

Teacher's Cultural Competence Scale (TCCS): Development and Validation of a Scale for Elementary School Teachers

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DOI: <https://doi.org/10.51244/IJRSI.2026.1307000374>

Received: 07 August 2026; Accepted: 12 August 2026; Published: 20 August 2026

ABSTRACT

The study aimed to develop a Teacher's Cultural Competence Scale (TCCS) to assess the cultural competence of elementary school teachers. The initial 80-item scale comprised three dimensions namely awareness, knowledge, and skills. Following extensive discussion and review, 21 items were removed and 5 items were reworded. Consequently, a preliminary draft consisting of 59 items was finalized. The content and face validity of the scale were established through expert judgment, followed by factor analysis to further examine its construct validity. Based on expert feedback, 8 items were removed, resulting in a 51-item draft for the first try-out. For the first try-out, a sample of 78 elementary school teachers was randomly selected from Mau District, Uttar Pradesh, India. Following the preliminary administration, the revised scale was administered to a larger sample of 200 teachers. Based on the results of Cronbach's alpha reliability analysis, 7 additional items were removed, resulting in a final scale comprising 44 items. The findings demonstrated satisfactory evidence of the scale's validity and reliability, indicating that the TCCS is a suitable instrument for assessing the cultural competence of elementary school teachers.

Keywords: Cultural Competence, Scale Development, Elementary School Teachers and Validation of Scale

INTRODUCTION

The literature in education and sociology has widely examined teachers' cultural competence and its meaning and significance in educational settings. Cultural competence is mainly imperative in the 21st century, as it enables teachers to interact effectively with students from diverse cultural, social, and linguistic backgrounds and to foster an engaging and inclusive classroom environment. It helps teachers to design and implement the lessons that will be effective and also enable to accommodate students' diverse needs, experiences, interests, and learning styles. Cultural competence is commonly conceptualized as comprising four major components namely cultural awareness, cultural sensitivity, cultural knowledge, and cross-cultural skills. Cross et al. (1989) define Cultural awareness means understanding one's own cultural background and biases. Cultural knowledge refers to the study of other cultures' conventions, beliefs, and activities. Cultural sensitivity means recognizing and appreciating cultural variety. Cultural skills as the ability to adjust practices and communicate adequately in cross-cultural settings.

Education is a potent instrument for celebrating cultural variety and fostering national integration (Sharma, 2020). Culture is a complex idea that successfully comprehends, honours, and reacts to societies' cultural identities and backgrounds (Eden et al., 2024). Humans are fundamentally shaped by their culture (Adom et al., 2024). One facet of social, political, and cultural development that can have a significant impact on our society and is evolving quickly is cultural diversity (Boddington, 2008). India is a heterogeneous nation with a wide range of ethnicities, cultures, faiths, and languages (Mandal et al., 2024). National Educational Policy (2020) contends that culture is significant for both the individual and the country. According to Lin (2020), cultural variety is the coexistence of various human knowledge, beliefs, arts, morals, laws, customs, religions, languages, abilities, disabilities, genders, races, ethnicities, nationalities, and sexual orientations. Cultural diversity not only enhances the individuals' cognitive and creative capacities but also contributes to their overall well-being and happiness (National Education Policy [NEP], 2020). As a multilingual and culturally

diverse nation, India provides an ideal context for recognising, celebrating, and promoting cultural diversity through education and teaching.

Cultural Competence Framework

Cultural competence, a concept developed in psychology during the last 30 years, necessitates a solid understanding of culture and society. A cultural competence approach, based on multicultural education and intercultural research, provides practical guidelines for teachers to effectively teach students from diverse cultural, linguistic, and socioeconomic backgrounds (Deardorff, 2009; Hargreaves, 2001). Cultural competence requires knowledge of other cultures and societies, as well as an openness to diversity. Reflecting on interactions with people from different cultures and learning from them is essential (Deardorff, 2009; Seeberg & Minick, 2012; Zeichner, 1996).

Deardorff's model of cultural competence is broadly accepted by scholars through disciplines. It takes a developmental and process-oriented approach, depicting the process of becoming culturally competent as an interaction between cognitive, affective, and behavioural components. Deardorff's pyramid model focuses on cultural understanding and favourable attitudes towards all cultural groups as the foundation for the other two components. Deardorff's paradigm, which views cultural competence as a developmental process, can help teachers prepare students to engage with children of diverse identities. The paradigm emphasizes the importance of paying "sustained attention" (Zeichner, 2003, p. 493) to culture in order to achieve optimal cultural competence and positive behaviours.

LITERATURE REVIEW

The researchers have reviewed the literature on the topic of scale development to create and validate a scale of teachers' cultural competence and examined the various tools already available for measuring teachers' cultural competence. Cultural Competence Self-Assessment Questionnaire is an instrument Mason et al. (1995) develop to assess teachers' cultural competence of factors that facilitate the teaching of diversity. It consist 59 items that measure teacher cultural competence. Cultural competence self-assessment checklist is a tool developed and validated by Central Vancouver Island Multicultural Society (2012) used to assess teachers' cultural competence in line with three components namely awareness, knowledge and skill. It is a four point rating scale consisting 24 items that measure teachers' cultural competence.

Assessment Instrument (CLCFOA) consist of 45 items developed and validated by National Center for Cultural Competence Georgetown University Center for Child and Human Development that measure four distinct aspects of teachers Our World View, Who We Are, What We Do, and How We Work. Development and Validation of the Cultural Competence of Program Evaluators (CCPE) Scale consist of 32 items developed and validated by Dunaway in 2009 that measure cultural knowledge, cultural skills, cultural awareness, cultural recognition, and cultural responsiveness. The subsidiary objective was to examine differences in the level of cultural competence among programme evaluators based on various demographic variables, such as minority status, age, sex, years of professional experience, and participation in cultural competence training. The study also reviewed scholarly literature on the development of reliable and valid instruments for measuring cultural competence. The review identified several measures available for assessing teachers' cultural competence, each encompassing different dimensions and factors. However, the researcher could not identify any standardised instrument specifically designed to assess the cultural competence of elementary school teachers in the Indian context. Therefore, the present study aims to develop a psychometrically sound instrument for assessing the cultural competence of elementary school teachers. The newly developed scale is expected to provide a reliable and valid measure for assessing teachers' cultural competence in the Indian educational context.

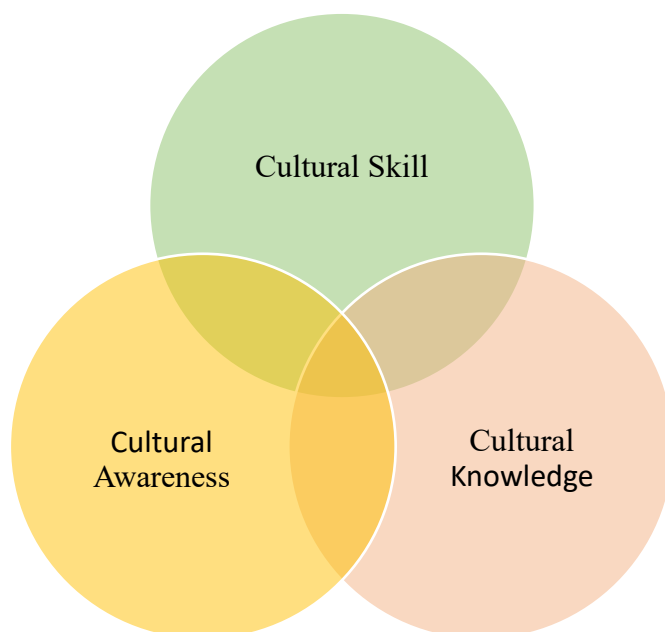
The considered scale is designed to rate teachers' cultural competence. It emphasizes the components namely awareness, knowledge and skill. One of these qualities, awareness, relates to recognizing and realizing one's own cultural biases, attitudes, and preconceptions, as well as comprehending the relevance of cultural differences. Cultural knowledge includes learning about the attitudes, values, beliefs, and behaviors of cultural groups. Cultural skills emphasis on communication skills and train learners to be aware of certain cross-cutting

cultural issues (Betancourt, 2003; Benavente, 2004; Pope & Reynolds, 1997; Sue, Arredondo, & McDavis, 1992; Wear, 2003).

According to the AEA (2004), these three components are essential for culturally competent behavior and ethical collaboration with people from diverse backgrounds. Cultural competence requires all three components, including self-awareness, which alone does not enhance cultural competence. Without cultural awareness, cultural information can lead to stereotyping and oversimplification (e.g., etic perspectives). According to Betancourt (2003), cultural knowledge is essential for developing cultural abilities. Cultural competence requires attention to all three components.

Cultural competence should be viewed as a continuous process rather than a one-time initiative, as it requires constant learning rather than assuming expert status (Doutrich & Storey, 2004; McPhatter & Ganaway, 2003; Mendias & Guevara, 2001). According to Guzman (2003), Howard (2002), and Symonette (2004), culturally competent persons can identify with one culture while understanding the behaviours of another based on their cultural rules.

Components of Cultural Competence



Culturally competent teachers who maintain effective classroom and create inclusive learning environments. Some tools are available to assess the cultural competence of the teachers, but these scales failed to measure the elementary school teachers' cultural competence. Still, there is an absence of relevant and context-specific measurements to measure elementary school teachers' cultural competence, especially in the Indian context. Therefore, it is essential to create and standardize a scale to precisely assess and boost the cultural competence of teachers for better educational outcomes and create inclusive classroom.

METHODOLOGY

This study began with constructing pooled items for cultural competence based on a thorough review of related literature. The items were divided into three components of cultural competence namely awareness, knowledge and skills, which were then tested to ensure their validity and reliability. Then, this study employed the quantitative survey strategy to gather data from the elementary school teachers for further scale analysis.

Participants

The data was collected from 200 elementary school teachers from various schools in the Mau district of Uttar Pradesh, India. These teachers were chosen through random sampling technique from 50 schools of the district.

Development of Measurement Scale

The development and validation of a measurement scale are time-consuming and complex due to the numerous procedures involved. Hair et al. (2019) state that these techniques include literature reviews or expert interviews, as well as theoretical, facial, semantic, and statistical validation. DeVellis (2016) recommends ten steps, including pilot testing, item analysis, and scale change.

The scale for evaluating elementary school teachers' cultural competence was developed using a five-step procedure, considering the scale development steps of numerous literature researchers (Mason et al., 1995; Central Vancouver Island Multicultural Society, 2012; National Center for Cultural Competence Georgetown University Center for Child and Human Development, Dunaway, 2009; Betancourt, 2003; Benavente, 2004; Pope & Reynolds, 1997; Sue, Arredondo, & McDavis, 1992; Wear, 2003; AEA, 2004; Betancourt, 2003). The next part discusses the four stages: item pooling, expert opinion, pre-trial, , and reliability analysis.

Establishing an Item Pool

A literature analysis was carried out regarding the necessity of developing items to assess the cultural competence of elementary school teachers. While developing the scale items, it is vital to have a good understanding of the topic under study (Walliman, 2017). Following an intensive search of relevant works, the researcher has identified the three dimensions (aspects) as Awareness, Knowledge and Skill. Awareness encompasses the recognizing and acknowledging one's own cultural biases, values, and assumptions, as well as understanding the significance of cultural differences.

The Knowledge component states to possessing accurate and relevant information about different cultural groups, including their traditions, languages, and social norms. The skill component denotes to demonstrating the ability to adapt communication styles, behaviours, and practices to effectively engage with individuals from diverse cultural backgrounds. After that a preliminary draft of a 5-point Likert-type scale with the labels "Strongly Disagree," "Disagree," "Undecided," "Agree," and "Strongly Agree" encompassing 80 items was developed. In the next step the researcher has consulted different expert from the field of education and psychology for validity of the tool. After extensive discussion 21 items were removed and 5 items were bit altered. Consequently, the preliminary draft of the scale was finalized with 59items.

Expert Opinion

To assess the validity and clarity of the scale's items, the researchers consulted ten professionals in psychology and education. On a scale of one to four, where one represents irrelevance and inaccuracy and four represents relevance and correctness, the experts evaluated each item according to its accuracy and relevance. Each item's content validity index (CVI) was also calculated by dividing the total number of expert raters by the total number of ratified numbers 3 or 4. The CVI indicates how well the item reflects the concept the scale intends to evaluate. On the basis of the expert suggestion, the researcher edited, added and eliminated 8 items. The finale draft of the scale was finalized with 51items.

First Try-out

A 51-item Teachers' Cultural Competence Scale (TCCS) was distributed randomly to 78 public and private elementary school teachers in the Mau district. Following the initial tryout, 44 items were finalized using the item analysis approach.

Reliability Analysis

This study employed Cronbach's Alpha to determine the scale's internal consistency by analysing how well a set of items measures the same construct. Cronbach Alpha was found to be 0.925. indicates strong internal consistency or high reliability. Nunnally and Bernstein 1994; Daud, 2018; state that an adjusted item-total correlation value above 0.25 is considered correct and indicates that the item is working. Therefore, the

researchers omitted items with values less than 0.25. The split-half reliability was also performed and it was found .89.

RESULTS

The findings of the study are grouped under the following headings

Results Related to Content and Face Validity

This study followed the criterion of Polit and Beck (2006) and Owen (2007), which is that the CVI should be at least 0.83 for each item when using six or more experts. Based on this criterion, the researchers deleted eight items with a CVI lower than 0.83 and modified some other items based on the experts' feedback. As a result of this procedure, the researchers had a first draft consisting of 51 items.

Results Related to the First Try-out of the Scale

An approximation of the degree to which each item is connected with the total score can be obtained from the Corrected Item-Total Correlation values in Table 1 under "Item-Total Correlation." Low values less than 0.250 indicate that the item measures a different quality than the rest of the scale (Nunnally and Bernstein, 1994; Daud, 2018). So, the researchers removed the seven items from different factors of the scale having low values (less than .250). Three items were removed from Awareness: item 1 ($r=.113$) item 4 ($r=.197$) and item 6 ($r=.071$). One item from Knowledge: item 26 ($r=.177$). Three items from Skill: item 31 ($r=.062$) item 46 ($r=.057$) and item 47 ($r=.146$). After removing the seven items from the scale, the researchers came up with the second draft of the scale consisting of 44 items.

Table 1				
Items total-Correlation				
S. No.	Scale Mean if Item Deleted	Scale variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ITEM00001	183.2667	207.168	.113	.915
ITEM00002	183.2333	203.426	.361	.911
ITEM00003	183.1000	204.093	.632	.910
ITEM00004	184.7000	203.528	.197	.915
ITEM00005	184.6333	196.723	.420	.912
ITEM00006	183.9333	208.202	.071	.915
ITEM00007	183.4000	202.317	.463	.911
ITEM00008	183.4667	202.257	.345	.912
ITEM00009	183.3667	203.689	.395	.911
ITEM00010	183.5667	197.978	.598	.909
ITEM00011	183.9333	196.961	.660	.908
ITEM00012	184.0333	195.689	.667	.908
ITEM00013	184.7667	196.116	.513	.910
ITEM00014	183.8667	196.120	.642	.908
ITEM00015	183.4000	204.524	.298	.912
ITEM00016	183.0333	201.964	.600	.910
ITEM00017	183.5333	202.326	.332	.912
ITEM00018	183.7667	200.392	.431	.911
ITEM00019	183.0667	203.789	.603	.910
ITEM00020	183.2000	201.476	.750	.909
ITEM00021	183.8667	199.844	.589	.909
ITEM00022	183.4000	198.731	.570	.909
ITEM00023	183.3333	204.575	.288	.912
ITEM00024	183.1000	201.541	.708	.909

ITEM00025	183.7667	196.185	.724	.908
ITEM00026	183.3667	202.378	.177	.910
ITEM00027	183.2667	201.306	.561	.910
ITEM00028	184.2000	203.200	.270	.913
ITEM00029	183.2667	207.375	.324	.912
ITEM00030	183.1000	207.748	.260	.912
ITEM00031	183.2000	209.338	.062	.914
ITEM00032	183.4000	202.524	.450	.911
ITEM00033	183.4667	204.809	.328	.912
ITEM00034	183.1333	204.326	.693	.910
ITEM00035	183.2667	207.720	.286	.912
ITEM00036	183.0667	202.547	.720	.910
ITEM00037	183.3667	205.344	.334	.912
ITEM00038	183.9667	201.275	.385	.911
ITEM00039	183.5667	200.323	.446	.911
ITEM00040	183.8333	199.316	.613	.909
ITEM00041	182.9667	204.999	.408	.911
ITEM00042	183.5667	198.461	.621	.909
ITEM00043	183.2000	209.131	.250	.913
ITEM00044	183.4667	203.085	.307	.912
ITEM00045	185.1333	200.257	.342	.912
ITEM00046	184.2333	207.495	.057	.917
ITEM00047	183.4667	207.154	.146	.914
ITEM00048	183.2333	206.461	.290	.912
ITEM00049	183.3667	202.930	.443	.911
ITEM00050	183.7333	201.237	.452	.911
ITEM00051	183.1000	204.369	.604	.910

Note: Bolded items represent low values (less than .250)

Validity of the Scale

Validity refers to the extent to which a scale actually measures the intended value (Nation, 1997). The Researcher established the content validity and Face validity of the Cultural competence scale.

Face Validity: The face validity of the scale was fairly high. This was established through discussing the items of the scale with experienced teachers and professors of the MANUU, AMU JMI and Ravenshaw University. The items were approved by these experts/teachers for Teachers Cultural Competence scale.

Content Validity: The term content validity suggests that the instrument fairly and thoroughly covers the domain or topics that it claims to cover (Cohen, Manion, & Morrison, 2007). The Cultural Competence Scale elements were developed following a review of pertinent literature and talks with principals, teachers, and field specialists. The items were prepared with special care to ensure that all important topics were covered. As a result, it is reasonable to believe that the Cultural Competence Scale created has adequate content validity.

Results Related to the Reliability

Upon confirming the face validity and content validity of the scale employed in the study, the researchers computed a reliability coefficient called Cronbach's Alpha. The calculated coefficient was determined to be $\alpha = 0.952$. The aforementioned number indicates that the scale, consisting of 44 items in total, exhibits high reliability. To ascertain the scale's reliability, the researchers analyzed it to determine if it consistently measured the intended construct. The findings revealed high consistency, indicating that the scale effectively measured the desired construct.

LIMITATIONS

Although the study's findings were promising and valid, certain scale limitations must be considered-

- The specialist involved in validating the scale came from the same and another institution, which could cause the universal validity of the scale.

- It may be limited by possible cultural bias, as it was standardized for elementary school teachers with special reference to India.

- This scale is limited to three dimensions of cultural competence. Other dimensions, like cultural information, cultural ability, cultural responsive, cultural sensitivity, cultural experience, cultural desire (Motivation) etc., may also be considered.

- This scale was not tested on secondary, higher secondary, or college teachers. Admitting these teachers may present different practical challenges. Although it is unclear whether this scale will work for these teachers, tailoring it to their specific needs would be exciting and useful for future research.

- While this study aspires to develop a scale that can be used globally, it is crucial to note that it has only been standardized with a sample cluster from India. Additional testing and validation are essential to assess whether it can be used efficiently in various cultures and regions. Therefore, investigations employing this scale in many nations and settings can be deemed valuable areas for further study.

Practical and Research Implications

The most significant implication of the standardized scale in this study is to evaluate the cultural competence of elementary school teachers.

- This scale may help administrators understand how cultural competence their teachers are and ability to improve their cultural awareness, knowledge and skill.

- Researchers in the field can utilize this work to build and validate their own particular tools, scales or questionnaires.

- This scale also helps guide educational reforms and policy decisions that support cultural responsive teaching and cultural responsive pedagogy in educational institutions.

- Still, this scale standardized for teachers in elementary schools. Researchers may modify the scale to assess teachers' ability for cultural competence thought at other educational levels, such as secondary school, higher secondary school, college and university.

CONCLUSION

This study has designed and assessed a scale that can accurately measure the cultural competence of elementary school teachers. The initial set of questions was changed to increase the reliability and usefulness of the scale. Furthermore, items total-correlation analyses were performed to verify the reliability and correctness of the scale. The final scale consists forty four items divided into three components: awareness, knowledge and skill. The results pointed out such significant components as identifying the high psychometric properties of the developed scale. In addition, Cronbach's alpha coefficients were above the cutoff criteria, indicating that the scale had excellent internal consistency.

The Teacher's Cultural Competence (TCCS) scale is a valid and trustworthy tool presented in this study. Its main objective is to evaluate the cultural competence of elementary school teachers. Academics and professionals can use this scale to assess elementary school teachers' capacity for cultural competence. Therefore, from the outcomes of the scale can help assess teachers' cultural competence, their level of cultural competence, and whether they are providing learning opportunities that meet students' diverse needs.

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