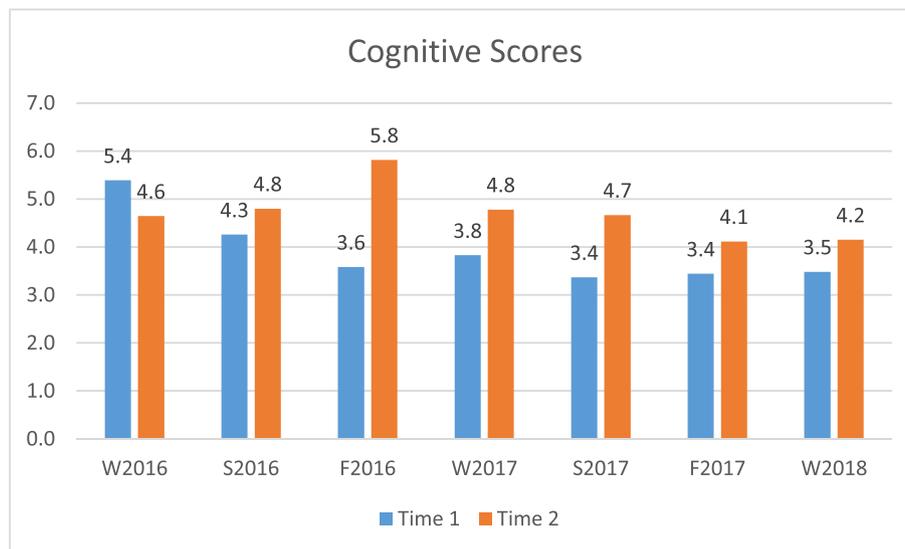
Appendix A. Cultural Intelligence Scale

Cultural Intelligence Scale (CQS) ©	
Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE (1=strongly disagree; 7=strongly agree)	
CQ Factor	Questionnaire Items
Meta-Cognitive CQ:	
MC1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
MC2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
MC3	I am conscious of the cultural knowledge I apply to cross-cultural interactions.
MC4	I check the accuracy of my cultural knowledge as I interact with people from different cultures.
Cognitive CQ:	
COG1	I know the legal and economic systems of other cultures.
COG2	I know the rules (e.g., vocabulary, grammar) of other languages.
COG3	I know the cultural values and religious beliefs of other cultures.
COG4	I know the marriage systems of other cultures.
COG5	I know the arts and crafts of other cultures.
COG6	I know the rules for expressing non-verbal behaviors in other cultures.
Motivational CQ:	
MOT1	I enjoy interacting with people from different cultures.
MOT2	I am confident that I can socialize with locals in a culture that is unfamiliar to me.
MOT3	I am sure I can deal with the stresses of adjusting to a culture that is new to me.
MOT4	I enjoy living in cultures that are unfamiliar to me.
MOT5	I am confident that I can get accustomed to the shopping conditions in a different culture.
Behavioral CQ:	
BEH1	I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
BEH2	I use pause and silence differently to suit different cross-cultural situations.
BEH3	I vary the rate of my speaking when a cross-cultural situation requires it.
BEH4	I alter my facial expressions when a cross-cultural interaction requires it.
BEH5	I change my non-verbal behavior when a cross-cultural situation requires it.
© Cultural Intelligence Center 2005. Used by permission of Cultural Intelligence Center. Note. Use of this scale granted to academic researchers for research purposes only. For information on using the scale for purposes other than academic research (e.g., consultants and non-academic organizations), please send an email to info@culturalq.com	

Appendix B. Cultural intelligence by dimension and semester







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