

Leveraging Cultural Intelligence in Pre-Service Teachers: An Imperative for Socially Just Pedagogies

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Abstract: “The number one predictor of success in today’s borderless world is cultural intelligence.” – David Livermore. To live and work in harmony in today’s globalized society, like emotional intelligence, cultural intelligence is a conversation that cannot be ignored. Cultural intelligence is the difference between individuals who succeed in today’s multicultural, globalized world and those who fail. Teacher education institutions must be agents and catalysts for cultural intelligence. Since teachers continue to work with an increasingly diverse student population, the integration of culturally responsive curricula and culturally responsive teaching practices into teacher education is imperative to ensure socially just pedagogies. The purpose of this research is to analyse the level of cultural intelligence of pre-service teachers through a critical pedagogical lens, to identify gaps in the different dimensions of cultural intelligence and to make recommendations about how teacher education curricula may be differentiated to improve the level of cultural intelligence thus nurturing socially just pedagogies. A qualitative strategy was employed for this study. The target population of this study constituted preservice teachers. Data was collected using both a survey-type questionnaire and semi-structured interviews. The findings of the study based on the survey indicated that the majority of the respondents rated themselves as having high levels of cultural intelligence; however, individual interviews suggested that students displayed a relatively low level of cultural intelligence. It is therefore recommended that teacher education institutions reimagine their curricula to ensure that cultural intelligence is deliberately embedded into the design of their programme offerings to ensure the promotion of socially just pedagogies.

Keywords: Cultural intelligence, Critical pedagogy, Culturally responsive teaching, Socially just pedagogies, Teacher education institutions

1. Introduction

Intelligence quotient (IQ) which is a measure of a person’s reasoning ability was the dominant type of intelligence in preceding centuries. IQ tests were used to gauge how well an individual can use information and logic to answer questions or make predictions (One Central Health, 2021). However, more than twenty years into the 21st century we have witnessed the emergence and pervasiveness of many types of intelligence, such as Gardner’s multiple intelligences, emotional intelligence, leadership intelligence, social intelligence, successful intelligence and cultural intelligence (Ang, Ng & Rockstuhl, 2020). The current century has witnessed unprecedented interconnectedness and globalization which increased intercultural interactions. This era of interconnectedness inaugurated the concept of cultural intelligence (CQ) since increased cultural interactions increased the probability of cultural misunderstandings, tensions, and conflicts. Cultural intelligence is not an innate human propensity but a learnt behaviour. Therefore, education and schooling play a significant role in leveraging cultural intelligence.

The purpose of this study is to leverage cultural intelligence in pre-service teachers by firstly analysing their levels of cultural intelligence and secondly based on the findings providing recommendations to teacher education institutions about how to increase the levels of cultural intelligence of their students and in equal measures promote socially just pedagogies.

2. Problem Statement and Rationale

Teachers are expected to advocate for their learners by promoting socially just pedagogies through pluralism and the acceptance of cultural diversity. The aim of socially just pedagogies is to foster individuals who are capable of nurturing social change. To nurture social change teachers must prepare their learners to live and work in culturally diverse communities. Therefore, teachers must be culturally intelligent and apply culturally responsive teaching (CRT) competencies to create a safe, inclusive and tolerant learning environment where diversity is respected (Osman & Hornsby, 2018; Karatas, 2020). A high level of cultural intelligence in teachers will result in culturally responsive teaching. Therefore, it is important to identify gaps in the different areas of cultural intelligence in pre-service teachers and to make recommendations to teacher education institutions about how the teacher education curriculum may be differentiated to improve the level of cultural intelligence of our pre-service teachers. Therefore, the research question is encapsulated as follows:

- What are the levels of cultural intelligence in pre-service teachers and how can teacher education institutions improve the level of cultural intelligence of pre-service teachers?

3. Conceptual and Theoretical Framework

The concept of cultural intelligence (CQ) was first introduced by Earley and Ang in their Stanford University Press Book published in 2003 (Ang, Van Dyne, & Tan, 2011). CQ is defined as the capability of an individual to function effectively in culturally diverse settings and is a type of intelligence necessary for adaptation to a new cultural environment. Research indicates that individuals who thrive in intercultural environments exhibit higher levels of CQ and can easily and effectively adapt their views and behaviours across cultures than individuals who display lower levels of CQ (Ang et al., 2020; Sousa et al., 2023). According to researchers, Sousa et al. (2023) CQ capabilities are developed through certain precursors which can be individual or situational. Possible precursors may be factors such as international experience, personality traits and skills, formal training programs or experiential learning programmes (Sousa et al., 2023).

Sternberg, Wong & Kreisel (2021) underscores the importance of cultural intelligence. First, the ubiquitous presence of intercultural interactions results in a lack of understanding of each other's values as individuals, groups or communities, rendering cultural intelligence the most fundamental type of intelligence needed for a sustainable world (Sternberg et al., 2021). Second, notwithstanding how cultural intelligence affects our interactions with people of different cultures, it gives us a more lucid perspective of our own cultures. Interactions with other cultures enable us to seek out more viable or desirable options from other cultures and dispel preconceived beliefs and stereotyping perpetuated by our own culture. This could include, for example, growing up in a culture that shows general disrespect for women. A third reason is that although people are born with certain propensities, tacit knowledge is acquired, and cultural intelligence is teachable and can be learnt from experience or through instruction about how to interact better with people of diverse cultures. Sternberg et al., 2021).

To measure CQ, Dyne, Ang & Koh (2009) developed a four-dimensional construct supported by the 20-item Cultural Intelligence Scale (CQS). The scale allows the assessment of each dimension level of CQ, which helps to identify more specifically which characteristics require greater investment to increase the CQ level. The four dimensions are metacognitive, cognitive, motivational and behavioural (Dyne, Ang & Koh, 2009). Metacognitive CQ focuses on how a person makes sense of intercultural experiences by reflecting on the processes individuals use to acquire and understand cultural knowledge. Cognitive CQ examines an individual's understanding of how cultures are similar and different and their knowledge structures and mental maps about cultures. It encompasses knowledge about economic and legal systems, norms for social interaction, religious beliefs, aesthetic values and language in different cultures. Motivational CQ is an intrinsic value that propels individuals to learn about and function effectively in cross-cultural settings. Behavioural CQ focuses on a person's capability to adapt verbal and nonverbal behaviour to different cultures (Sousa et al. 2023). Tuleja (2019) further affirms the extension of the original CQ theory by Dyne, Ang & Koh (2009) which takes into consideration the experiential aspect of what one learns and re-learns after reflecting on the experience. Four factors of CQ have been identified which include CQ strategy, knowledge, motivation, and behaviour.

Social justice involves exploring the social construction of unequal hierarchies that result in a social group having access to power and privilege. Pedagogies that foster an awareness and agency for social justice are embedded in socially just principles and aim to form citizens who advocate for justice for all people. Socially just pedagogies move beyond the ideal or abstract to the concrete eradicating the one-way relationship between teacher and student. Socially just pedagogies acknowledge that students come to the classroom with a history, background or narrative that influences their academic development. A caring classroom evokes openness, trust and confidence (Karatas & Han, 2022; Klaasen, 2020).

Researchers, policymakers, and educators have ardently called for the development and enhancement of educators' cultural competency that is inclusive of transformative and justice-oriented curricula in schools. Culturally competent teachers who interrogate transformative and justice-oriented curriculum and pedagogy will create classroom spaces that are engaging, supportive, and healing, that offer multiple and even competing perspectives, and that showcase the rich diversity and complexity of our world (Hamdan & Colom, 2022). Culturally responsive pedagogies raise student achievement for all cultural groups, ensuring that all students are given the encouragement and support to realise their educational potential regardless of their social, economic or cultural background or individual needs (The Education Hub, 2019).

This study is supported by Freire's theory of critical pedagogy. Freire defines critical pedagogy as a critical approach to education, highlighting the importance of having learners engage actively in their learning process and being able to find and develop their own opinions and positions (cited in Uddin, 2019). Advocates Burbules, Berkand and Simon (in Pishghadam & Meidani, 2012) contend that critical pedagogy is founded on notions such

as emancipatory knowledge and communication. The goal of critical education is to educate students to critically appropriate forms of knowledge that exist outside of their immediate experience, to take risks, to struggle with ongoing relations of power and to envisage versions of a future world (in Pishghadam & Meidani, 2012). Masood and Haque (2021) add another dimension to the definition of critical pedagogy by contending that critical pedagogy is a critical teaching and learning approach that requires teachers and learners to construct knowledge together challenging the existing power dynamics in traditional classrooms.

4. Methodology

Since qualitative research is less structured than a quantitative study and the social inquiry in qualitative research relies primarily on non-numeric data in the form of words, including all types of textual analyses such as content, conversation, discourse, and narrative analyses (Merriam,1998 and Jackson II, Drummond and Camara, 2007), the qualitative design suited this study. The research paradigm for this study is located within the theoretical framework of critical pedagogy. This study examines the epistemological elements of critical pedagogy. The critical pedagogy paradigm used in this study leans towards intuitive and authoritative epistemology since data was collected relying on the beliefs and intuitions of pre-service teachers (Kivunja & Kuyini, 2017).

Participants were selected using purposive sampling from private higher education institutions (PHEIs) located in two different provinces in South Africa, namely the Eastern Cape and Gauteng. Fourth-year Bachelor of Education (B.Ed) students formed the core component of participants. These students represented diverse races and religious and cultural demographics. Participants were emailed a consent letter detailing the purpose of the research. Participants acknowledged the ethical considerations of the study and gave consent to participate in the research by signing the consent form or completing the Microsoft Survey.

The two types of data collection methods used in this study were the structured questionnaire and semi-structured one-on-one interviews. The structured questionnaire consisted of closed-ended questions based on the 20-item, Four Factor Cultural Intelligence Scale (CQS) designed by the Cultural Intelligence Centre (2011). The CQS focuses on CQ strategy, CQ knowledge, CQ motivation and CQ behaviour. The questionnaire consisted of twenty questions that attempted to explore the levels of cultural intelligence in fourth-year B.Ed. students. The opinions of the respondents were recorded on a 4-point Likert scale. A total of 158 students responded to the questionnaire. The focus of this study is on pre-service teachers, therefore biographical data such as geographical location, belief systems or religion and racial group classifications were purposefully not factored into this study. Fourth-year B.Ed students were selected from each province for the semi-structured interviews to elicit their views concerning cultural intelligence. The semi-structured questions gave us the flexibility to prompt students to add information they believed to be relevant to the research. Interviews were conducted online using TEAMS. All interviews were recorded and transcribed.

The results obtained from the questionnaire are presented in a table to show the distribution analysis. Descriptive statistics was applied to interpret the results which were further interpreted with conceptual theoretical frameworks presented. Thematic analysis was used to analyse the data obtained from the semi-structured interviews. Codes generated from the data were examined for interesting and significant patterns and were formulated into 5 main themes which are understanding cultural intelligence, perceptions of peers' level of cultural intelligence, knowledge of cultural diversity, motivation to learn about other cultures and confidence to engage in culturally responsive teaching. For this study, the eight participants are labelled P1 to P8.

5. Findings and Discussions

Table 1: Percentage of responses from the questionnaire

Statement	Strongly disagree (%)	Disagree (%)	Agree (%)	Strongly agree (%)
1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	0.6	2.5	57.6	39.3
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	0.6	7	71.5	20.9
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.	0	4.5	75.9	19.6

4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.	0	14.6	62.7	22.7
5. I know the legal and economic systems of other cultures.	6.3	49.4	39.9	4.4
6. I know the rules (e.g., vocabulary, grammar) of other languages.	8.9	41.8	44.9	4.4
7. I know the cultural values and religious beliefs of other cultures.	1.9	24.1	69.6	4.4
8. I know the marriage systems of other cultures.	3.2	39.2	55.1	2.5
9. I know the arts and crafts of other cultures.	0.6	41.8	55.1	2.5
10. I know the rules for expressing non-verbal behaviours in other cultures.	1.3	42.4	52.5	3.8
11. I enjoy interacting with people from different cultures.	0.6	0	41.2	58.2
12. I am confident that I can socialize with locals in a culture that is unfamiliar to me.	0.6	8.9	55.1	35.4
13. I am sure I can deal with the stresses of adjusting to a culture that is new to me.	1.3	8.8	67.7	22.2
14. I enjoy living in cultures that are unfamiliar to me.	2.5	24.1	55.7	17.7
15. I am confident that I can get accustomed to the shopping conditions in a different culture.	1.9	17.7	67.7	12.7
16. I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it.	8.2	31.6	51.3	8.9
17. I use pause and silence differently to suit different cross-cultural situations.	1.9	28.5	62.6	7
18. I vary the rate of my speaking when a cross-cultural situation requires it.	1.9	20.9	69	8.2
19. I change my non-verbal behaviour when a cross-cultural interaction requires it.	2.5	20.9	70.9	5.7
20. I alter my facial expressions when a cross-cultural interaction requires it.	7	24.7	62.7	5.6

As presented in the table above, the majority of the respondents either agreed or strongly agreed with all of the statements except 2 statements (5 and 6), where they either disagreed or strongly disagreed. These percentages of disagreement indicate a low level of cultural knowledge. However, the predominant high percentages of agreement indicate that the pre-service teachers who responded to the survey have mostly a high level of cultural intelligence enabling them to create strategies for inter-cultural interactions and make sense of cultural similarities and differences. Although the above survey indicates that pre-service teachers are curious and eager to learn about different cultures and can act and respond appropriately in culturally diverse contexts based on the four dimensions which are CQ strategy, CQ knowledge, CQ motivation and CQ behaviour, the findings do not align with the responses gleaned from the semi-structured individual interviews which are presented under the five themes identified. The results from the survey are discussed in conjunction with the findings from interviews under each emergent theme.

Theme 1: Understanding of Cultural Intelligence

None of the eight pre-service teachers interviewed had a cohesive and lucid understanding of cultural intelligence. This is highlighted by the following responses:

P2: I think cultural intelligence is like how your culture plays a role in certain things that you do in your daily life.

P4: I kind of view it as not necessarily having an in-depth understanding of individual cultures, but rather than just having more of a broad basic spectrum knowledge.

This finding contradicts the findings from the survey where most students agreed with statements based on the four dimensions of CQ. Therefore, findings from the survey allude to the assumption that pre-service teachers may have a false sense of CQ knowledge. For pre-service teachers to leverage the level of their cultural intelligence they must have a distinct comprehension of CQ. Tuleja (2019) and Suharli et al. (2018) support this statement by affirming that a cohesive understanding of CQ will enhance their ability to function skilfully in a

cultural context different from their own. Karatas & Han (2022) further argue that a distinct comprehension of CQ will not only enable pre-service teachers to empathize and work well with learners, but will also ensure that they can acknowledge differing values, beliefs, attitudes, and behaviours to anticipate, act, and react in appropriate ways to prepare their learners to live and work in a culturally diverse community and global world. An enhanced understanding of cultural intelligence will evoke the importance of socially just pedagogies in pre-service teachers and increase their awareness of hierarchies based on race, class, gender, and sexuality (Karatas & Han, 2022). An improved understanding of CQ necessitates the dialogical approach of critical pedagogy. Dialogue is necessary for education to create interaction between teachers and students and between students and other students and build students' critical thinking capabilities (Uddin, 2019).

Theme 2: Perceptions of peers' level of cultural intelligence

The majority of the participants in the interviews believed that their peers displayed low levels of cultural intelligence and had limited understanding and knowledge to engage in insightful or meaningful discussions.

P6: I would say not really. Maybe more towards the African culture.

P7: No. You know, if they wanted to try and learn about different cultures, they could have done that. But then, because everyone is just in their own bubble, everyone is just in their own world.

Responses from the interviews indicated that pre-service teachers believed that their peers lacked the insight to provoke appropriate cultural experiences from individuals or groups due to diminished levels of cultural competencies. This belief aligns with statements 5 and 6 of the survey where pre-service teachers mostly disagreed that they know the economic systems and language rules of other cultures. However, the survey also indicates that over 70% of students believe that they know the cultural values and religious beliefs of other cultures. This highlights the disconnect between the findings of the survey and the interviews suggesting that pre-service teachers believe that they have a high level of CQ, however, when individually prodded with probing questions they believe that their peers have a low level of CQ. Hamdan & Colom (2022) emphasise leveraging cultural competencies in teachers since these competencies enable the use of critical-thinking skills to interpret how cultural values and beliefs influence conscious and unconscious behaviour and equip them to successfully teach students who come from cultures other than their own. In addition, cultural competencies in pre-service teachers interrogate peculiar personal and interpersonal awareness and sensitivities which involve the mastering of skills that underpin effective cross-cultural teaching (Hamdan & Colom, 2022).

Cultural competencies in pre-service teachers also engage critical pedagogy which is associated with transformative learning and critical learning. While critical learning uses authentic problem-solving and place-based learning to develop empathy, critical thinking, and civic responsibility among students; transformative learning challenges and changes an individual's beliefs, attitudes, and behaviours through critical reflection and discourse (Rivers et al., 2015). Therefore, critical and transformational learning is crucial and relevant in ensuring that education focuses on socially just pedagogies and positions pre-service teachers to integrate socially just pedagogies and cultural competence into classroom practice (Leibowitz & Naidoo, 2017).

Theme 3: Knowledge of cultural diversity

Although responses to the survey implied a high score on CQ knowledge, once again the interviews proved to be contradictory. Compared to the high percentages of agreement that the survey generated, interview participants were unable to coherently explain the difference between race, religion, nationality and ethnicity. Most of the participants shared that they would not be able to explicitly explain these concepts to their learners. 6 out of the 8 participants were unable to confidently answer the question: What race group will a Muslim lady belong to? Participants' knowledge of cultural or religious celebrations was limited to their religions or cultures. The knowledge displayed about celebrations and religious observations of other cultures was scanty or inaccurate. The following summarised responses affirm these findings. *"I struggle with it myself still, so I would really have to go do a bit more research on it to be able to explain it to the children. They belong to like either Indian or coloured, but in my opinion, they should have their own race group because they don't necessarily identify as either. I am aware of like Eid and those kind of celebrations, but I'm not like properly educated on them."*

Advocates of CQ Livermore & Van Dyne (2015) and Sternberg et al. (2021) argue that pre-service teachers who have inadequate CQ knowledge will not efficiently adjust to the shifting expectations of their culturally diverse learners since they do not have reference points and a repertoire of strategies and behaviours to orient themselves when they encounter unfamiliar perspectives. Therefore, they will not be able to interpret and make

sense of confusing situations in culturally diverse settings. However, with enhanced CQ knowledge, they will have the ability to encounter new cultural situations with a discerning mental frame, adjust to the challenges of culturally diverse teams, enjoy intercultural interactions, and embrace the value of adjusting to the novelty of different cultural perspectives (Livermore & Van Dyne, 2015; Sternberg et al., 2021). Karatas & Han (2022) further affirms that since cultural intelligence is an important capability in a multicultural world teachers should be aware of and be sensitive to the cultural development of all students in their classrooms. High levels of CQ will initiate social justice education. This type of education encourages students to take an active role in their education and supports teachers in creating democratic and critical educational environments (Karatas & Han, 2022).

Theme 4: Motivation to learn about other cultures

The questions that generated theme 4 revolved around engaging with different cultures to develop an understanding of that culture, interacting voluntarily with different cultures on a social basis and educating yourself about different cultures to ensure that you are culturally sensitive and inclusive. These questions align with motivational CQ. The following responses hinge on the premise that pre-service teachers do not have high levels of motivation to learn about other cultures.

P1: I don't really interact with anybody besides like my little group, but if I do interact with them, I do try and understand how they interpret certain things to how I interpret it.

P5: So, I would like ask my classmate if they're from different tribes like which tribe where you are from, what colour do you guys wear, and what's your traditional colour?

P3: The way I educated myself is for example, if I were to see a person from a different culture and I did not understand what was happening, I'm going to go to Google and learn.

While the survey indicates that pre-service teachers embrace the four factors of CQ identified by Tuleja (2019), individual interviews point towards limited motivation to learn about other cultures. It may be assumed that pre-service teachers responded to the survey at face value and did not apply the required critical thinking. Tuleja (2019) proffers that the difference between teachers who succeed in today's multicultural, globalized world and those who fail is leveraging the four factors of CQ. CQ strategy would enable pre-service teachers to create strategies for intercultural interactions. It includes contemplating assumptions, deciphering actions, and adjusting perspectives. CQ knowledge would develop pre-service teachers' knowledge about the world and aid them in making sense of cultural similarities and differences by creating mental maps that guide us to recognise and acknowledge what is unfamiliar (Tuleja, 2019). CQ motivation will instil curiosity and desire to learn about different cultures. CQ behaviour would equip pre-service teachers with the capabilities to act and respond appropriately in culturally diverse contexts (Tuleja, 2019). Leveraging CQ demands transformative learning which is a tenet of critical pedagogy. Transformative learning explains how adult learners make sense of their experiences and how social and other structures influence the way they construe that experience (Christie et al., 2015).

Theme 5: Confidence to engage in culturally responsive teaching

Most interview participants expressed a sense of confidence in teaching a class with learners of different cultural backgrounds. This sense of confidence aligned with the findings of the survey. This confidence mainly stemmed from their teaching experience in multicultural classrooms. However, teaching in a diverse cultural setting is dissimilar to engaging in culturally responsive teaching. Karatas (2020) asserts that CRT competencies are elevated when teachers develop an acute awareness of their prejudices and assumptions about cultural differences. Culturally responsive education considers the cultural knowledge, past experiences, reference framework and performance styles of ethnically diverse students. It is an approach that empowers students intellectually, socially, emotionally and politically and contributes to students' academic success, cultural competence and critical awareness. An important part of teachers' comprehensive professional development is CRT applications. Therefore, teacher education institutions must ensure that prospective teachers gain CRT competencies by making culturally responsive teaching the centre of teacher training and not as an extension of teacher training programs (Karatas, 2020).

Osman and Hornsby (2018) further argue the idea of the classroom as a dialogical space, a concept that embodies critical pedagogy. This dialogical space enables teachers and students alike to explore and build understanding around the issue at hand without silencing particular voices. Socially just pedagogies are about developing and fostering critical thinking to enable people in such conditions to exercise critical agency to

transform contemporary orders based on social justice. It is about being propelled by a passion to create a just society (Giroux, 1983 cited in Osman & Hornsby, 2018). Therefore, culturally responsive teaching is essential to promote socially just pedagogies and critical pedagogy

6. Recommendations and Conclusion

It is significant to note that the key findings from the survey contradict the findings from the interviews. Findings from the survey indicate that pre-service teachers have a high level of cultural intelligence while the findings from the interviews indicate a low level of cultural intelligence. This may be attributed to the fact that the interviews allowed the researcher to delve deeper into the questioning and ask follow-through questions that forced the participants to engage in meta-cognitive thinking. To perpetuate this meta-cognitive thinking about cultural intelligence and meet the agenda for delivering socially just pedagogies, teacher education institutions do not have the luxury of assuming that cultural competence will be incidentally acquired. Teacher education curricula have to be redesigned to deliberately include learning experiences that will leverage cultural intelligence. These learning experiences must be inclusive of strategies integrating culturally responsive teaching. These interrogations will require further research both of a quantitative and qualitative nature.

Livermore (2011) concludes that having a high CQ is not about exhibiting flawless behaviour in cross-cultural settings but rather embodied by people with a strong sense of their own cultural identity. Individuals who are genuinely interested in learning about other cultures and those who have an integrated view of the world and appreciate both similarities and differences among people have a high CQ (Livermore, 2011). The imperative for teacher education is to develop teachers who are genuinely interested in learning about other cultures and have an integrated worldview by leveraging cultural intelligence.

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