

## Cross-cultural competence and professional formation of music educators

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### Article Info

#### Article history:

Received Sep 22, 2025

Revised Jan 26, 2026

Accepted Feb 23, 2026

#### Keywords:

Culturally responsive pedagogy

Inclusive teaching

Intercultural communication

Music education

Professional development

Teacher training

### ABSTRACT

Globalization increased cultural diversity in music education. This required music educators to develop cross-cultural competence (CCC). This study evaluated the impact of CCC on the professional development (PD) of music educators. The research employs a mixed-methods approach, combining surveys with qualitative interviews conducted among music educators from different cultural backgrounds. The study used stratified random sampling to obtain representative participants with primary, secondary, and tertiary music education. The novelty of this study lies in the application of a mixed-methods design within the under-researched context of music education in Kazakhstan. The research included 200 music educators spanning different educational levels for the quantitative phase and 20 music educators for participant observation and interview for the qualitative stage. The results of the study indicated that educators with strong intercultural competence (ICC) may be better prepared to adapt teaching methods with students from different cultural backgrounds. Such educators also had enhanced interpretive abilities across different musical genres. Therefore, when educators have intercultural skills, they become more inclusive and innovative. Additionally, PD initiatives for music educators should include models of ICC to develop pedagogical effectiveness and expand musical literacy.

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## 1. INTRODUCTION

Cross-cultural competence (CCC) involves understanding, communicating, and interacting effectively across different cultural groups. Multiple skills contribute to developing personal attitudes that enable individuals to navigate cultural diversity in varied environments. Hence, CCC is vital in the modern world, as it means understanding, communication, and effective interaction between different cultural groups. At the same time, the formation of professional qualities (PQ) among educators, in particular music educators, depends on intercultural competence (ICC) in education. This is especially characteristic within the framework of music education. Music has the ability to unite people of different cultures and languages, but its meaning and functions are shaped by certain social and cultural conditions. Thus, it begins to act as

a bridge with markers of difference. Effective music teaching requires ICC to successfully conduct lessons for students from different cultural groups and to include all students regardless of language and origin.

Music is inherently multicultural. Different genres, instruments, traditions, and forms of expression embody different cultural values and histories. Music educators who have ICC can integrate diverse cultural elements into student interactions and pedagogical practice. Thus, music plays a complex role as a multicultural environment that is both integrative and representationally contradictory. On the one hand, it contributes to the emotional unification of people, the development of empathy, and the creation of a space for intercultural dialogue that goes beyond language barriers. Thanks to joint musical creation and listening, music is able to form a sense of common belonging and mutual understanding between representatives of different cultures. On the other hand, musical systems, genres, and interpretative codes are closely related to culture and historical traditions. What may mean harmony or beauty for one culture may have a completely different symbolic or emotional coloring for another. Therefore, the established idea of music as a “universal language” needs to be revised. Therefore, it is worth noting that music is a dialogical space in which mutual knowledge is achieved through the awareness of differences.

Individuals with such skills can develop their professional skills, which are defined by tolerance and respect for the cultural backgrounds of their students. Besides, music educators can incorporate musical expressions into the curriculum and create interactive classrooms [1]. Scholars have recognized that cultural competence enables music educators to adapt educational approaches to the needs of their students [2]. [3]. Diverse traditions rely on two main methods of teaching music: oral traditions and written notation systems. Educators who study cultural diversity can adjust their teaching strategies according to the academic needs of their students [4]. Recent research has indicated that music education should develop intercultural skills to promote harmony and progress throughout the world [5], [6]. At the same time, other scholars have emphasized that cultural awareness of educators allows them to recognize the influence of cultural backgrounds on students’ musical experiences and pedagogical methods [7]–[9]. Given the current trends in globalized education, music is becoming an important foundation in the formation of a multicultural learning environment. Their professional activities combine work with oral musical traditions, musical practices, and digital technologies, providing a basis for the development of ICC of students [10].

However, despite the attention of scholars to the problem of intercultural awareness in music education, modern curricula have not given priority to the development of ICC. Therefore, in the context of globalization and cultural diversity in the modern educational environment, educators must acquire the skills that are necessary for effective functioning in a multicultural society. The absence of such competencies can lead to educational isolation or reduced motivation among students from ethnocultural minorities. Therefore, the development of ICC is not an auxiliary component, but a fundamental factor in ensuring effective music education in modern society. Furthermore, despite the significant amount of scientific work devoted to multicultural education, current empirical research that has pointed out the connection between ICC and professional development (PD) remains limited. Current works mainly focus on the theoretical understanding of intercultural education. Therefore, empirical evidence of the role of music educators in the formation of ICC in the practical field is lacking. Thus, the theoretical significance of this study will be to define a model of ICC in music pedagogy as an important multidimensional space that synthesizes cognitive, emotional, and behavioral aspects.

Accordingly, the study aimed to address this scientific gap by conducting an empirical analysis of the relationship between the level of ICC of music teachers, their professional growth, and the educational process. It is based on the following research questions:

- i) What is the empirically identified level of ICC, and how does this competence affect their professional identity, pedagogical decisions, and teaching style?
- ii) What contextual factors (institutional conditions, educational policy, resource provision, digital infrastructure) affect the possibility of implementing multicultural music education in secondary school and training programs?
- iii) How does ICC of music educators contribute to increasing student engagement, their creativity and intercultural interaction in the learning process?

## 2. LITERATURE REVIEW

### 2.1. Conceptualizing cross-cultural competence in music education

Existing research on ICC in music education can be summarized along three interrelated dimensions: i) cognitive (knowledge of musical and cultural traditions); ii) affective (empathy, openness, and attitudes toward cultural differences); and iii) behavioral (adaptive pedagogical practices and communication skills in the learning process). Although ICC is widely studied in the fields of education, psychology and global studies, it is in the field of music education that it acquires particular importance, since musical communication goes beyond verbal language. In this space, ICC is a multidimensional construct consisting of

cognitive, affective, and behavioral components - abilities that allow educators and students to interpret, perform, and make sense of music from different cultural traditions. In music pedagogical practice, these dimensions are manifested through the ability to recognize stylistic and cultural differences, to respond empathetically to different forms of musical expression and to adapt teaching and performance methods in accordance with the cultural context. Besides, modern authors have pointed to adaptability, empathy and continuous reflective learning as main factors in the development of ICC in music education [11]–[14].

Contemporary scholars emphasize that ICC should be understood as the ability to interact respectfully and effectively with individuals from different cultural backgrounds while recognizing and valuing cultural differences [15], [16]. In the field of music education, several authors have recognized that ICC plays a crucial role in supporting globalized pedagogical approaches [16]. As Schippers [17] points out, music educators with developed ICC are able to better understand the cultural origins of musical traditions and are able to adapt their pedagogical strategies. In the works of Abril and Gault [18], this approach is complemented by the important idea that ICC goes beyond the mere understanding of cultural meanings. In this way, it shapes the educator's ability to construct curricula. Westerlund *et al.* [19] and Banks [20], in turn, described how pedagogy requires a reflection on power and representation: whose musical voices and traditions are given the right to be heard in the classroom, and whose remain on the periphery. The authors indicated that students perceive and actively co-create cultural exchange. Thus, these approaches indicated that ICC in music education encompasses the cognitive understanding of cultural differences and the pedagogical capacity for critical selection, adaptation, and ethical representation of different musical practices. While Schippers [17] focused on the process of adaptation, Abril and Gault [18] recognized the importance of inclusive teaching content. Moreover, culturally responsive teaching in music also encourages educators to cultivate cultural cosmopolitanism by engaging with multiple musical heritages and addressing issues of authenticity and ethical representation [12]. Besides, cultural competence empowered educators to create classrooms that affirm students' cultural identities and promote mutual respect [21], [22].

Despite the differences in methodology, research has indicated that ICC has become essential for the development of inclusive and socially responsible music education practices. Thus, ICC has enabled teachers to create meaningful learning environments that affirm students' cultural identities [23], [24]. Recent studies have also shown that students can better explore their identities through the analysis of multicultural music, as it provides opportunities for self-expression and cultural awareness [25], [26]. Scholars have also emphasized the importance of teaching innovative solutions that should be integrated with contemporary musical trends [21]. At the same time, other studies have shown that embracing cultural diversity allows them to adjust lesson plans according to global perspectives, thereby expanding students' knowledge of music [27]. Results have also shown that diverse musical interactions motivate creative thinking, encouraging the development of new educational methods. Researchers have noted that a significant obstacle to the development of ICC is insufficient qualifications [28]. Other scholars have pointed to the lack of material resources as an additional problem [21], [29]. However, despite these limitations, authors consistently emphasize the importance of developing ICC in future professionals. Although methodologies vary, academic work on this topic agrees that ICC is important for promoting inclusive and socially responsible music education practices.

## 2.2. Analysis of current empirical literature

The development of PQ in music educators is closely linked to their level of CCC. Recent empirical studies have examined how cultural experiences and educational training shape teaching methodologies in multicultural settings. Modern research has also highlighted the importance of incorporating norm-disruptive elements into education programs to foster cross-cultural competencies [30], [31]. Mellizo [32] investigated the impact of music education on the development of intercultural sensitivity among adolescents. The results showed an increase in the level of intercultural awareness after the pedagogical intervention. This in turn empirically confirmed the cognitive-affective model of ICC. Thus, music acts as a means of forming awareness and emotional acceptance of cultural diversity.

Further research on the PD of music educators in the K–12 system identified five key characteristics of effective PD programs: subject specificity, active participation of educators, collegial interaction, duration and coherence of programs [33], [34]. These results indicated the practical implementation of the behavioral dimension of ICC, since effective training requires action, collaboration and continuous practice. Study by McKoy [35] proposed the concept of “pedagogy of discomfort”, which stimulates educators to critically reflect on their own prejudices and experiences in the process of interacting with culturally diverse groups. In turn, this work confirmed the reflexive-analytical component of the theoretical model and highlighted the role of self-reflection for intercultural understanding.

A Malaysian study summarized the perceptions of multicultural music education among general music educators. The results revealed limited engagement with intercultural content due to a lack of training,

resources, and awareness of different musical traditions [35]. Moreover, study by Xinyi [36] indicated the presence of demographic characteristics on the self-assessment of ICC of future music educators. In particular, an analysis of data from 337 participants from 36 American universities indicated that demographic variables influenced the willingness to work in culturally diverse contexts. Thus, ICC is shaped by social and professional factors.

In addition, scholars have proposed integrating ICC training into music education programs. Such initiatives will provide educators with the skills necessary to effectively interact with diverse classes and support inclusive pedagogical values [37], [38]. The growth of cultural diversity in schools has emphasized the need for intercultural training in music education curricula [39], [40]. A study by Kang [41] that measured the level of cultural modesty among prospective music educators in Indiana found strong displays of cultural modesty, particularly high levels among participants who taught students with culturally diverse backgrounds. However, educational barriers to cultural diversity stemmed from the dominance of a Western European musical focus and the lack of multicultural content in the curriculum. Scholars have indicated that music education programs need to incorporate more cultural diversity into their curricula [42] [43]. Collectively, these studies have recognized that ICC is important for the professional growth of music educators. Overall, the results of the empirical study were consistent with the concept of ICC, but at the same time indicated several practical limitations. Future educational and professional programs should create experiences that foster intercultural sensitivity, integrate diverse musical traditions, and develop curricula that are culturally responsive.

At the same time, most research on ICC relies on qualitative or self-report data, without incorporating experimental or mixed-method approaches that can measure the effectiveness of instruction. Music education institutions also continue to prioritize Western classical traditions over global musical practices in their curricula, highlighting the need for more comprehensive institutional reform. This study aims to address these gaps and use a mixed-method approach to examine the role of ICC in music education institutions. Despite the growing body of research on ICC in music education, several significant gaps remain in the existing literature. First, most studies have relied on qualitative descriptions or self-report data, which have limited empirical understanding of the impact of ICC on PD. Second, the field of music education has lacked validated instruments for measuring ICC that are adapted to the specifics of music teaching. Third, non-Western and post-Soviet educational contexts have remained underrepresented, resulting in limited understanding of the mechanisms by which ICC is formed in different cultural and institutional settings. By combining theoretical approaches with empirical data obtained in a non-Western educational context, this study expands current understandings of ICC in music education and responds to the demand for methodologically sound and culturally inclusive scholarly explorations in this field.

### 2.3. Theoretical underpinning

Culturally responsive pedagogy (CRP) is a model that demonstrates how educators must recognize and respect their students' cultural backgrounds throughout educational instruction. The CRP-based educational system supports teaching methods that value diversity and promote equitable learning opportunities [9]. Music educators applying CRP should understand cultural differences in music and integrate diverse musical traditions so that their instructional methods align with the cultural backgrounds of their students. Skilled music educators with strong CCC advocate CRP through flexible instruction that builds an inclusive classroom environment in which all students are treated equally.

The sociocultural learning theory by Vygotsky [27] explained that people acquire knowledge through social interaction in a cultural environment. This approach encouraged music educators to interact with different musical cultures and social groups to improve their skills. Its main advantage is that learning occurs socially, which is important in music education, as cultural expression and social interaction are key in schools. However, this theory has some weaknesses. It downplays individual thinking and focuses more on group interaction than on the study of culture itself. It also did not take into account the unequal access to cultural learning in classrooms, which may occur due to limited resources or support for multicultural music education. Without an assessment system, researchers cannot measure how well educators use sociocultural experiences to develop ICC.

The ICC framework by Byram [13] is more detailed as it outlines the skills needed for effective intercultural communication. It suggests that educators need to develop cultural sensitivity and openness to work well with students from diverse backgrounds and musical styles. Recently, authors have introduced the professional competence framework to outline what educators need to know, do, and value [28]. Music education programs use clear methods to help prospective educators develop ICC [29]. Although each theory has its limitations, together they help explain how music educators develop ICC.

### 3. METHOD

#### 3.1. Research design

This study aimed to examine the impact of ICC on professional skills among music educators. To obtain a complete picture, the study uses both quantitative and qualitative methods. The quantitative data helped us to find general patterns and relationships between ICC and PQ, but they did not reveal the details of personal experiences, reflections or context. To address this issue, the qualitative phase allowed us to interpret the statistical data. The study used a mixed method: first we collected and analyzed quantitative data, and then continued to work with qualitative data. The quantitative part used a survey to measure ICC and its relationship with PQ. The qualitative part involved interview analysis and classroom observation.

#### 3.2. Sampling strategy

The study employed stratified random sampling to obtain representative participants from primary, secondary, and university music education levels. The selected stratified random sample ensured proportional representation of music educators from different levels of education: primary, secondary, and higher. This approach also made it possible to compare the results by work experience and type of educational institution. The sample size of 200 people was determined based on a preliminary calculation of statistical power (confidence level–95%, error–5%). In this way, it ensured sufficient reliability for correlation and regression analysis. In addition, the inclusion of urban and rural schools enhanced the representativeness of the sample. The feasibility of this approach is confirmed by the researcher’s professional contacts and previous cooperation with educational training institutions. In addition to ensuring statistical power, the sample of 200 respondents was justified by the need to cover a variety of institutional and cultural contexts of music education. The study involved educators from urban and rural institutions, primary, secondary, and higher education institutions, as well as educators with different professional experience. Besides, this sample structure allowed for the capture of variability in pedagogical experience and intercultural interaction, which increases the analytical depth and interpretative value of the study results. Thus, the research will include 200 music educators spanning different educational levels for the quantitative phase and 20 music educators for participant observation and interview for the qualitative stage, as shown in Table 1.

The sample was balanced in terms of gender. A significant proportion (40%) of educators had over 10 years of experience, ensuring insights from seasoned educators. Only 42.5% of educators reported high exposure to multicultural music education, suggesting gaps in CCC. For the qualitative research phase, the researcher will use purposive sampling to choose educators whose cross-cultural background ranges from international teaching work to participation in multicultural music groups.

Table 1. Demographic profile of respondents

Demographic variable	Frequency (n)	Percentage (%)
Gender		
Male	90	45
Female	110	55
Teaching experience		
1-5 years	50	25
6-10 years	70	35
11+ years	80	40
Level of education		
Bachelor’s degree	120	60
Master’s degree	70	35
Ph.D.	10	5
Exposure to multicultural music education		
High exposure (frequent use of diverse music traditions)	85	42.5
Moderate exposure	70	35
Low exposure (primarily western classical focus)	45	22.5

#### 3.3. Data collection methods

Given that some of the respondents were recruited through the researcher’s professional contacts with educational institutions, steps were taken to minimize potential bias in participant selection. Participation in the study was voluntary and anonymous, and stratified random selection within defined groups reduced the influence of prior contacts on sample formation. In the qualitative phase of the study, the researcher’s positionality was taken into account through reflective notes and independent data coding by two researchers. The developed questionnaire consisted of three parts: demographic information for recording educator age and gender while collecting teaching experience data, and details on musical experience.

The survey incorporated the CCC scale derived from Byram [13] ICC model and the PQ of music educators evaluated through a modified by Shulman [44] professional competence framework. The research instrument employs Google Forms and manual distribution at selected academic sites. Garnered responses will be measured through a 5-point Likert-type scale that ranges from 1 for strongly disagree to 5 for strongly agree.

The questionnaire had an expert validation trio of scholars specializing in music education and intercultural pedagogy to ensure content relevance and construct clarity. Before data collection, a pilot study was conducted with 25 music educators to refine the wording of the items to test for such internal consistency. Cronbach's  $\alpha$  coefficients above 0.80 confirmed the accepted levels of reliability for both the ICC scale and the adapted PQ subscale. The researchers conducted interviews to learn about experiences related to multiculturalism. The interviews explored three key elements of intercultural music education: i) diverse musical interactions in education; ii) teaching methods to combine different musical forms; and iii) support for the development of intercultural skills.

Classroom observations aimed to determine the impact of implementing multicultural music education during teaching sessions. The observations were conducted using a non-participatory design, which allowed the researcher to document authentic learning dynamics without influencing classroom interactions. The observation instrument was developed based on the theory of multicultural music pedagogy [18]. It consisted of a structured rubric that assessed three domains: i) diversity of learning (variety of musical materials and traditions); ii) intercultural communication (teacher-student and peer interactions); and iii) reflective practice (evidence of self-awareness and adaptation). Data were collected using structured observation sheets. Inter-coder reliability of the observation and interview data was ensured through double coding by two independent researchers. In particular, a consensus rate of over 85% was obtained. Pilot testing of the survey confirmed internal consistency (Cronbach's  $\alpha > 0.80$ ) and content validity, which was confirmed by expert reviewers. ICC was measured using an adapted scale based on Byram [13] ICC model, which encompasses cognitive (knowledge of cultural and musical traditions), affective (attitude, empathy, openness), and behavioral (ability to adapt pedagogical practices) dimensions. The scale consisted of 24 statements (8 for each dimension) aimed at assessing the ability of educators to interpret musical works of different cultures, adapt teaching methods, and effectively interact with students with different cultural experiences. The PQ of music educators were assessed using a modified by Shulman [44] professional competence framework, which included pedagogical knowledge, methodological skills, and reflective practice, adapted to the context of music education.

### 3.4. Data analysis procedure

The study used mean and standard deviation (SD) to summarize survey results, and Pearson correlation analysis to examine the relationship between professional quality and CCC. Regression analysis was used to see how well CCC predicts music educators' effectiveness. Thematic analysis helped identify common themes in interview responses. Observation data were coded to measure how often and how well educators included cross-cultural elements.

The study took several steps to improve validity and reliability. First, it combined quantitative methods with statistical analysis and qualitative interviews with observations for a thorough understanding. Second, random sampling helped reduce bias and improve the generalizability of the results. Third, using measurement tools that had already been validated increased reliability and construct validity. Finally, the research used established coding schemes and assessed inter-coder reliability during coding.

## 4. RESULTS

### 4.1. Quantitative data analysis

ICC is now a major idea in music education. In this study, it refers to having cultural awareness, adaptability, and the ability to integrate multicultural content into teaching. PQ are seen as clear indicators of a teacher's effectiveness, creativity, and ability to work with diverse learners. To assess how interculturally competent music educators are, we used quantitative analysis to examine the distribution of ICC traits and their relationship to key aspects of professional practice. We used a 5-point Likert scale to measure five main variables that show how ICC and multicultural competence (MC) interact. Table 2 shows the main statistics on central tendencies and sample variability.

The music educators surveyed showed strong cross-cultural awareness, with an average score of 4.2. Those with scores near 5 showed a sensitive understanding of cultural diversity in music education and were aware of their students' multicultural backgrounds. Most educators had similar levels of cultural awareness, as shown by the low SD of 0.6. Many educators recognized the importance of cultural diversity in the classroom and its impact on student learning. These results suggest that educators see recognizing students' cultural backgrounds as a way to develop more inclusive teaching methods.

The surveyed music teaching professionals also demonstrated good to excellent capabilities in adapting instruction for cultural inclusivity, with a mean score of 3.8. According to the grading scale, educators exhibit adequate cultural responsiveness, but further development is necessary to meet student needs across diverse learning styles. Levels of adaptability varied, as shown by the SD of 0.7. Staff displayed different abilities to implement cultural inclusion, which resulted in performance differences in instructional adaptation. Besides, the range of scores (2.5 to 5.0) suggests that educators hold varying capacities to adapt, possibly due to limited exposure to diverse cultures or insufficient training in responsive teaching practices, as shown in Table 3.

Table 2. CCC and PQ

Variable	Mean (M)	SD
Cross-cultural awareness	4.2	0.6
Adaptability to cultural differences	3.8	0.7
Integration of multicultural music	3.5	0.9
Student engagement in multicultural learning	4.0	0.8
Professional growth due to cultural exposure	4.3	0.5

Table 3. Descriptive statistics of the ICC of music educators

Indicator	Mean	SD	Range of values	Interpretation
Awareness of intercultural diversity	4.2	0.6	3.0–5.0	High level of cultural awareness
Cultural adaptability	3.8	0.7	2.5–5.0	Moderate level of adaptability
Integration of multicultural musical content	3.5	0.9	2.0–5.0	Average level, with variability
Engaging students in multicultural learning	4.0	0.8	2.5–5.0	High level of engagement, depending on strategy
Professional growth through intercultural experiences	4.3	0.5	3.5–5.0	Mostly high level of development

Educators integrate multicultural music content into their lessons to a light extent based on the obtained mean score of 3.5. The measured score demonstrates the educator's readiness to employ various musical contents in their instruction yet shows some inconsistency within their applicant pool. The wide SD value of 0.9 demonstrates diverse global musical integration practices by educators, with some educators using various traditional musical styles while others stick mostly to Western classical pieces and traditional music. Music lessons incorporate multicultural music at varying degrees between 2.0 and 5.0, according to the data obtained. Educators rated 2.0 typically experience obstacles regarding multicultural music resources combined with teaching challenges relating to diverse musical traditions, while educators at level 5.0 actively research diverse musical expressions for classroom integration. Further investigation shows that current educators' education programs should place more importance on multicultural music education since this would enhance both instructors' musical competence and classroom inclusivity.

The student engagement in multicultural learning reached a strong level among educators, as demonstrated by their 4.0 mean score. Most students engage actively with multicultural music learning at a scale between 2.5 and 5.0, but some remain disengaged, presumably because of insufficient teaching strategies, limited resources, or a general lack of engagement. Besides, student involvement in learning activities combined with practical work and team-based musical performances, along with studies of cultural elements, proves efficient for engagement. Research data shows that educators gain considerable professional advancement through cultural interactions since their average response score was 4.3 on the professional growth measure. The high score shows how educators benefit professionally from cross-cultural experiences, which leads to stronger professional competence, broader educational views, and better instructional capabilities. The SD of 0.5 shows that most educators grow at the same rate at almost equivalent levels without significant variation between them. A wide majority of educators scored their professional growth development in a standard range of 3.5 to 5.0, despite minor variations in the data. The learning process requires permanent cultural interaction to support both individual and academic development. A Pearson correlation analysis examined the relationship between CCC and PQ, as in Table 4.

Table 4. Correlation analysis between indicators of ICC and teaching effectiveness

Relationship between variables	Correlation coefficient (r)	p-value	Interpretation
ICC ↔ teaching effectiveness	0.72	0.006	Strong positive relationship
ICC ↔ student engagement	0.68	0.008	Moderately strong positive relationship
ICC ↔ classroom innovation	0.59	0.003	Moderately positive relationship

Note: all relationships are statistically significant at  $p < 0.01$ , indicating the reliability of the interdependencies

The value of 0.72 in the CCC and teaching effectiveness correlation demonstrates the strong association between these variables. Teaching effectiveness increases as CCC levels grow. Teaching practices of music educators become more effective as their cultural competence levels increase. This statistical information reaches a minimum significant value of 0.006, thus demonstrating the statistical significance of the results. The strong relationship confirms that teaching effectiveness improves because CCC enables educators to approach their students' cultural backgrounds. Teaching effectiveness improves when educators adopt inclusive, responsive, adaptable teaching approaches resulting from their high CCC. The significant relationship between CCC development and teaching quality tells us that teaching effectiveness directly benefits from better cultural competence. Educational programs devoted to teaching cultural sensitivity, along with instructional approaches made for diverse learners, lead to better overall instructional quality in music education settings. The research results match the analysis reported by Westerlund *et al.* [19].

A 0.68 correlation value exists between CCC and student engagement, showing a moderately strong positive link. Educators who excel in cultural competence skills show better chances to involve their students during learning activities. Statistical significance appears in this relationship because the calculated p-value (0.008) drops below 0.05. The strong significance of CCC emerges as crucial for producing student engagement. A higher level of culturally competent teaching leads to classroom settings that appear more relevant and inclusive to students from various cultural backgrounds, thus improving their lesson participation. Student engagement depends heavily on CCC, but other teaching aspects, together with the educational environment and learning material content, also make significant contributions. The improvement of CCC stands as essential yet represents a single component among multiple approaches for classroom engagement development.

A moderate positive relationship between classroom innovation and ICC is evident based on the correlation value of 0.59. In particular, it was noticeable that teaching staff who had developed ICC used innovative teaching methods more often. The calculated p-value reaches 0.003 indicating the statistical significance of this relationship. Thus, culturally competent teachers, as a rule, had a higher probability of implementing innovative teaching methods.

To establish the relationship between the elements of ICC and PQ of music educators, a multiple regression analysis was conducted. The following components of ICC were considered as independent variables: intercultural awareness, cultural adaptability, and integration of multicultural musical content. The dependent variables were teaching effectiveness, student engagement, and innovativeness of the educational process, as presented in Table 5.

Table 5. Regression analysis of the influence of ICC on the PQ of music educators

Independent variable	Dependent variable	Regression coefficient ( $\beta$ )	t-value	p-value	Statistical significance
Intercultural awareness	Teaching effectiveness	0.41	6.25	0.004	+
Cultural adaptability	Teaching quality and student engagement	0.36	5.82	0.007	+
Integration of multicultural music content	Innovation, effectiveness, engagement	0.29	4.75	<0.001	+

Increasing one unit in cross-cultural awareness leads to dependent variable indicators such as teaching effectiveness growing by 0.41 units. Statistical significance exists between this variable and its dependent measure due to the t-value of 6.25 found in the analysis. The statistical relationship is significant because the p-value lies below 0.05 at 0.004. Research reveals that for every increment in cultural adaptability, the dependent variables improve by 0.36 points based on the coefficient figure of 0.36. The significance of this finding becomes stronger because both the p-value of 0.007 and the t-value of 5.82 are below their corresponding standard thresholds of 0.05. To summarize the results of the regression analysis and facilitate their interpretation, standardized regression coefficients ( $\beta$ ) for the key components of ICC were visualized, as in shown Figure 1. Visualization clearly demonstrates the relative weight of intercultural awareness, adaptability, and integration of multicultural music content as predictors of professional effectiveness.

A regression coefficient of 0.29 shows that including multicultural music in the classroom leads to a 0.29 unit increase in teaching effectiveness, student engagement, and classroom innovation. This result is statistically significant, with a t-value of 4.75 and a p-value below 0.001. The findings suggest that integrating multicultural music helps educators improve their professional skills. Educators who use multicultural music in their lessons provide more engaging instruction for students from different backgrounds. While multicultural music is an important part of CCC, its effect on professional outcomes is moderate compared to other factors. Still, it plays a key role in improving teaching, engaging students, and encouraging cultural exchange in the classroom.

Using both quantitative and qualitative results helps to better understand the patterns found in the study. High average scores for intercultural awareness ( $M=4.2$ ) and professional growth ( $M=4.3$ ) match teachers' reports of gaining broader perspectives and reflecting more on their teaching because of intercultural experiences. Moderate scores for integrating multicultural music ( $M=3.5$ ) are linked to challenges like limited curricula, lack of resources, and not enough support from institutions. There is also a strong link between ICC and student engagement ( $r=0.68$ ), supported by interviews and observations showing that students are more engaged and motivated when multicultural music is used. Combining both types of data gives a fuller picture of how ICC supports music teachers' PD.

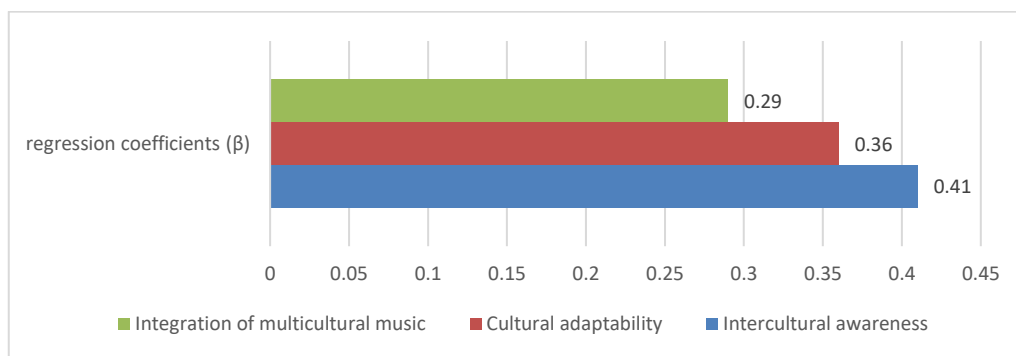


Figure 1. Regression model of the influence of ICC

#### 4.2. Qualitative data analysis

The analysis revealed three key themes: i) barriers to the implementation of multicultural music education; ii) the role of ICC in professional growth; and iii) the need for institutional support.

##### 4.2.1. Theme 1: barriers to the implementation of multicultural music education

Educators often pointed out structural barriers that make it hard to include multicultural music in their teaching. Many respondents said that national curricula focus mostly on Western classical music, which leaves little room for music from other cultures. For instance, Educator 4 explained, “*we are required to teach mainly the canon of European composers. Music from other cultures is only an additional topic, if there is time.*” Besides limited time, educators also struggled with a lack of resources: authentic instruments, recordings, and sheet music. There was also not enough systematic training in ethnomusicology. Educator 10 shared, “*I never took a course on non-European music during my university studies. So, I simply don't feel confident teaching it.*” These findings show that while educators are interested in multicultural education, institutional barriers make it difficult to put into practice.

##### 4.2.2. Theme 2: the role of ICC in professional growth

The second theme highlighted the link between intercultural interaction and PD. Respondents who had worked or studied in a variety of settings said that their worldview had grown and their teaching had improved. Educator 5 shared, “*my perspective on music changed dramatically after I visited several countries and attended live performances by local musicians. I realized that music is not just about notes, it is also a way of life.*” Educators also noted that incorporating music from different cultures helps to engage students from ethnic minorities. One educator recalled, “*when I used oriental drums in class, one student was very happy. For the first time, she saw that her culture was interesting to others.*” In this way, ICC supports professional growth and helps to create an inclusive classroom.

##### 4.2.3. Theme 3. The need for institutional support

Despite personal interest, many educators reported a lack of administrative support for the implementation of multicultural education. One problem was the lack of mandatory courses or seminars. Educator 17 indicated, “*there is no training in our district dedicated to music from other cultures. Everything I learned is the result of my own research and expenses.*” In addition, school administrations often do not recognize the value of a multicultural approach. Educator 7 complained, “*when I suggested introducing Afro-Brazilian music, the principal asked if it was even in the program.*” This component indicates the need for changes at the level of educational policy, including multicultural music in the official curriculum, funding

resources, and introducing specialized PD programs. To verify the results of the interviews and supplement the qualitative analysis, a structured observation of 10 music lessons in primary and secondary schools was conducted. The observation was carried out using a unified card, which recorded the following indicators: i) the use of non-European musical instruments; ii) discussion of the cultural context of musical works; iii) involvement of students in multicultural activities, in particular singing, playing instruments, or improvisations on the material of music from other cultures, as in Table 6.

As shown in the table, only 3 out of 10 observed lessons presented instruments that do not belong to the European musical tradition (for example, djembe, maracas, and bongos). Moreover, in all cases, these were simple percussion instruments that did not require special playing techniques or prior training. In addition, half of the educators addressed the topic of the cultural origin of works or musical traditions, but the level of depth of such analysis was uneven. Only in two cases was there a deeper explanation of the social, ritual, or historical context of the composition's origin. The rate of student participation in multicultural activities was the highest in 7 out of 10 lessons, students actively participated in the performance of music from different nations, including singing, movements (dance elements), rhythmic exercises, and sometimes improvisation. In several classes, educators used video clips or recorded examples from other cultures, accompanied by attempts to recreate the rhythm or vocal phrase.

Table 6. Classroom observation findings

Observed factor	Frequency of use (out of 10 educators observed)
Use of non-Western musical instruments	3/10
Discussion of cultural music contexts	5/10
Student participation in multicultural activities	7/10

## 5. DISCUSSION

This study aimed to determine the role of ICC in shaping the PQ of music educators in a multicultural educational environment. The results of qualitative and quantitative analyses addressed three research questions. Quantitative analysis showed that music educators demonstrated a relatively high level of intercultural familiarity ( $M=4.2$ ;  $SD=0.6$ ), moderate adaptability to cultural differences ( $M=3.8$ ;  $SD=0.7$ ), and a comparatively low level of integration of multicultural musical material into practice ( $M=3.5$ ;  $SD=0.9$ ). These findings indicated the theoretical knowledge but revealed a lack of confidence or resources needed to apply an intercultural approach in practice. They were consistent with the conclusions of other researchers, who have shown that knowledge of other cultures does not always translate into appropriate pedagogical practice [31], [32]. Correlation analysis confirmed a statistically significant positive relationship between ICC and PQ such as teaching effectiveness ( $r=0.72$ ,  $p=0.006$ ), student achievement ( $r=0.68$ ,  $p=0.008$ ), and innovation in the classroom ( $r=0.59$ ,  $p=0.003$ ). These results suggest that ICC is an important factor in raising the professional level of educators, supporting earlier studies that identified multicultural awareness as a key to flexible and inclusive teaching in the arts [21]. This finding confirmed the important constructivist premise that PD occurs through reflective interaction and dialogic participation, rather than through static knowledge transfer. From the perspective of multicultural pedagogy, ICC serves as an outcome and an important process of co-construction of meaning between educators and culturally diverse students.

Regression analysis showed that intercultural awareness made the strongest contribution to the development of PQ (coefficient=0.41,  $p=0.004$ ), followed by cultural adaptability (coefficient=0.36,  $p=0.007$ ). Intercultural awareness is a stronger predictor than adaptability, showing that understanding and valuing cultural diversity is a key foundation for changing behavior. Educators usually develop awareness first through familiarity and reflection, while adaptability takes more time and support from institutions. This suggests that PD should not only build awareness but also help educators apply what they learn through collaborative intercultural projects. The findings match other research showing that even with enough knowledge, institutional barriers can make it hard to put multicultural practices into action in music [34], [35]. These barriers are not just technical – they also reflect deeper structural and teaching biases based on Eurocentric ideas about what counts as ‘legitimate’ musical knowledge. These factors limit chances to try non-Western music and reinforce differences between cultural traditions. Because of this, some experts argue that music curricula need a deeper review of their basic assumptions, not just fixes to logistics [36]. Overall, the results show that cross-cultural awareness is a key predictor of good teaching in music. When teachers are more familiar with different cultures, they can better appreciate student diversity, which leads to better teaching, more student participation, and more inclusive methods. The study supports Devadze and Gechbaia [6] that making cross-cultural awareness a core part of teacher training, since it has a strong positive effect on professional skills.

The qualitative part of the study shows that ICC not only improves teachers' professional experience but also helps them engage students, especially those from ethnic minorities. For example, one participant said, *"I feel more confident presenting African or Asian works when I understand the stories behind them; it changes the way my students listen."* Another educator shared, *"we often teach diversity as a decoration rather than as a dialogue."* A third participant pointed out, *"I need a strong foundation to develop cross-cultural approaches, as today's students do not always effectively embrace current approaches."* Previous research also shows that direct communication, sensitivity, and interesting content are key to reaching learning goals [37], [38]. Educators with communication skills create better learning environments, give clear explanations, and provide helpful feedback, which leads to high-quality learning [39]. Student engagement is moderately to strongly linked to CCC, showing that being responsive and communicating clearly helps keep students interested and involved. Other studies found that educators who communicate well inspire students, encourage open discussions, and help students take part in class activities [40]. The research supports the idea that students learn best when they interact and communicate. There is still a significant, though weaker, link between constructivist and cultural activity (CCA) and classroom innovation. Educators who are good communicators are more likely to try new teaching methods. Being able to explain ideas, involve students in group work, and accept feedback helps teachers be more creative. The survey found that only 3 out of 10 teachers use non-Western musical instruments in their classes, showing that these instruments are not widely used. Many educators still focus on Western classical and popular string instruments. While some say cost and access are barriers, these reasons may hide deeper issues. The limited use of non-Western instruments is also due to Eurocentric education and assessment systems that favor Western music.

From a multicultural perspective, the low use of non-Western instruments is disappointing, but it also suggests room for growth. Adding non-Western instruments to lessons can help educators build more inclusive classrooms and promote cultural understanding among students [13], [41], [42]. In 5 out of 10 classrooms studied, there was moderate interest in teaching the cultural meaning of music. The data show that only a few educators connect their lessons to their own cultural backgrounds, while most do not [43]. A lack of resources, limited knowledge, and uncertainty about discussing culture in class make it hard for some educators to use meaningful methods. These challenges are also mentioned in other studies [44]–[46]. Some authors note that tight schedules make it hard to cover cultural topics, as educators must cover a lot of material in a short time [20], [47], [48]. Others have pointed out that a lack of skills also makes it difficult to create an intercultural classroom [49], [50].

Thus, the results obtained allowed us to confirm that ICC has a significant positive impact on the PQ of a music educator, promotes the involvement of students in the educational process, but its practical implementation faces numerous barriers. The effective implementation of multicultural music education requires not only individual efforts but also institutional support and reform of the content of pedagogical education. Accordingly, it is recommended to include mandatory courses in ethnomusicology and methods of teaching music from different cultures in the curricula of pedagogical universities. The absence of such a component, as shown by the interviews, is an obstacle for educators in teaching non-European music. These patterns resonated with international research on the decolonization of music education, which argues that meaningful multiculturalism requires structural, rather than symbolic, inclusivity [43]. Thus, the integration of local practices with this discourse positioned the findings within a global movement toward epistemic justice in music pedagogy.

In addition, curricula should be updated with an emphasis on cultural diversity. Current programs are focused mainly on the European musical canon. It is worth officially including works from other cultures in the basic repertoire and allocating time for their deeper study. In order to eliminate the lack of competences among educators, it is worth introducing systematic training, seminars, and exchanges of experience between educators who already have experience in intercultural teaching. Particular attention should be paid to the development of cultural awareness, which has a significant regressive effect on PQ (coefficient 0.36). Hence, the practical significance of this study lies in the possibility of direct use of the obtained results in the system of training, advanced training and daily professional activities of music educators in a multicultural educational environment. The established statistically significant relationship between the level of ICC and key PQ of educators (teaching effectiveness, students' academic achievements, and innovativeness of pedagogical practices) provides empirical grounds for the integration of intercultural training as a mandatory component of pedagogical education.

The results of the study can be used by the administrations of higher pedagogical education institutions to revise curricula and programs for training future music educators. They substantiate the feasibility of introducing courses in ethnomusicology, intercultural communication, and methods of teaching music of different cultures, as well as practice-oriented modules aimed at developing cultural adaptability and reflective skills. This will reduce the gap between the theoretical awareness of educators and their ability to apply an intercultural approach in the real educational process. The proposed research findings have direct

implications for the policy of training and PD of music teachers in Kazakhstan and in the wider international context. First, ICC should be enshrined as a mandatory learning outcome in the standards for training music teachers, rather than as an optional “additional topic”. Second, it is advisable to update the curricula of pedagogical universities by introducing a modular structure, where intercultural components are integrated into teaching methods.

This study has its limitations. In particular, the quantitative data are based on a limited number of participants (n=200), and the interviews were conducted with only 20 educators, which may limit the generalizability of the results. Although the interview topics were the same, the answers may have depended on the personal experiences and interpretations of the respondents. This may affect the formation of the risk of emotional bias, which is difficult to objectify.

## 6. CONCLUSION

The research confirmed the important role of ICC in shaping the PQ of music educators. Quantitative analysis indicated a statistically significant relationship between the level of ICC and such professional parameters as teaching effectiveness, inclusiveness, innovation and emotional sensitivity. Cultural awareness and adaptability contributed to the overall model of professional effectiveness. Moreover, strong intercultural awareness increased adaptability and improved inclusion methods. Educators with these qualities integrated various musical styles and improved interaction with students. Therefore, this study highlighted the crucial role of ICC in enabling music educators to work effectively in multicultural environments and develop students’ cultural awareness.

The qualitative analysis of interviews revealed significant barriers to implementing multicultural music education. The main challenges included the dominance of the Western European musical canon in curricula, a lack of resources, and insufficient training. However, many educators expressed strong personal interest and reported positive experiences with involving students in intercultural activities, which highlights the potential for further development in this area. In conclusion, ICC functions not only as a tool for pedagogical adaptation to student diversity but also as a factor of professional growth. Its systematic development should be prioritized in both the training and PD of music educators.

Given the established links between ICC and professional effectiveness ( $r=0.72$ ), it is advisable to implement a set of practically oriented strategies. First, multicultural ensembles and project music making. Create inter-school or inter-university ensembles (including instruments/parts outside the Western canon) and conclude modules with a public performance and a reflective essay/portfolio. Digital archives and repertoire “banks”. Develop/connect digital collections (audio, sheet music, video, cultural commentary) that facilitate access to materials from other cultures and reduce the resource barrier identified in the interviews. The practical value of the results is that they provide empirical evidence for the integration of intercultural modules into music teacher training and PD (CRP workshops, ensemble projects, digital repertoire archives, and microlearning with rubrics). At the policy level, this supports the need to update standards and curricula towards the structural inclusion of world music traditions. Further longitudinal, experimental and comparative studies are needed to test the sustainability of the effects and the transferability of the findings across countries. At the same time, an important perspective for further research should be comparative studies between countries in Central Asia, Eastern Europe, and other regions to test the extent to which the links between competence and PQ are universal or context-dependent. Another vector is the development and psychometric validation of instruments (beyond self-report), such as rubric assessment of lessons, portfolio analysis, and indicators of real repertoire integration.

## ACKNOWLEDGMENTS

The authors express their sincere gratitude to the academic reviewers and faculty mentors at Abai Kazakh National Pedagogical University for their insightful feedback and methodological advice during the design and implementation phases of this study. The authors also acknowledge the participating music educators who provided valuable time and perspectives that enriched the research process.

## FUNDING INFORMATION

Authors state no funding involved.

## AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

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O : Writing - Original Draft

E : Writing - Review &amp; Editing

Vi : Visualization

Su : Supervision

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## CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## INFORMED CONSENT

We have obtained informed consent from all individuals included in this study. All participants were fully informed of the study's aims, their right to withdraw at any stage, and the measures implemented to ensure anonymity and data confidentiality.

## ETHICAL APPROVAL

This study involving human participants was conducted in accordance with national legislation and institutional ethical standards and complied with the principles outlined in the Declaration of Helsinki. Ethical approval was granted by the Institutional Review Board (IRB) of Abai Kazakh National Pedagogical University (IRB protocol number: 2024-EDU-045, approved on 15 January 2024). The study did not include minors or vulnerable populations. Digital data were collected using Google Forms and securely stored on encrypted servers with restricted access.

## DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author, [ST], upon reasonable request.

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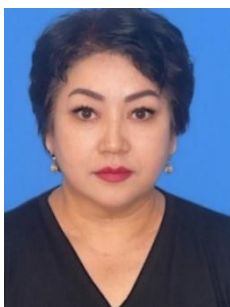
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