

A study to identify the effectiveness of a faculty development programme in enhancing the cultural intelligence and intercultural effectiveness of nurse educators

Abstract

Background: As the nursing education sector becomes more culturally diverse, a faculty development program is crucial towards nurse educators' abilities to advance and improve their Cultural Intelligence (CQ) and Intercultural Effectiveness (IE).

Aim: Two main aims are: (1) to examine the difference in pretest and posttest in CQ and IE scores after faculty development programme (FDP) for nurse educators and (2) to explore participants' views about the need of FDP for CQ and IE.

Methods: A mixed-method, sequential explanatory design involving pretest-posttest measures followed with a qualitative process evaluation was employed in this study.

Results: There were no significant differences in the means of various variables related to cultural intelligence between pre-test and post-test for the Cultural Intelligence Scale (CQS). However, the Intercultural Effectiveness Scale (ICS) scores had statistically significant differences in the means of 6 out of 7 variables between the pre-test and post-test.

Conclusion: The FDP can be more targeted in improving CQ and would benefit from case studies and real-world scenarios as an example in the content are preferred by nurse educators.

Keywords: cultural intelligence, intercultural effectiveness, nursing education, cultural competency, faculty development program.

Introduction

In a globalized world where interactions across cultures are increasingly common, cultural intelligence (CQ) and intercultural effectiveness (IE) have become crucial skills in various aspects of life, including education, business, professional world and during social interactions. Cultural intelligence and intercultural effectiveness have been linked to job satisfaction, conflict management, adaptability, organizational performance, improved resilience and functioning effectively in new settings (Nagao, 2015; Singh, 2020; Schlaegel et al., 2021; Dolce et al., 2023; Leclerc et al., 2023). The term cultural intelligence (CQ) has been used by several authors (Thomas et al., 2008; Olt et al., 2018; Luclerc et al., 2023) to describe a system of interacting knowledge and skills, that allows people to adapt, to select, and shape the cultural aspects of their environment; to depict an individual's capability to assess, interpret, adapt and actively engage with people from unfamiliar background; to express an approach that employ the power of self-assessment, reflective practice and modelling a way through enculturation. According to Earley and Ang (2003), CQ comprises of four dimensions: (1) cognitive CQ, or the knowledge of norms, practices, values, rules of languages, and rules for expressing non-verbal behaviours; (2) metacognitive CQ, which focuses on the higher-order cognitive process and includes planning, monitoring, and revising mental models of cultural norms for different groups of people; (3) motivational CQ, which pertains to having the drive and confidence to be effective in culturally diverse situations; and (4) behavioural CQ, which reflects the capability to exhibit appropriate verbal and non-verbal actions when interacting with people from different cultures.

Intercultural effectiveness (IE) is related to behavioural aspects of intercultural competence (Yilmaz et al., 2020) and is the ability to interact and collaborate with people from diverse cultural backgrounds to enhance beneficial outcomes (Simkhovych, 2009). Intercultural effectiveness is comprised of six dimensions which includes (1) behavioural

flexibility, these refers to the ability to observe, distinguish, and adapt to an interaction within a specific situational context; (2) interaction relaxation, which refers to the approachability, openness, and overall comfort level during interactions; (3) interactant respect – these refers to the level of value placed upon the culturally different counterpart; (4) message skills, which includes the ability to use and understand verbal and nonverbal cues; (5) identity maintenance, these refers to the ability to maintain the unique identity of the culturally different counterpart while also maintaining one's own separate identity; and (6) interaction management, which is the ability to express ideas and answer questions (Portalla & Chen, 2010).

Being a nurse educator requires multi-level interaction with students, nursing colleagues, patients and other health care professionals from various cultural background and nurse educators can often experience situations of conflict and stress. Quality nursing education is influenced by nurse educators' capacity to effectively communicate and handle these issues. Or and Golba (2023) argued that there exists a relationship between cultural humility and intercultural communication. According to Gottlieb (2020) cultural humility is committing oneself to an ongoing process of compassionate self-awareness and inquiry, being open and teachable, striving to see cultures as others see them and continually considering the social systems. Cultural competence and cultural humility are interconnected. Stubbe (2020) made an interesting comparison between these two concepts that the greater the knowledge one has about another culture, the greater the competence in practice. On the other hand, cultural humility de-emphasizes cultural knowledge and competency and places greater emphasis on lifelong nurturing of self-evaluation and critique, promotion of interpersonal sensitivity and openness (Stubbe, 2020).

According to Schelfhout et al. (2022) the goal of intercultural competence is to exhibit effective behaviour in an individual in culturally diverse settings. Previous studies have

indicated that those with higher CQ and IE showed a growth mindset and coped better with stress (Mosanya, 2019) are more satisfied with their life (Jurásek & Wawrosz, 2021) experience greater wellbeing, adapt more easily and are more satisfied in an unknown cultural environment (Sousa & Goncalves, 2017; Liu et al., 2021). In contrast, there is a strong connection between poor CQ and depression (Gebregergis et al., 2019); increased academic stress (Mosanya, 2019); low CQ and IE and anxiety (Ayoob et al., 2015; Khukhlaev & Bratkina, 2022). CQ and IE have been conceptualised as process-orientated traits that can be developed and can be improved with education, training, and experience (Keyvanara et al., 2014; Schelfhout et al., 2022). In this regard, there is a need for faculty development programme (FDP) in the arena of CQ and IE to teach and develop nurse educators to function and manage effectively in culturally distinct situations. According to Coşkun-Erçelik et al. (2022) there is limited number of studies focusing on CQ levels of nurses. While there are programs that have been enacted for nursing students cultural education (Majda et al., 2021) and improving cultural competence among nurses (Oikarainen et al., 2019) not much information is available in regard to faculty development programme (FDP) for improving the CQ and IE of nurse educators. There is also no consensus on a particular type of education programme to improve CQ and IE of nurse educators teaching in nursing schools. Several studies on various educational programmes show diverse formats (Hurley et al., 2019; Orak et al., 2016). These include in the form of role plays, coaching, immersion experience, workshops and online training programmes based on the context (Gómez-Díaz et al., 2017; Kaur et al., 2019; Romjin et al., 2021). As the concepts of CQ and IE are being widely accepted, a FDP focusing on improving knowledge, skills and attitude would allow effective development of CQ and IE among nurse educators. The review of previous studies on Cultural Intelligence (CQ) and Intercultural Education (IE) underscores their role as educational learning processes for faculty. Faculty Development Programs (FDP) offer a

proactive approach to addressing the complex challenges faculty encounter daily when dealing with cultural diversity. Effectively managing the intricate issues and nuances among culturally diverse students and teachers in the nursing education sector requires a more proactive and educational process, which FDP can provide.

Aim

To examine and explore the impact of faculty development programme (FDP) on the cultural intelligence (CQ) and intercultural effectiveness (IE) scores for nurse educators.

Objectives

1. To determine whether an FDP contributes to improving the CQ and IE of nurse educators teaching in New Zealand nursing schools.
2. To identify the components that should be included in an FDP to enhance CQ and IE.
3. To explore the factors that helps in improving CQ and IE FDP from the views of nurse educators.

Methods

Design

A mixed-method, sequential explanatory design involving pretest-posttest measures followed with a qualitative process evaluation was employed in this study. For this study, an online survey was conducted with nurse educators in New Zealand using validated tools measuring cultural intelligence (CQ) and intercultural effectiveness (IE) for pre-test and post-test respectively. A group of nurse educators received the Faculty Development Program, with their CQ and IE scores were measured at before and after the program. After receiving the FDP, focus group interviews were conducted with nurse educators as informed by the quantitative findings. The integration of quantitative scores and qualitative narratives provided a comprehensive understanding of cultural intelligence and intercultural effectiveness among nurse educators.

Ethical Consideration and Trustworthiness

Ethical approval was obtained from the Human Research Ethics Committee of the Southern Institute of Technology, Te pūkenga, prior to the research being conducted. The principle of informed and voluntary consent was observed, and all participants signed a consent form that informed them of their right to withdraw from the research at any time up to the point of the data analysis. The confidentiality of the participants and their institution was protected as far as possible by not including information that could identify them. Focus group interviews were carried out, and robust data analysis procedures were followed, as outlined in detail in the research methods section. Member checks of data collected were conducted by returning the interview transcripts to the participants for verification. When developing themes and writing, participants' language was used as deemed appropriate, to check interpretations and to maintain neutrality. The limitations of this study were acknowledged, and their potential effects on the study were identified.

Participants and Settings

The study was participated by nurse educators working in School of Nursing in New Zealand. As an inclusion criteria, participants should have a full-time teaching role in their institutions. The survey was distributed to 15 Schools of Nursing in New Zealand, which includes 14 Polytechnics and 4 universities offering nursing degrees. The number of nurse educators varies by institution, with fewer educators at schools with smaller student populations. The majority of the participants were from the South Island of New Zealand and four were from North Island across five institutions.

Data Collection and Instruments

The online survey was sent to potential participants via their organizations' internal email systems. Administrative staff emailed nurse educators, highlighting that participation was anonymous and voluntary. Data was collected using two tools: the Cultural Intelligence

Scale (CQS) and the Intercultural Effectiveness Scale (IES). The CQS, with 20 items across four dimensions, measures effectiveness in culturally diverse settings. The IES, also with 20 items, assesses communication effectiveness across six dimensions. Both the CQ (0.88) and IES (0.89) have good internal consistency and validity measures based on previous studies (Van Dyne et al., 2015; Yilmaz et al., 2020).

After the post-test survey, participants were invited to join focus group interviews about their FDP experiences and related CQ and IE concepts. Interested participants provided contact details via a separate online link. Two focus groups, each with 5-6 members, were conducted by the main researchers via virtual teleconference, lasting 60 minutes. Interview questions were piloted with two nurse educators who were not study participants. The interviews were audio-recorded and professionally transcribed.

Intervention

The FDP was developed after conducting a needs assessment survey and careful planning. A thorough literature review was conducted on existing studies of CQ and IE. Clear goals and objectives were set. The FDP covered CQ, IE, self-awareness of personal cultural values, applying CQ and IE in teaching practice and how to formulate an action plan. The FDP was delivered to the nurse educators using an online platform and the FDP was video recorded and was later sent to the participants who could not attend. The FDP was an hour session facilitated by both the researchers according to their specific expertise in CQ and IE. To foster participant engagement, there were discussions and online videos. To facilitate development of better CQ and IE, the FDP sets a platform of activities that encourages cultural learning (knowledge about cultures and how diverse individuals interact and react)/ For rendering reflection and future learning, scenarios and action plan activities were sent to the participants. Evaluations and feedback were conducted through online surveys and focus group interviews.

Data Analysis

Quantitative data analysis was performed using summary statistics in SPSS (Statistical Package for the Social Sciences) version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were generated for all variables. Both the CQ and IE tools were analyzed using these descriptive statistics. For qualitative data, thematic analysis was conducted following Braun and Clarke's (2006) 6-step method. Pseudonyms were used to present qualitative excerpts.

Results

Fifteen nurse educators returned a completed survey, the response rate that was expected given the small size of the nursing education sector in New Zealand. From those invited to take the survey, 16 participants consented to join the focus groups for the qualitative phase. It can be noted that incomplete survey responses were not included to the analysis, however the invitation to participate to the focus groups was for everyone who participated and attempted to answer the survey. Thirty percent of the quantitative and focus group participants had international teaching experience (n=4).

Quantitative Results

For Cultural Intelligence Scale (CQS), there is no significant difference for the means of all variables in Metacognitive CQ (MC), Cognitive CQ (COG), Motivational CQ (MOT), Behavioural CQ (BEH) and CQ Summary score between pre-test and post-test. For the Intercultural Effectiveness Scale (IES), there is statistically significant difference ($p < .05$) for the means of 5-out-of-6 variables between pre-test and post-test. (See Table 1-3). Although the overall CQ scores between pretest and posttest did not have significant differences, it can be noted that the behavioural component of the CQ scale has the greatest improvement in terms of positive change, which indicated participants' perceived need of adjusting their manner of speaking, tone of voice and facial expression to situations where they thought they

need to be culturally aware and sensitive. The CQ findings are aligned to the changes in the IES scores, particularly with the improvement of participants' scores (pretest and posttest) on the negative items such as having reservations for an effective interaction and communication styles with individuals from diverse cultures. It can be noted that as participants were exposed to the FDP, their increased awareness of differences among cultures seemed to have lowered their IES scores, which was explored in the qualitative part of the study.

Qualitative Results

Themes were identified from the focus group discussions, nurse educators have highlighted the importance of FDP and described such programme is able to provide insights not only as an education exercise to them as staff but also to understand how these interrelated concepts of CQ and IE impact their teaching. Nurse educators also have suggested strategies in how to improve the FDP and which concepts could become contents of the FDP. Two main themes emerged in the focus groups.

The Need of Faculty Development Programme (FDP)

The importance of having a Faculty Development Programme focussing on cultural intelligence and intercultural effectiveness was described by nurse educators in the context of addressing both organisational culture in nursing and culture of country. From a country's cultural perspective, nurse educators are concerned about offending students and colleagues especially in using humour:

"I think... Oh, have I offended that person by saying this thing or presenting myself in a certain way? And that's because, you know I'll be honest, I haven't actually stopped to ask the students" (P2, Focus Group 2)

One nurse educator appreciated that the people, they thought they have offended have been so understanding in the following excerpts:

"I have really put my foot in it with a couple of people and they've been so like forgiving and realized that you know it wasn't intentional. I was trying to make a joke. It felt flat and I have been very apologetic" (P5, Focus Group 1).

Some nurse educators have learned how to be cautious about using humour and have actively asked to clarify if they offended someone

And I've found basically, humour is something that when I can never presume another person is familiar with or engages with. So, I regularly ask for literally. Basically, please tell me if by any means anything I say is offensive or if any of my stories are offensive (P2- Focus Group 2)

The participants also mentioned practical suggestions for the FDP, where they pointed out the need for experiential learning, and not simply an educational experience through a didactic session. Participants also suggested longer session and more specific examples used in the FDP.

"I think our lots would be too short. Personally, I think it needs a little bit more, it needs whether its half day captures or a full day and then staggered or something like that with follow-ups" (P5 Focus Group 1)

Cultural knowledge and its impact on teaching

Nurse educators who participated in this study consistently mentioned about how their cultural knowledge could impact their teaching strategies, particularly in communicating with students. For example, one participant mentioned:

"I think for me if there is one strategy, it's to pause often and think about what's being said and why." (P1, Focus Group 1)

One participant mentioned about their previous experience and exposure to working overseas, where their cultural knowledge has helped them in providing global examples in class.

"I think I probably use a few examples that are more global examples. Talk about, your experiences of working in other countries a little bit and in different cultural settings, I've been lucky enough to have that experience." (P3, Focus Group 2).

Another educator shared their experience of having conversation opener related to cultural knowledge such as finding common interests within the group of students, to initiate class dialogue and interactions.

“I think one thing too would be finding a commonality with someone or a common interest or just something in common, whether it be food or just something. I bring students back to it in the Nursing Council guidelines 1.2, which is cultural difference from the nurse on the basis of gender, you know, disability, age, migrant status, religious or spiritual belief.” (P4, Focus Group 2)

Discussion

This study presented the findings from a mixed method approach examining the effectiveness of a faculty development programme (FDP) in enhancing CQ and IE of nurse educators. The quantitative analysis revealed that there were no significant differences in the CQ dimensions and the overall CQ summary score between the pre-test and post-test. This suggests that the participants' cultural intelligence did not change significantly over the course of the faculty development program. It could imply that the program was not sufficient to impact the participants' cultural intelligence as measured by the CQ.

Conversely, the statistically significant improvements in 6 out of 7 dimensions of the IES indicate that the participants' ability to communicate effectively with individuals from different cultural backgrounds improved over the period of the study. This suggests that the faculty development program was effective in enhancing the participants' intercultural communication skills. These findings are explained and integrated into the following sections.

5.1. FDP must address both culture of nursing and culture of country.

In the current study, the nurse educators addressed that while there are similarities between culture of nursing and culture of a country, they are two distinct aspects. The findings of this study support the view that nursing has a professional culture (Strouse & Nickerson, 2016) and culture of the country that influences the professional nursing values

(Rodríguez-Gázquez et al., 2021). In addition, Strouse and Nickerson (2016) reported that within the culture of nursing, there are sub-cultures: culture of nursing education and culture of nursing practice. It also includes the concepts such as trust, safety, and an integrated caring approach. This supports the nurse educators view in the current study that culture of nursing is different to a person's identified culture and includes considering the whole person when providing care, considering not only the physical symptoms but also the social, emotional, and spiritual aspects of a person's well-being. For example, as Participant 1 (*Focus Group 1*) indicated that "the culture of nursing may well be absolutely different to a person's identified culture or even what they have so far experienced in life". In agreement with this, several studies reported that culture of nursing is multifaceted, multivalent and incorporates a holistic approach (Strouse & Nickerson, 2016) nursing professional values encompasses compassion (Kavradim et al., 2019) and education can affect nursing professional values in a positive way (Kantek et al., 2017). The nurse educators reported that the FDP must include information regarding nursing curriculums of different countries and must include examples from around the world. The findings of the current study corroborate with Molise et al.'s (2023) findings that culture is an important phenomenon that needs to be considered when contemplating transformative nursing curriculum in a multi-factor environment. Moreover, Strouse and Nickerson (2016) posits that nursing faculty believe that right conditions facilitate the enculturation of students and must include the appropriate curriculum for the right learning experience. Dohrn et al. (2018) took it one step further by mentioning that while incorporating global examples in nursing curriculum are important, providing global clinical experience is much more efficient. In addition, nurse educators reported that, FDP must also include information regarding cultures of various countries. For example, as Participant 3 (*Focus Group 1*) indicated that "*I find that I would find it really useful to actually understand the culture of the other learners in the room and the other educators I work*

with, some of them, I don't know". It is about being connected with culture of nurse educators from other countries and culture of learners and various learning practices.

5.2. Exposure to various cultures is a significant component in improving CQ and IE of nurse educators

In the current study, the score for cognitive CQ of nurse educators, which comprises of knowledge of norms, practices, values, and rules for expressing non-verbal behaviours, (Early & Ang, 2003) were lower. Similar results had been established in previous studies (Alexandra, 2018; Skaria & Montayre, 2023). This shows that exposure of a person to a particular culture is a significant component in improving CQ and IE. Similar studies have established that time is an important factor for cultural adaptation (Skaria, 2017). Equally international experience has proved to be effective in improving CQ and IE (McKay et al., 2022; Vincent et al., 2020). While online FDPs are generally common (Mahajan et al., 2017) in the current study, experiential FDP was preferred than online. It has been established that one hour of FDP was not enough to improve cognitive CQ scores. A plausible explanation for this could be that as Fischer (2009) suggest, culture is a system of shared understanding and to be culturally intelligent means to be fully aware of others cultural preferences before and during interactions and adjust their mental models during and after interactions. (Brislin et al., 2006; Van-Dyne et al., 2012)

5.3. Cultural humility has a crucial role in how nurse educators interact with students and faculty

Interestingly, the participants in the current study were concerned about offending colleagues or students due to their lack of knowledge of various cultures. A study by (Garson et al., 2016) sought to remedy this situation by integrating content that explores interculturalism in the faculty development programme (FDP). Furthermore, there is evidence in the literature suggesting that self-reflection and critiquing own biases and assumptions are

helpful in improving cultural competence and IE (Stubbe, 2020; Anderson & Or, 2023) and there is direct relationship between cultural humility, intercultural communication, and IE (Or & Golba, 2023; Anderson & Or, 2023). Conversely, Lekas et al. (2020) recommends a paradigm shift from cultural competence to cultural humility. According to Stubbe (2020), cultural humility is an ongoing process of self-exploration and self-critique combined with a willingness to learn from others. In accordance with this, nurse educators in the current study, expressed a willingness to learn from others regarding their culture. Furthermore, there is evidence in the literature that CQ and IE can be improved with training (Keyvanara et al, 2014; Schelfhout et al., 2022) and literature supports those midwives who participated in professional development programme tended to be more culturally sensitive (Fleming et al., 2020). According to Cox and Simpson (2020), simply understanding the concept of cultural humility is not enough to ensure a culturally safe practice, however an ongoing professional development programme on cultural humility is necessary.

5.4 Cultural aspects of teaching in New Zealand is guided by Nursing Council New Zealand guidelines.

The nurse educators considered cultural safety as a significant factor in teaching in New Zealand. Previous studies have shown that CQ is required of nurses to practice in a culturally safe way. (Hughes, 2018; Skaria & Montayre, 2023). According to Hughes (2018) cultural safety is about knowing how one's own culturally constructed beliefs -acquired through socialisation in childhood and adolescence may affect others, so the nurse does not make judgements about other person's decisions or situations. According to the nurse educators in the current study, FDP must focus on cultural safety and cultural competence in relation to NCNZ guidelines. The findings of this study corroborate with DeSouza's (2008) explanation that cultural competence emphasises learning about the culture of the patient, whereas cultural safety emphasises the importance of recognition of oneself as a culture and

power bearer. In addition, cultural safety includes an emphasis on preparing nurses to resolve any tension between the cultures of nursing and the people using services to provide equitable, effective, and acceptable service delivery. According to Hughes, (2018) the key to be culturally safe is to be culturally intelligent.

This study was limited to a small sample size and did not have a national representation of New Zealand nurse educators. However, as we are undertaking a pilot study on FDP on cultural intelligence, the data collected from this study was leveraged to inform full-blown and wider scale implementation of FDP in the future. The study has also highlighted the qualitative data which substantially supported the quantitative findings.

Conclusion:

The faculty development program (FDP) is highly valued by nurse educators for its role in providing meaningful insights into the impact of cultural intelligence (CQ) and intercultural effectiveness (IE) on teaching. The statistically significant differences in the means of variables for the intercultural effectiveness scale (IES) suggest that the program has the potential to positively impact educators' understanding and application of these concepts. To further improve the FDP, it is recommended to incorporate common and familiar examples and allocate more time for in-depth exploration of these topics. These enhancements can help ensure that the FDP effectively addresses the needs of educators and provides them with the accurate mechanism for professional development on the topic.

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Table 1. Pre-test & Post-test of the Cultural Intelligence Scale (CQS)

Item	Pre-test (<i>n</i> = 15)		Post-test (<i>n</i> = 14)		Mean Difference
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>p</i> *
Metacognitive CQ (MC)	range 4-20		range 15-19		<i>U</i> = 97.500
	15.93	3.845	16.57	1.399	<i>Z</i> = -.338
I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds	4.07	.961	4.34	.857	.747^{<i>n.s.</i>}
I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me	4.13	1.060	4.31	.891	
I am conscious of the cultural knowledge I apply to cross-cultural interactions	3.87	.990	4.17	.928	
I check the accuracy of my cultural knowledge as I interact with people from different cultures	3.87	1.187	4.14	.953	
Cognitive CQ (COG)	range 6-24		range 12-21		<i>t</i> = .502
	17.20	4.771	16.19	2.934	<i>d</i> = .253
I know the legal and economic systems of other cultures	2.60	.828	3.11	.994	.502^{<i>n.s.</i>}
I know the rules (e.g., vocabulary, grammar) of other languages	2.67	1.047	2.89	1.066	
I know the cultural values and religious beliefs of other cultures	3.13	1.060	3.36	.911	
I know the marriage systems of other cultures	3.07	.961	3.14	.970	
I know the arts and crafts of other cultures	2.93	.884	2.93	.917	
I know the rules for expressing nonverbal behaviours in other cultures	2.80	.775	3.11	.875	
Motivational CQ (MOT)	range 5-25		range 17-23		<i>U</i> = 70.500
	20.53	4.734	20.02	1.991	<i>Z</i> = -1.514
					.134^{<i>n.s.</i>}

I enjoy interacting with people from different cultures	4.60	1.056	4.69	.806	
I am confident that I can socialize with locals in a culture that is unfamiliar to me	4.07	1.033	4.28	.922	
I am sure I can deal with the stresses of adjusting to a culture that is new to me	3.93	.961	4.14	.953	
I enjoy living in cultures that are unfamiliar to me	4.00	1.069	4.21	1.013	
I am confident that I can get accustomed to the shopping conditions in a different culture	3.93	1.100	4.21	1.013	
	range 8-24		range 15-25		U = 62.000
Behavioural CQ (BEH)	17.93	4.383	20.36	2.590	Z = -1.904
I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it	3.53	1.187	3.72	1.192	.063^{n.s.}
I use pause and silence differently to suit different cross-cultural situations	3.40	.828	3.79	.819	
I vary the rate of my speaking when a cross-cultural situation requires it	3.80	.862	4.03	.823	
I change my nonverbal behaviour when a cross-cultural situation requires it	3.73	.884	4.00	.926	
I alter my facial expressions when a cross-cultural interaction requires it	3.47	.990	3.79	1.048	
Summary score	range 23-92		range 60-88		U = 97.000
	71.60	16.007	73.13	7.495	Z = -.350
					.747^{n.s.}

* $p < .05$ for significant mean difference between pre-test and post-test in sample T-test (normal distributed) or Mann-Whitney ranking test (non-parametric)

n.s. means $p > .05$

Table 2. Pre-test & Post-test of the Intercultural Effectiveness Scale (IES)

Item	Pre-test ($n = 15$)		Post-test ($n = 14$)	
	Mean	<i>SD</i>	Mean	<i>SD</i>
1. I find it is easy to talk with people from different cultures.	3.8000	.94112	3.5714	1.08941
2. I am afraid to express myself when interacting with people from different cultures.	3.9333	.59362	2.5833	1.07118
3. I find it is easy to get along with people from different cultures.	3.6667	.97590	3.1671	1.16575
4. I am not always the person I appear to be when interacting with people from different cultures.	3.7333	.59362	2.3333	.98710
5. I am able to express my ideas clearly when interacting with people from different cultures.	3.3333	.81650	2.7500	.79663
6. I have problems with grammar when interacting with people from different cultures.	3.4667	.74322	2.8333	.86232
7. I am able to answer questions effectively when interacting with people from different cultures.	3.7333	.79881	3.0829	.91638
8. I find it is difficult to feel my culturally different counterparts are similar to me.	4.1333	.74322	2.6667	1.13228
9. I use appropriate eye contact when interacting with people from different cultures.	3.5333	.63994	3.1671	.86232
10. I have problems distinguishing between informative and persuasive messages when interacting with people from different cultures.	3.5333	.51640	2.3333	.81650

11. I always know how to initiate a conversation when interacting with people from different cultures.	3.0667	1.0328	2.9171	.72942
12. I often miss parts of what is going on when interacting with people from different cultures.	3.2667	1.0328	2.5000	.73380
13. I feel relaxed when interacting with people from different cultures.	4.0000	.37796	3.1671	.86232
14. I often act like a very different person when interacting with people from different cultures.	3.7333	.88372	2.5833	1.14074
15. I always show respect for my culturally different counterparts during our interaction.	4.3333	.61721	3.1671	1.16575
16. I always feel a sense of distance with my culturally different counterparts during our interaction.	4.0667	.59362	2.3333	1.19829
17. I find I have a lot in common with my culturally different counterparts during our interaction.	3.4667	.63994	2.9171	.82819
18. I find the best way to act is to be myself when interacting with people from different cultures.	2.4667	.91548	2.2500	.69338
19. I find it is easy to identify with my culturally different counterparts during our interaction.	3.8000	.56061	4.1671	.53109
20. I always show respect for the opinions of my culturally different counterparts during our interaction.	4.1333	1.06010	4.1671	.35806

Table 3. Overall Scores of Pre-test & Post-test of the Intercultural Effectiveness Scale (IES)

IES Components	Pre-test		Post-test		Mean difference p^*
Behavioural Flexibility	range 11-16		range 6-14		$t = 4.998$ $d = 1.891$ <.001*
	13.8667	1.55226	9.7500	2.69258	
Interaction Relaxation	range 11-22		range 13-20		$t = 1.352$ $d = .502$.188 ^{n.s.}
	18.3333	2.79455	16.9900	2.53663	
Interactant Respect	range 8-14		range 7-14		$U = 57.500$ $Z = -2.109$.037*
	12.0000	1.92725	10.5014	2.09395	
Message Skills	range 8-13		range 4-12		$t = 3.680$ $d = 1.368$.001*
	10.2667	1.62422	7.6667	2.16025	
Identity Maintenance	range 10-14		range 4-13		$t = 4.527$ $d = 1.720$ <.001*
	11.6667	1.34519	7.9171	2.81366	
Interaction Management	range 2-8		range 4-9		$U = 51.000$ $Z = -2.422$.018*
	7.0667	1.53375	5.8329	1.60927	
Summary score	range 58-86		range 38-78		$t = 4.035$ $d = 1.525$ <.001*
	73.2000	6.99183	58.6581	11.67166	

* $p < .05$ for significant mean difference between pre-test and post-test in sample T-test (normal distributed) or Mann-Whitney ranking test (non-parametric)

n.s. means $p > .05$

Note for Table 3. Items 2, 4, 6, 8, 10, 12, 14, 16, and 18 are reverse coded from score range 1-5 to 5-1 before statistical analysis. Behavioural Flexibility items are 2, 4, 14, and 18; Interaction Relaxation items are 1, 3, 11, 13, and 19; Interactant Respect items are 9, 15, and 20; Message Skills items are 6, 10, and 12; Identity Maintenance items are 8, 16, and 17; Interaction Management items are 5 and 7.