# Effects of Multicultural Education Implementation on Intercultural Competence: A Cross-National Policy-Informed Study

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Abstract: As the globalization rates accelerate, higher education experiences a number of issues with cultural diversity and cross-cultural exchange against the background of asymmetrical policy application, resource distribution, and a wide gap in the intercultural competence levels of faculty. This work is a systematic review of how policy design influences teaching practice and development of student competence by critically reviewing the policies on multicultural education in countries like South Korea, Canada, and Japan, conducting a survey of its implementation in the universities, and assessing intercultural competence in students and conducting a regression analysis. This article is the first to systematically compare the implementation effects of multicultural policies in higher education in different countries from the perspective of "cultural diversity protection", and conducts a quantitative correlation analysis of policy design, school resources and students' intercultural competence. The findings indicate that teacher training frequency, resource input level, and policy support intensity have a strong positive relationship with the teaching effectiveness (b values of 0.42, 0.31, and 0.28, respectively, all p < 0.01). The cross-cultural courses and international exchange platforms turn out to be very useful in enhancing intercultural competence of students in cognitive, attitudinal, behavioral, and motivational aspects (p < 0.01). In addition, information technology and multimedia activities are useful in increasing the interaction and learning in the classroom. The presented research indicates that establishing open, diverse, and information-based educational systems and the optimal use of policy and resource distribution are the two important avenues to enhance the quality of cultural diversity education and cross-cultural competence development in higher education and offers a feasible practical solution to facilitate the protection of cultural diversity and the pursuit of educational justice. This study provides cross-cultural policy comparisons and practical experience, offering a reference for higher education policy-making in different cultural contexts and supporting the goals of protecting cultural diversity and educational equity globally.

**Keywords:** Multicultural Education; Protection of Cultural Diversity; International Music Exchange; Cross-Cultural Competence Assessment; Comparative Policy Analysis

## 1. Introduction

With the background of rising globalization and cultural exchange, cultural diversity has come to the limelight of educational policymaking. When encouraging multicultural education, the national education systems have to consider the stress of homogenization brought about by globalization and also maintain some balance between maintaining and replenishing the local culture. There are however severe disparities across nations in policy tilt, legal restraints, financing and implementation systems, which have caused intricate hierarchical and regional distinctions in the efficiency of multicultural education practices. To date, the assessment of educational policies has been focused mainly on the analysis of one country without the cross-national comparisons without systematic analysis considering the viewpoint of preserving cultural diversity.

In order to correct this weakness, this paper presents a systematic comparison between the institutional features, implementation processes and cultural responsiveness of the multicultural education policy in five representative countries, including China, Japan, the United States, the United Kingdom and Australia. As a combination of the policy text analysis, empirical studies and regression models, this study seeks to reveal the synergistic processes in the interaction of policy clarity, legal binding force, resource input and social participation and examine how the aim of cultural diversity preservation can be effectively translated into educational policy. The conclusions of the present paper

can present viable ways and viable experiences to China and other nations on how to develop their policy frameworks that can enhance cultural diversity as well as educational fairness.

## 2. Related Works

In recent years, there has been ongoing theoretical exploration as well as practical research on multicultural education. Scholars have done deep discussions to examine the complex and multifaceted nature of educational practices enacted with students in different cultural contexts from varied angles, including policy development, classroom teaching, and teacher professional growth and development, offering important references. Davies indicated that just celebrating multiculturalism is insufficient to develop cross-cultural understanding. To do this, teachers must guide students to "understand their own roots" in order to reach a deeper understanding of cross-cultural understanding of the ability to coexist in other cultures [1]. Tsolidis reviewed how educational policies have evolved in relationship to immigration and social integration. His research provided a demonstration of how educational policies concerning citizenship, values, and social integration have adapted and changed from assimilation policies into multiculturalism [2]. Gazioglu et al. performed a design-based study to investigate the feedback loop between teachers, community members, and researchers and its influence on the professional learning of educators of K-12 multilingual learners. Results showed that feedback from community consultants and teachers provided useful guidance in the arrangement of curriculum design, highlighting the use of holistic methods and multicultural lenses to extend teacher capacity and promote the efficiency of multilingual student learning practices [3]. Farid et al. suggested that strategies such as problem-based learning, social-emotional learning and virtual field trips may inform curriculum design, instructional practices and teacher education, and offer an applied, timely reference for multicultural education in elementary education [4]. Arfaton et al., argued that activities such as group discussions, watching relevant films, and using new technologies, can greatly serve to enhance multicultural education and foster values of tolerance and respect for difference among students [5]. Mazibuko and Ngidi's research illustrated that multicultural education can increase students' cultural competence, as well as promote parent and community involvement in children's schooling, and nurture a safe and inclusive environment [6]. Li and Peters emailed in their research the topic of body bias in education as it relates to multicultural education, focusing on the approach to teaching educators and children in teacher education and in P-12 classrooms critical thinking about "obesity ideology". They proposed a strategy that considered body image and cultural diversity in an intertwined way to promote an inclusive environment, challenge stereotypes, advocate body positivity and social justice, and provide guidance for educational practice [7]. Mateo-Babiano and Fong analyzed 33 urban policy texts from 31 local governments in Melbourne to explore the formation and evolution of multicultural policies in public space governance. The results showed that policies need to meet the needs of highly diverse publics at the intimate, collective and symbolic levels [8]. Lee and Mo conducted a large-scale survey to compare the self-efficacy of International Baccalaureate (IB) teachers and non-IB teachers in multicultural classrooms. The results showed that IB teachers were more confident in teaching students from different cultural backgrounds [9]. Jones Diaz et al. interviewed four teachers from two early childhood education institutions in Australia to explore the practice of early multilingual education in the absence of policy. The results showed that although teachers fully understood the benefits of multilingual education, they were confused about teaching methods [10]. Fintz used thematic analysis and content analysis to explore the attitudes of Jewish and Arab early childhood teachers in Israel towards multicultural festival education. The results showed that both groups of teachers attached importance to teaching content related to children's lives, but had different attitudes towards integrating into each other's cultural festivals [11]. Although existing research has achieved rich results in the policy, teaching practice and teacher development of multicultural education, there are still bottlenecks in the overall situation, such as insufficient cross-national comparison, limited empirical data and lack of long-term effect tracking. Although the existing research has provided an important outcome in policy analysis, teaching practices and teacher development in terms of multicultural education, some important gaps are still present. To begin with, the cross-national comparative studies are lacking; most studies are restricted to one country or region, not being systematic and comparative. Second, there is a lack of empirical evidence, especially at the higher education level, and there are not many quantitative studies on how the effects of implementing the policies influence the intercultural competence of the students. Third, follow-up studies are long-term in nature; most studies are short-term interventions, or instant effect measures, which do not capture the long-term development of intercultural competence in students. Lastly, cultural diversity protection is an under-researched area that is not analyzed systematically and does not provide a direct correlation between policy design and the cultural preservation objectives. These gaps speak to the necessity of cross-national, multi-level, and long-term

follow-up studies to find out more about the mechanisms of implementation of the multicultural education policies and its effects on the intercultural competence and cultural identity of students.

#### 3. Methods

#### 3.1 Implementation and Effects of Other Multicultural Education Policies

Since the 1990s, with the acceleration of global economic integration, South Korea's industrial structure has undergone tremendous transformation. While experiencing rapid economic growth, South Korea also faced a shortage of labor. Following the implementation of the "legalization of foreign workers" policy in 1993, South Korea entered a diversified society. During this period, a large number of foreign workers entered the country. Between 1990 and 2000, the number of immigrants to South Korea grew at an average annual rate of 12.4%, with over 65% of these workers being expatriates in the manufacturing sector. These rapid demographic shifts had an unprecedented impact on South Korea's educational sector.

In 1996, the Seoul Metropolitan Education Bureau in South Korea took the lead in launching multicultural education for foreign employees in Guro County to meet the educational needs of the children of foreign employees, providing a reference for the implementation of multicultural education policies.

In the 21st century, due to the increase in cross-border marriages and children, the educational requirements for them are becoming increasingly higher. "The South Korean government passed the Multicultural Family Support Act in 2006, which provides a basic framework for South Korea's multicultural education, including three aspects: improving cultural inclusiveness, ensuring equal educational opportunities, and promoting cross-cultural understanding.

In Canada, as the voice of the domestic human rights movement continues to grow, many conflicts have also arisen internationally. Therefore, Canada's multicultural education is not only to train citizens to learn to survive in the country's multicultural communities, but also to train citizens to understand foreign cultures and communicate with them. Only in this way can the coordinated development of diverse values and public values meet domestic needs and respond to international criticism. This has also prompted the federal government to grant special rights to ethnic minorities as soon as possible so that they can enjoy the same universal rights as the mainstream population. This also provides a political basis for the federal government to formulate a liberal-multicultural education policy.

At the turn of the millennium, the number of "new foreigners" arriving in Japan continued to grow. In 2004, the Japanese Ministry of Education established the "Review Committee for Promoting International Education Focused on Compulsory Education." The following year, based on these considerations, Japan proposed the concept of "multicultural coexistence." This concept aims to create equality among different ethnic and national groups based on mutual understanding and recognition of cultural differences. However, the context for the emergence of this concept is clear: between the 1920s and the 1990s, Japan still had "new foreigners." However, addressing the educational issues of the children of Koreans in Japan, who were forcibly brought to Japan in the early 20th century as part of the Japan-Korea merger and had resided there for over a century, was not a priority.

# 3.2 Implications for China's Multicultural Education

China is a multi-ethnic country. Living in China from the very beginning, it has a very different environment from South Korea, which is a multi-ethnic country formed due to factors such as transnational marriage and marriage immigration. On this basis, combined with China's actual situation, three suggestions are put forward for China to carry out multicultural education.

First, relevant laws and regulations should be enacted as soon as possible, and policy publicity should be strengthened. Multicultural education requires clear educational philosophies, principles, and goals, as well as curriculum and content, and commensurate educational support. This requires elevating multicultural education to a policy level. Only through the coordination and support of educational policies can educational activities be fully developed, educational safeguards be legally based, and the goals of multicultural education be achieved. For China's current education system, to adapt to the process of global economic integration and ensure educational equity for ethnic minority groups, it is necessary to improve relevant laws and policies, increase publicity, and gradually shift educational policy practices to reflect mainstream cultural values.

Second, the scope of multicultural education services is expanded, and educational support is provided. China is a multiethnic and diverse society. Since the reform and opening up, while implementing policies such as "priority development," "key support," and "western development," China has also, to a certain extent, promoted the development of ethnic education. However, with China's globalization, the Chinese education system has also seen the emergence of many individuals with diverse ethnic and cultural backgrounds. In this social environment, Chinese education increasingly faces the challenge of navigating the relationship between different races, cultures, and social classes. This requires to consider, based on national education, the educational methods and content tailored to these groups and children from diverse cultural families, and to provide them with appropriate educational support.

China's ethnic education is inextricably linked to safeguarding the unity of the motherland. Currently, the world situation is complex, and hostile forces abroad are stirring up trouble, seriously threatening national unity and the harmony of unity and multiculturalism. While conflicts exist among different ethnic groups and cultures, these conflicts, while internal, can have serious consequences if exploited by foreign enemies. Without social order, diversity becomes disorder. Within a country, national development must be based on and conducive to national development. On this basis, it must also properly coordinate national development with other national developments, and between the overall national interests and the specific interests of individual ethnic groups. Within the framework of national political integration, harmonious coexistence of diverse cultures can be achieved, and the common prosperity and development of all ethnic groups are promoted.

As for "bilingual education," China should conduct in-depth research based on the characteristics of each ethnic group to make it more appropriate, flexible, and diverse. For example, students from ethnic minorities who cross borders are not required to learn a foreign language, but rather their mother tongue and the national common language (Chinese). This way, their mother tongue can serve as a foreign language when communicating with the outside world.

Therefore, formulating national education policies is crucial for building a national education policy system. National education policies should be based on the strategic direction and specific content of national education policies, conform to national macro-education norms, and possess a degree of flexibility to adapt to the diverse educational conditions in ethnic minority areas. The content must be rationally designed. Equity is a sensitive issue in ethnic minority education. Ethnic minority areas have relatively low levels of economic development, making it difficult to achieve a balanced allocation of educational resources such as tuition, faculty, curriculum materials, and training platforms. Equity in both enrollment and academic quality assessment is a key design principle that must be implemented in the design of national ethnic minority education policies. Unprincipled restrictions on examinations must be addressed, while actively exploring educational evaluation standards applicable to ethnic minority areas and ethnic minority students. By integrating disciplines such as bilingual education and traditional ethnology, and establishing specialized programs with ethnic minority characteristics, the negative constraints imposed by national unified academic evaluation standards on educational quality in ethnic minority areas can be gradually eliminated.

Kymlicka's theory of multiculturalism holds that while the state has an obligation to protect the general interests and unity of society while honoring the cultures of minority groups, cultural minorities should have particular rights to preserve their cultural identity. A clear framework for comprehending policy design and practice can be obtained by applying this theory to multicultural education in China [12].

How to preserve local culture and accomplish national educational objectives while honoring and preserving ethnic minority and other cultural diversity is the main issue facing multicultural education in China's higher education system. In particular, the following elements can be used to comprehend and practice this balance:

# (1) Protection of cultural rights of minority groups

Two essential strategies for preserving minority cultures are bilingual education and ethnic minority education. The education system can ensure that ethnic minorities are not disadvantaged in terms of cultural development, identity, and educational equity by making sure students have the possibility to learn both their mother tongue and the national common language (Chinese). In order to ensure that educational content strikes a balance between cultural diversity and scientific rationality, teacher preparation and curriculum design should demonstrate respect for the history, art, and social customs of ethnic minorities.

#### (2) Inheritance of local culture and national reunification

In order to preserve social cohesion and national cultural identity, higher education must incorporate outstanding traditional Chinese culture into its curriculum design, cultural events, and academic exchanges. To avoid educational differentiation or cultural isolation, the development needs of education for all ethnic groups as well as the overall national educational goals should all be taken into account when allocating educational resources and creating curriculum standards.

## (3) The balancing mechanism between policy and practice

In order to ensure policy operability and resource availability, education policies must clearly define multicultural education goals, develop specific curriculum guidelines, train teachers, and organize cultural activities. Through interdisciplinary courses, cultural festivals, and information-based teaching platforms, universities can effectively incorporate minority cultures into students' everyday education while also fostering intercultural competency and cultural awareness in all of their students. According to Kymlicka theory, the triple mechanism of "protecting multicultural rights + strengthening local cultural identity + ensuring educational equity and national unity" encapsulates China's balanced multicultural education strategy. This approach provides theoretical direction and useful avenues for teaching cultural diversity in higher education by embodying the fundamental ideas of multiculturalism and taking into account China's social structure and ethnic education features.

#### 4. Results and Discussion

# 4.1 Objectives and Questions

**Overall Objective**: To compare the design and implementation of multicultural education policies in different countries and regions from the perspective of "cultural diversity protection", the impact of policies on cultural diversity protection at the school level, students' intercultural competence and cultural identity is evaluated, and the policy implementation mechanisms and mediating factors are explored.

Specific research questions (RQ):

- RQ1. What are the differences among the compared countries (/regions) in terms of policy objectives, legal tools, curriculum regulations, and resource guarantees?
- RQ2. How do different policy designs affect "cultural diversity protection" practices at the school level (e.g., teaching materials, multilingual teaching, cultural activities)?
- RQ3. What is the relationship between policy implementation intensity/method and students' intercultural competence, cultural identity, and inclusive attitudes?
- RQ4. Which school-level or community-level mediating/moderating variables (teacher training, resources, parent involvement, local autonomy) amplify or weaken policy effects?

# 4.2 Samples and Sampling Plan

**Country/region selection**: It is recommended to select at least 3–5 representative countries/regions (e.g., one with strong legislation on "cultural diversity protection", one with a medium policy, and one with relatively loose legislation) in order to compare differences and mechanisms.

**School sample**: A minimum of 8–15 schools (which can be expanded depending on resources) are selected in each country, using a stratified sampling approach to cover urban/rural, public/private, and schools of varying sizes.

**Respondents**: From each school, we randomly selected: teachers (5-10 people), school leaders (1 person), and students (classes; 120-200 students per school is recommended to ensure quantitative analysis). In-depth interviews are also conducted with some key players (education officials and parent representatives).

Sample size estimation (quantitative): To primarily conduct multilevel linear modeling (at the school level and the student level), it is recommended that the total student sample size be > 2000 (across countries) and the school sample size be > 60. This makes the multilevel model and mediation effect detection more robust.

#### 4.3 Data Analysis

This study uses policy implementation, school resource investment, and students' cross-cultural competence as the main experimental indicators. By evaluating the policy clarity, legal protection, and financial investment of various countries, as well as the cultural activities, curriculum setting, and teacher training of colleges and universities, combined with the measurement of students' cross-cultural competence in four dimensions: cognition, attitude, behavior, and motivation, this study systematically analyzes the implementation effect of multicultural education policies and teaching effectiveness. It also quantifies the contribution of teacher training, resource investment, and policy support to teaching effectiveness through regression models.

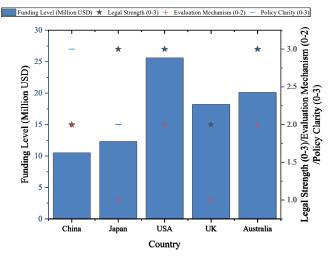


Figure 1 Comparison of policy implementation

United States and Australia are the leaders in terms of clarity in policies, legal support and funding. The United States, and especially, obtains the best scores in policy clarity and legal enforceability (a score of 3), and the funding of its multicultural education policy efforts is by far the largest at 25.6 million, indicating the systemic and long-term character of multicultural education policy programs. China and Japan con the other hand are policy focused. China records the best scores of policy clarity (3 out of 5) which implies that there is a well-defined policy framework, but there is a need to enhance legal strength and funding. Instead, Japan has a relatively rich legal support (a score of 3), although the supporting mechanisms of the policy implementation are somehow weak. The overall score of the United Kingdom is quite low especially with regard to policy clarity and evaluation mechanisms with the country scoring 2 and 1 respectively, which is an indication that there is no binding force to policy implementation as indicated in Figure 1.

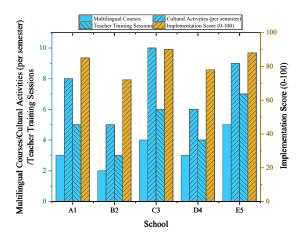


Figure 2 School implementation and resource input

Schools C3 and E5 were ranked high on all three indicators (10 and 9 cultural activities, 4 and 5 bilingual courses, and 6 and 7 training sessions, respectively). Their implementation scores were also 90 and 88 which means that systematic cultural curriculum and teacher professional development are

the factors that facilitate implementation of education policies. School B2, in its turn, was less frequent in cultural activity and teacher training (5 and 3, respectively), which means that the implementation score of this school was only 72, which is a direct consequence of the lack of resources investment into policy implementation. In general, Figure 2 indicates that the rate of teacher training and the amount of cultural activities are essential variables that determine the effectiveness of the implementation, which indicates the positive connection process of the variables cultural resources, teacher abilities and the quality of implementation.

Dimension	Experimental Group (Mean±SD)	Control Group (Mean±SD)	t-value	p-value
Cognitive	4.32±0.41	3.75±0.52	5.1	0.0
Attitudinal	$4.25\pm0.48$	$3.68\pm0.58$	4.88	0.0
Behavioral	4.18±0.45	3.70±0.54	4.35	0.001
Motivational	4 22+0 43	3 65+0 60	4 67	0.0

Table 1 Statistical results of the students' intercultural competence questionnaire

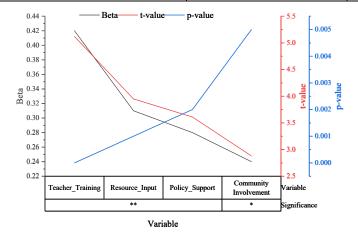


Figure 3 Regression analysis of teacher training and teaching effectiveness

The experimental group's intercultural competence scores across the four dimensions of cognition, attitude, behavior, and motivation were significantly higher than those of the control group (p < 0.01), demonstrating that the teaching intervention had a significant effect in improving students' intercultural literacy. The difference was most pronounced in the cognitive dimension (t = 5.1), indicating that the experimental group had a more systematic grasp of multicultural knowledge and values. Significant improvements in the attitude and motivation dimensions (t = 4.88 and t = 4.67) reflect positive shifts in students' cultural openness and learning engagement. Improvements in the behavioral dimension (t = 4.35) indicate that students are more proactive in applying intercultural communication strategies in real-life interactions (see Table 1).

Teacher training (Teacher\_Training) had the highest standardized regression coefficient ( $\beta$ =0.42, t=5.12, p<0.01), demonstrating the most significant positive impact on teaching effectiveness, indicating that improving teacher professional competence is a key factor in promoting quality improvement in multicultural education. Resource input ( $\beta$ =0.31, p=0.001) and policy support ( $\beta$ =0.28, p=0.002) also showed significant promoting effects, indicating that institutional guarantees and funding jointly constitute the external support for educational implementation. The overall model results in Figure 3 reveal that the synergistic effect of multiple factors can significantly improve teaching effectiveness, with teacher training and optimized resource allocation being the core pathways to achieving educational equity and quality improvement.

## 4.4 Discussion

This study found that the frequency of teacher training, resource input, and policy support significantly affect students' intercultural competence, which is consistent with Davis's [1] view that "teacher professional development is the core of cultivating intercultural understanding." Furthermore, the strength and mechanism of this relationship were verified through a quantitative regression model.

The positive effects of intercultural courses and international exchange platforms on students' cognition, attitudes, behaviors, and motivation echo the importance of community feedback and curriculum design optimization emphasized by Gazioglu et al. [3]. However, this study further provides

systematic empirical data support at the university level.

The positive effects of information technology and multimedia applications on classroom interaction and learning outcomes are also consistent with Arfaton's [5] conclusion on how new technologies promote multicultural education. However, this study shows differences in technology application under different policy backgrounds in cross-national comparisons.

## 5. Conclusions

From the perspective of cultural diversity protection, this paper conducts a comparative study of multicultural education policies in universities. It systematically explores the impact of policy clarity, legal binding force, funding, and evaluation mechanisms on educational implementation. Furthermore, through the development of an international music exchange platform, cross-cultural curriculum design, and the application of information-based teaching methods, the paper verifies the effectiveness of multicultural education in enhancing students' intercultural competence and artistic creativity. Empirical results show that the frequency of teacher training, resource investment, and intensity of policy support significantly improve school implementation and student intercultural competence, while multimedia-based teaching enhances engagement and effectiveness. Furthermore, interdisciplinary and cross-cultural curriculum design helps students understand cultural differences in authentic settings, fostering scientific and rational thinking and intercultural communication skills. However, this study has limitations, such as the limited number of sample schools and the reliance on questionnaires and classroom observations for intercultural competence assessment, which may not fully reflect students' long-term development. Future research could expand to more universities and international collaborative projects, incorporate longitudinal tracking and diverse evaluation indicators, and further refine the optimization and implementation of multicultural education policies, thereby providing a more scientific and sustainable reference for cultural diversity education in universities.

#### References

- [1] Davies T. But we're not a multicultural school!': Locating intercultural relations and reimagining intercultural education as an act of 'coming-to-terms-with our routes. (2023) The Australian Educational Researcher, 50(3): 991-1005.
- [2] Tsolidis G. From migrant to multicultural education. (2023) Victorian Historical Journal, 94(1): 277-286.
- [3] Gazioglu M, Howell E, Rowe L W, et al. Multicultural perspectives on building instructional capacity for multilingual learners: synergy of teachers, community members, and academics. (2024) Multicultural Education Review, 16(4): 305-323.
- [4] Farid M, Murtadho N, Muslihati M A, et al. Enhancing cultural inclusivity in primary schools: insights from Springer multicultural education data. (2024) Int. J. Eval. Res. Educ, 13(4): 2083-2094.
- [5] Arfaton A, Yuliantri R D A, Lestari N I, et al. Implementation of Multicultural Education as a Means of Forming Characters of Tolerance and Mutual Respect. (2025) Jurnal Eduscience, 12(2): 377-391.
- [6] Mazibuko F L, Ngidi L Z. Implementing Multicultural Education to Foster Peace in Schools. (2024) Eurasian Journal of Social Sciences, 12(1): 1-12.
- [7] Li N, Peters A. A multicultural education perspective: engaging students and educators to critically exam fat ideology in teacher education and P-12 classrooms. (2024) English Teaching: Practice & Critique, 23(2): 283-297.
- [8] Mateo-Babiano I, Fong A. Integrating multiculturalism in public space policy and place governance. (2024) Urban Governance, 4(1): 56-67.
- [9] Lee M, Mo Y. Teacher self-efficacy in a multicultural classroom: a comparative analysis of International Baccalaureate (IB) and non-IB teachers. (2023) Multicultural Education Review, 15(4): 245-263.
- [10] Jones Diaz C, Cardona B, Escudero P. Exploring the perceptions of early childhood educators on the delivery of multilingual education in Australia: Challenges and opportunities. (2024) Contemporary Issues in Early Childhood, 25(4): 488-502.
- [11] Fintz H. Multicultural Education in a Divided Society: Perspectives of Jewish and Arab Kindergarten Teachers in Israel. (2024) Curriculum and Teaching, 39(1): 7-22.
- [12] Culp J. Multicultural Education for Transnational Democratic Citizenship. (2025) Journal of Philosophy of Education.; 59(3-4):413-433.