# Developing a Cross-Cultural Competence Scale for Pre-Service Teachers: A Filipino Case Study

DOI: https://doi.org/10.52006/main.v6i4.869

PHILIPPINE SOCIAL SCIENCE JOURNAL

ISSN 2672-3107 (Print) • ISSN 2704-288X (Online)
Volume 6 Number 4 October-December 2023

Jhaynee Lou P. Tudayan,[1] Justin Ian N. Ogoy,[2] and Jose J. Pangngay[3]
[1,2]University of the Philippines, Diliman Quezon City, Philippines
[3]Saint Louis College, City of San Fernando, La Union, Philippines

***Article history:***
Submitted: December 27, 2023
Revised: April 3, 2024
Accepted: April 5, 2024

***Keywords:***
Teacher education
Cross-cultural competence
Factor analysis
Psychometrics
Scale development

**ABSTRACT.** As classrooms grow increasingly diverse, cross-cultural competence (CCC) becomes imperative for pre-service teachers to create inclusive, equitable learning environments. Hence, this study focuses on developing a cross-cultural competence scale specifically for pre-service teachers that highlights the dynamic nature of education and the need to foster inclusivity amid increasing classroom diversity, aiming to address gaps concerning assessment tools dedicated explicitly for pre-service teachers. Exploratory factor analysis of an initial 29-item scale assessing knowledge, teaching flexibility, willingness to engage students, and cultural empathy administered to 109 Filipino pre-service teachers' responses ultimately yielded a 22-item, two-factor structure with sound psychometric properties: "Attitudes Toward Culturally Diverse Students" and "Cultural Knowledge and Teaching Flexibility." The factors align well with the conceptual domains of cognitive, affective, and psychomotor learning. This research significantly contributes a contextualized CCC instrument that enhances multicultural education and evaluates pre-service teachers' readiness for diverse classrooms, aligning with the educational dynamic imperative. In summary, this research makes an invaluable contribution to teacher training and multicultural education by developing a targeted and rigorously validated assessment tool.

## 1.0. Introduction

Education, a dynamic reflection of societal needs and aspirations (Holfelder, 2019), adapts to technological advancements (Petalla, 2022), economic shifts, and changing cultural norms (Miller, 2023; Oke & Fernandes, 2020). This adaptability is vital for preparing students to navigate a rapidly changing world, emphasizing flexibility, critical thinking, and new skill acquisition (González-Pérez & Ramírez-Montoya, 2022; Reaves, 2019). Education mirrors and actively shapes society, fostering innovation, inclusivity, and the ability to tackle future challenges. Particularly, multiculturalism gains significance, valuing student diversity as an asset (Banks & Banks, 2019). It promotes an inclusive environment, encouraging understanding, tolerance, and respect (Ainscow, 2020). Multicultural education fosters critical thinking about inequalities and biases, seeking to address them through education (Acar-Ciftci, 2019).

Cross-cultural competence, the capacity to collaborate effectively across diverse cultural backgrounds, forms the essential foundation of multicultural education (Borge et al., 2022). It encompasses skills specific to different cultures and actively explores diverse perspectives (Elmes, 2021). Pre-service teachers with this competence must adapt teaching methods to foster inclusive classrooms (Malunes & Dioso, 2020; Petalla, 2024). In recognizing the importance of cross-cultural competence for pre-service teachers, there needs to be validated instruments specifically tailored for this demographic (Ang et al., 2007; Jorilla & Bual, 2021; Malunes & Dioso, 2020). Additionally, these established tools must address unique challenges (Van Oudenhoven et al., 2003). Thus, the present study addresses this gap, aiming to develop and validate an instrument for Filipino pre-service teachers, contributing to effective multicultural education.

The study aims to fill the literature void by creating a specialized tool, acknowledging the dynamic nature of education and the necessity to adapt to societal changes (Ainscow, 2020). It seeks to enhance the preparation and training of pre-service teachers, facilitating their success in diverse cultural contexts. The study aims to develop a validated instrument aligned with the evolving landscape of education and societal needs.

*Correspondence: pangngayjj@slc-sflu.edu.ph
Jose J. Pangngay, Saint Louis College, City of San Fernando, La Union, Philippines

In the Philippines, there needs to be a validated instrument for assessing cross-cultural competence in pre-service teachers to ensure comprehensive evaluation, hindering their readiness to work effectively in diverse classrooms. As teacher education programs emphasize working in multicultural teams, there is a critical need for tailored tools to ensure that pre-service teachers meet evolving educational goals locally (Jorilla & Bual, 2021). This study addresses the dynamic interplay between education, multiculturalism, and cross-cultural competence, contributing to the literature by focusing on a specific gap in validated instruments for pre-service teachers. The findings have significant implications for enhancing multicultural education, aligning with the evolving education landscape and the imperative of adapting to ongoing societal changes.

**2.0. Methodology**

*Research Design.* This paper used a factor-analytic research design to identify the underlying factor structure of a newly developed cross-cultural competence scale for pre-service teachers. The factor analytic design enabled the validation of the factorial structure and dimensionality of the new scale using statistical modeling of the pattern of responses.

*Respondents.* The participants were 109 pre-service teachers of a private and a public teacher education institution in the City of San Fernando, La Union. They consist of secondary education pre-service teachers taking Bachelor's in Secondary Education majoring in English, Mathematics, Science, Social Studies, Values Education, and Filipino and Bachelor in Physical Education. There were also elementary education pre-service teachers and two courses – a Bachelor's in Elementary Education and a Bachelor's in Special Needs Education major in Elementary School Teaching. They were selected as the participants since the fourth-year students had already finished their professional and specialization courses. The knowledge, skills, and attitudes they acquired and honed during those years would provide a substantial background for them to respond to the survey questionnaires authentically.

*Research Instrument.* The researchers crafted a 29-item Cross-Cultural Competence Scale along the three initial subscales: Knowledge and Awareness, Teaching Flexibility and Openness, and Ethnocultural Empathy/Attitude and Willingness to Engage. The items of the initial instrument were anchored on the primary goal of CCC, which was described as a multitude of abilities to comprehend, perform, and develop attitudes to interact with individuals from other cultures (Seelye, 1984). This goal is attested by the definition of CCC by Johnson et al. (2006). He stated that it is an individual's effectiveness in employing knowledge, skill, and personal attributes to work successfully with people from different cultural backgrounds. In line with these, the researchers considered the three underpinning manifestations of CCC, which measured pre-service teachers' knowledge, skills, and attitudes. Since the study was conducted in the context of teacher education, the items were constructed along the three domains of learning based on Bloom's Revised Taxonomy.

*Knowledge and Awareness: Cognitive Domain.* This learning domain deals with how students acquire and process information when learning facts, concepts, principles, laws, and theories. It involves remembering, understanding, applying, analyzing, evaluating, and creating (Anderson & Krathwohl, 2001). Under this domain, the researchers aimed to assess if the pre-service teachers have acquired the needed knowledge about the different cultural groups in the country. Also, they sought to measure if the participants could develop the cross-cultural awareness needed to analyze situations and resolve problems caused by cultural differences. The items were constructed to assess the pre-service teachers' intellectual skills regarding cross-cultural education. Some items were based on the Cultural Intelligence Scale (CQS) crafted by Van Dyne et al. (2015). Other items were constructed from Seelye's (1984) six cross-cultural competency goals parallel to the abovementioned main goal. There was a total of six (6) items under this subscale.

*Teaching Flexibility and Openness: Psychomotor Domain.* This learning domain deals with how students perform and demonstrate the skills they learned. It involves the processes of perception, set, guided response, mechanism, complex overt response, adaptation, and origination (Anderson & Krathwohl, 2001). Under this domain, the researchers aimed to measure if the pre-service teachers can perform the procedures, strategies, and techniques they learned in dealing with students of different cultural backgrounds. Moreover, the participants' openness to adapting their teaching styles and strategies was also measured. The items were then constructed to evaluate the motor skills of the pre-service teachers regarding cross-cultural education. When creating the items, the primary duties of the pre-service teachers in the classroom, namely assessing students' learning, applying different teaching approaches, creating instructional materials, and managing the classroom and student behavior, among others, were considered. Furthermore, some items were based on the Cross-Cultural Competence Inventory (CCCI) crafted by Ross et al. (2009). Also, some items were based on Seelye's (1984) six cross-cultural competency goals. There was a total of nine (9) items under this subscale.

*Ethnocultural Empathy/Attitude and Willingness to Engage: Affective Domain.* This learning domain deals with how students manifest the right attitudes and values as they learn. It involves receiving, responding, valuing, organizing, and internalizing values (Anderson & Krathwohl, 2001). Under this domain, the researchers aimed to assess how willing the pre-service teachers were to engage with their students from different cultural backgrounds. Furthermore, the participants' empathy towards them was measured. The pre-service teachers' attitudes and emotions when interacting with their students were assessed when creating the items. The items were crafted based on the CCCI crafted by Ross et al. (2009) and on the Scale of Ethnocultural Empathy crafted by Wang et al. (2003). There was a total of 14 items under this subscale.

*Data Collection and Analysis.* The researchers sought permission to conduct the pilot testing by crafting formal letters addressed to the presidents of the two participating schools. Attached to the formal letters was a copy of the survey questionnaire with the respondents' letters of participation. Thus, letters addressed to the respondents were formulated. After being granted permission, the researchers were endorsed by the deans of the respective schools.

Since the schools still needed to practice a complete face-to-face learning modality during the pilot testing, the researchers were advised to float an electronic survey questionnaire. As a result, the researchers created the survey questionnaire through Google Forms, containing the initial pool of items. This was floated to the schools from June 1, 2023, to June 30, 2023. It took a month to collect many responses since conducting online follow-ups was challenging for the researchers.

Exploratory Factor Analysis (EFA) was conducted to ensure the validity of the internal structure of the survey questionnaire. Before examining the scale, diagnostic and assumption checking were employed. Possible data errors were checked by determining the items' mean, standard deviation, skewness, kurtosis, minimum response, and maximum response. Eliminating items with a mean close to either 1 or 5 was considered since it may decrease the standard of correlation among the items on the scale (Kim, 2011). Next, the Kaiser-Meyer-Olkin (KMO) sample adequacy test and Bartlett test of Sphericity were performed, where the minimum acceptable score for KMO is 0.6 (Kaiser, 1974). On the other hand, Bartlett's test shows whether there is a sufficient correlation among the variables. For this test, a significance value smaller than .05 shows a sufficient correlation level among variables (Revelle, 2023).

During the factor analysis, the extraction method was done through the Principal Axis Factor Axis in combination with an Oblimin rotation. In determining the number of factors, the following criteria were considered: eigenvalue greater than 1; the scree plot; factors which, in total, account for about 70-80% of the variance; and the interpretability of the factors. Additionally, the retained factors should have at least three items with a loading coefficient greater than 0.40 (Samuels, 2017). Thus, the researchers used 0.40 to suppress small coefficients - which explains around 16% of the variance.

Moreover, to establish the internal consistency of the subscales of the survey questionnaire, Cronbach's alpha was computed. Cronbach's alpha is most available for indicating scale reliability regarding the equivalence of items within single-construct scales (Taber, 2018). An Alpha value higher than 0.70 is an expected condition for internal consistency.

*Ethics Concern.* In conducting this research, several ethical principles were diligently observed. Firstly, the confidentiality and privacy of participants were prioritized to safeguard their personal information. The respondents' personal information was not mentioned in any part of the research paper. The respondents' participation in the study was voluntary, and the right of the respondents to accept or turn down requests for participation was respected. Additionally, a commitment to nonmaleficence guided the research, emphasizing avoiding harm to participants. This includes ensuring that participants' rights are respected throughout the study. The principles of transparency and honesty were upheld in the reporting and communication of research findings. Overall, the research was conducted with integrity, respecting the dignity and rights of the participants while striving to contribute valuable insights to the field.

## 3.0. Results and Discussion

### Exploratory Descriptive and Univariate Normality Analyses Results

Exploratory descriptive and univariate normality analyses were conducted to analyze the mean, standard deviation, skewness, kurtosis, minimum response, and maximum response of all the 29-item Cross-cultural Competence Scale (CCCS). Results are reflected in Table 1. It can be gleaned from the table that the pre-service teachers had a high level of cross-cultural competencies among the majority mostly; the minimum and maximum values were the same across all items. In terms of the normality of the scale, Shapiro-Wilk revealed that both skewness and kurtosis were statistically significant ($p < .001$). Although violations of normality appear to be typical with real data sets (Cain et al., 2017), simulation studies have found that serious problems may exist

when univariate skewness is ≥2.0. Kurtosis is ≥7.0 (Cain et al., 2017). Thus, items with a skewness of ≥2.0 or kurtosis of ≥7.0 were deleted. Items O and AC had more than two skewness among the items and thus were eliminated.

Considering the non-normality and ordinal nature of the test items, the polychoric correlation matrix was computed (Lloret et al., 2017). Based on the results, item E had low correlations with item N (*.272*), P (*.070*), Q (*.129*), T (*.275*), W (*.269*), and AB (*.208*). Likewise, item AA had low correlations with items C (*.270*), D (*.297*), J (*.277*), and V (*.292*). Also, items W and U (*.246*) and P and V (*.270*) had low correlations. Since a sizable number of correlations should exceed ±.30 so that EFA may be appropriate (Hair et al., 2010), items E, P, W, and AA were omitted. The remaining 23 items correlated .312 (*U and R)* and .894 (*G and B*).

*Exploratory Factor Analysis: Initial Analysis*

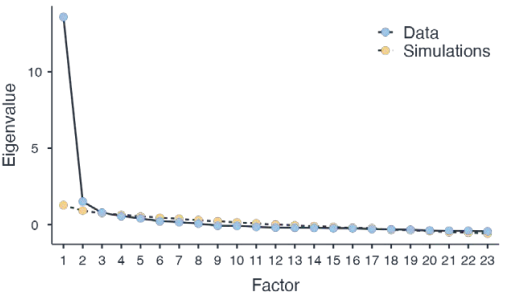
The KMO and Bartlett's tests were computed to determine the sample size's adequacy and the data's appropriateness for factor analysis. The KMO coefficient was calculated as 0.869, and Bartlett's test results showed that the chi-square value (= 3037) was significant ($p < 0.001$, $df = 253$). This implies that the sample is adequate and that there is a sufficient relationship among variables for factor analysis.

With the remaining 23 items, an exploratory factor analysis with principal axis factoring as the extraction method was conducted. According to Revelle (2023), for factor correlations .32 and above, there is a 10% (or more) overlap in variance among factors. This is enough variance to warrant oblique rotation. Therefore, based on the inter-factor correlations, .674, an oblique rotation – Oblimin was performed.

**Table 1**
Descriptive Statistics of Each Item of the Initial CCCS

| Items | Mean | SD | Skewness | Kurtosis |
|---|---|---|---|---|
| A | 4.4 | 0.902 | -1.51 | 2.16 |
| B | 4.25 | 0.884 | -1.37 | 1.86 |
| C | 3.78 | 0.966 | -0.712 | 0.45 |
| D | 4.45 | 0.863 | -1.84 | 3.75 |
| E | 4.11 | 1.04 | -1.12 | 0.553 |
| F | 4.19 | 0.852 | -1.32 | 2.55 |
| G | 4.35 | 0.936 | -1.75 | 2.93 |
| H | 4.17 | 0.774 | -1.31 | 3.69 |
| I | 4.27 | 0.921 | -1.77 | 3.92 |
| J | 4.23 | 0.949 | -1.36 | 1.67 |
| K | 4.34 | 0.803 | -1.71 | 4.45 |
| L | 4.37 | 0.785 | -1.72 | 4.75 |
| M | 4.21 | 0.859 | -1.15 | 1.88 |
| N | 4.23 | 0.887 | -1.3 | 2.05 |
| O | 4.61 | 0.711 | -2.84 | 11.1 |
| P | 4.37 | 0.843 | -1.66 | 3.57 |
| Q | 4.39 | 0.763 | -1.84 | 5.65 |
| R | 3.96 | 0.767 | -1.09 | 3.01 |
| S | 4.31 | 0.748 | -1.7 | 5.58 |
| T | 4.35 | 0.829 | -1.66 | 3.8 |
| U | 4.32 | 0.75 | -1.71 | 5.57 |
| V | 3.65 | 1.13 | -0.606 | -0.381 |
| W | 4.11 | 0.898 | -0.87 | 0.836 |
| X | 4.34 | 0.945 | -1.84 | 3.8 |
| Y | 4.33 | 0.789 | -1.61 | 4.3 |
| Z | 4.3 | 0.886 | -1.31 | 1.88 |
| AA | 4.3 | 0.864 | -1.35 | 2.29 |
| AB | 4.38 | 0.867 | -1.54 | 2.7 |
| AC | 4.55 | 0.794 | -2.25 | 6.22 |

**Figure 1**
Scree Plot for the Initial Analysis of the Cross-Cultural Competence Scale (CCCS)




Two (2) factors with eigenvalues greater than one were determined in the initial solution. The Scree Plot confirmed this, where the "elbow" joint is seen at Component Two (*see Figure 1*). These factors explained 34.0% and 32.6% of the total variance, respectively. In total, these factors accounted for 66.6% of the total variance. On the other hand, three (3) factors were extracted based on parallel analysis. These factors explained 31.8%, 22.3%, and 17.0% of the total variance. These three factors accounted for 71.1% of the total variance.

Considering the two scenarios, the researchers looked into the interpretability of the items that load to the two-factor and three-factor structures. After examining the items, the two-factor model was considered more interpretable. Lastly, item L had a factor loading on factor 2 of 0.477 and a cross-loading on factor 1 of 0.471; thus, this item was deleted.

**Exploratory Factor Analysis: Final Analysis**

The final two-factor structure was composed of 22 items. The factor analysis was then conducted on the 22-item scale considering two components. Based on the rotated component matrix, converted with Oblimin rotation, 12 items had the highest factor loadings under the first factor, and 10 items had the highest factor loadings under the second factor. Final EFA results also revealed that the percentages explained by each factor were 33.9% and 32.2%, respectively, and the two factors were highly correlated (*0.669*).

The factor loadings of each item are reflected in Table 2. Factor 1, consisting of 12 items, has factor loadings between 0.416 and 0.963, and factor 2, consisting of 10 items, has factor loadings

between 0.546 and 0.979. These showed that each item explained a sufficient proportion of variance. Furthermore, notice that most of the variables or items had a uniqueness ranging from 0.171 to 0.395, with only four items ranging from 0.450 to 0.665. This implies that, on average, the items have low variance that is not accounted for by other variables. The individual items are highly relevant to the overall factor model.

Under factor 1, the items consisted of indicators about the pre-service teachers' attitudes in engaging with their students from different cultural backgrounds. The highest loading factor was *foreseeing several long-term consequences of their actions*. According to Nepomuceno and Laroche (2017), long-term-oriented people have high self-control and plan for the future. This indicates the importance of reflecting on one's action in the long term instead of short-term satisfaction. This aligns with the finding of a cross-cultural study conducted by Wang and Zhai (2022), indicating that consumers learn from experience and focus on long-term goals and benefits, resulting in a significant influence on their buying habits.

*Understanding their students' viewpoint as their top priority* and *being patient when communicating with someone of a different ethnicity or culture* load highly under factor 1. Cultural competence is to see the difference and understand the difference that difference makes and respond positively and affirmingly (Cormier, 2021). Hence, noticing the various perspectives and discerning how these influenced the lessons are relevant in assessing their culture. Finally, positive attitudes and affirmations that students are doing well despite barriers are crucial for effective teacher communication.

In conclusion, this factor highlighted how pre-service teachers feel accountable and emphatic for, engage in, interact with, and respond to their

**Table 2**
Factor Loadings of the CCCS

| | Factor Loadings of the CCCS | Factor | | Uniqueness |
|---|---|---|---|---|
| | | 1 | 2 | |
| A | I have learned factual information about people from diverse backgrounds and cultures. | | 0.708 | 0.219 |
| B | I am aware of the stereotypes and generalizations about people from diverse backgrounds and cultures. | | 0.974 | 0.208 |
| C | I have knowledge of the characteristics, history, values, belief systems, and behaviors of selected cultures. | 0.433 | | 0.665 |
| D | I acknowledge that students may see the same situation differently because of different cultural viewpoints. | | 0.866 | 0.273 |
| F | I improve my understanding of the different cultural or ethnic groups through close interaction with my students. | | 0.776 | 0.259 |
| G | I can gain insight from other pre-service teachers and my students to enrich my teaching. | | 0.979 | 0.171 |
| H | When thinking about a problem, I am eager to consider as many different opinions. | 0.567 | | 0.376 |
| I | If my approach to teaching is not working with someone, I can change my teaching approach. | | 0.583 | 0.450 |
| J | I have different ways of dealing with students of different cultural or ethnic backgrounds. | | 0.646 | 0.395 |
| K | I create or introduce instructional materials depicting familiar and unfamiliar cultural or ethnic backgrounds. | | 0.546 | 0.369 |
| M | When there are conflicting ideas among my students, I usually see how sides can be right. | 0.600 | | 0.294 |
| N | When teaching students of different cultural/ethnic backgrounds, I foresee several long-term consequences of my actions. | 0.963 | | 0.200 |
| Q | I seek opportunities to speak with students from other cultural or ethnic backgrounds about their experiences. | 0.803 | | 0.359 |
| R | I tend to start conversations with other students who are not in my class. | 0.416 | | 0.573 |
| S | I enjoy sharing my ideas with different groups of students. | 0.578 | | 0.339 |
| T | I like to travel to other schools and meet other pre-service teachers and students. | 0.840 | | 0.300 |
| U | I enjoy exploring various cultures through different mediums. | | 0.742 | 0.285 |
| V | I am unbothered when my students of different ethnic or cultural backgrounds speak their native language around me. | | 0.569 | 0.568 |
| X | I put myself in my students' shoes from different cultures before giving my opinion. | 0.813 | | 0.346 |
| Y | When dealing with a student of a different ethnicity or culture, understanding his/her viewpoint is a top priority for me. | 0.886 | | 0.283 |
| Z | I feel sorry for my students of other ethnicities or cultures if I think they are being taken advantage of. | 0.619 | | 0.326 |
| AB | I am patient when communicating with someone of a different ethnicity or culture, regardless of how well he/she communicates. | 0.872 | | 0.186 |

culturally diverse students. Thus, factor 1 was named Attitudes toward Culturally Diverse Students. However, one exemption to this theme was item C. Upon careful consideration, the researchers decided that this item should be retained with the second factor. Hence, the final number of items on factor 1 is 11.

On the other hand, the items under factor 2 pertained to how the pre-service teachers understood and educated their students from different cultural backgrounds. Some items assessed how knowledgeable the pre-service teachers are of the different cultures, stereotypes, and characteristics of students from diverse backgrounds. Also, some items focused on how the pre-service teachers can deliver effective instruction while considering the students' different cultural backgrounds. Items *"I know how to gain insight from other pre-service teachers and my students to enrich my teaching"* and "*I am aware of the stereotypes and generalizations about people from diverse backgrounds and cultures"* garnered very high loadings along factor 2. In a study on the neural competence of teachers, Hamdan and Coloma (2022) found that teachers can use students' cultural background, prior knowledge, and interests to help make learning meaningful and make sense of new information. This underscores their teaching flexibility by incorporating factual information about different cultural backgrounds. Thus, factor 2 was named Cultural Knowledge and Teaching Flexibility. With the addition of item C, there were 11 items along with factor 2.

**Reliability Analysis Result**

Using Cronbach's alpha to analyze the internal consistency of the different items under the two factors, namely, Attitudes toward Culturally Diverse Students and Cultural Knowledge and Teaching Flexibility, internal consistency coefficients of 0.954 and 0.944 were obtained, respectively. Both factors are acceptable for internal consistency (Taber, 2018).

This study provided empirical evidence to refine the scale and reveal the underlying competency constructs related to knowledge, attitudes, and skills for teaching culturally diverse students. The analysis supports the validity argument for the scale's interpretation and practical application in multicultural education contexts.

**Table 3**
Cronbach's Alpha for Each Factor of the CCCS

| Factor | Mean | SD | Cronbach's Alpha |
|---|---|---|---|
| 1 | 4.27 | 0.687 | 0.955 |
| 2 | 4.20 | 0.728 | 0.949 |

**4.0. Conclusion**

This study aimed to develop and validate a cross-cultural competence instrument specifically tailored to the needs and challenges of pre-service teachers. It was focused on their knowledge of the different cultures and ethnicities, how they teach and deal with students of diverse backgrounds, and their emotional responses or attitudes when faced with students of varied cultural backgrounds. The 22-item Cross-cultural Competence Scale (CCCS) was a final two-factor scale (11 items for each factor). The items under factor 1 pertained to pre-service teachers' emotional responses or attitudes in engaging with diverse students. Hence, it was named Attitudes toward Culturally Diverse Students. On the other hand, the items under factor 2 pertained to how the pre-service teachers understood and educated their students from different cultural backgrounds. Hence, factor 2 was named Cultural Knowledge and Teaching Flexibility. The tool demonstrates sound psychometric properties assessing attitudes towards diversity and cultural knowledge/teaching flexibility. When applied to teacher training, the contextualized tool helps address critical gaps and limitations in existing instruments. More broadly, the Cross-Cultural Competence Scale enhances multicultural education, aligning with the dynamic societal changes driving an imperative for greater inclusivity, critical thinking, and capacity building in schools. Specifically, the scale enables a more effective evaluation of pre-service teachers' readiness for diverse classrooms. It also informs educators' ongoing preparation and development to create learning environments where all students, regardless of background, feel valued, respected, and able to reach their full potential. In summary, this research makes an invaluable contribution to teacher training and multicultural education by developing a targeted and rigorously validated assessment tool.

**5.0. Limitations of the Findings**

The first limitation of this study lies in the limited sample size. The participants in this study were gathered from two Teacher Education Institutions (TEIs). The limited sample may threaten the generalizability of this study. The second limitation was the analysis method. The study employed Exploratory Factor Analysis (EFA), a statistical method used to examine the construct validity of an instrument by identifying fewer underlying constructs to explain the observed data. However, more than this analysis is required to test the theoretical foundations of the cross-cultural competence of the participants. The third limitation is a potential response bias in the data collection procedure due to online administration.

**6.0. Practical Value**

Graduates of all programs in all types of schools should be able to preserve and promote "Filipino historical and cultural heritage" (based on RA7722). Under teacher preparation, apart from the outcomes focused on the content and teaching proficiencies, graduates should be able to articulate the rootedness of education in philosophical, socio-cultural, historical, psychological, and political contexts and facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments. Hence, pre-service teachers should manifest knowledge of the cultural backgrounds of the students and how they facilitate learning. Therefore, educators and administrators involved in the teacher preparation programs of TEIs can use the Cross-cultural Competence Scale (CCCS) to measure the pre-service teachers' competencies, attitudes toward culturally diverse students, and cultural knowledge and teaching flexibility. The results can be a basis for providing evidence-based holistic – cognitive, psychomotor, and affective domain - teacher training to the would-be teachers. In conclusion, the Cross-cultural Competence Scale (CCCS) provides a more contemporary instrument to measure pre-service teachers' competencies, attitudes toward culturally diverse students, cultural knowledge, and teaching flexibility.

**7.0. Directions for Future Research**

This study may be replicated with a larger sample size, including other TEIs in a broader locale. Future researchers may conduct a Confirmatory Factor Analysis (CFA) to confirm whether the findings regarding the structure of the factor solution are consistent with the patterns in the data. It is also recommended that further research be conducted to measure the cross-cultural competence of the pre-service teachers as a basis for teacher training interventions and programs.

**8.0. Declaration of Conflict of Interest**

The authors reported no potential conflict of interest.

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**Additional Authors' Information:**

JHAYNEE LOU P. TUDAYAN
jtudayan@up.edu.ph
https://orcid.org/0009-0009-9344-3786

JUSTIN IAN N. OGOY
ogoyjustin@gmail.com
https://orcid.org/0009-0004-7594-7511

JOSE J. PANGNGAY
pangngayjj@slc-sflu.edu.ph
https://orcid.org/0000-0002-4782-3552