SCIENTIFIC SIGNIFICANCE OF DEVELOPING STUDENTS' ETHNOCULTURAL COMPETENCE

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Annotation. *This thesis provides a systematic analysis of the scientific significance of developing students' ethnocultural competence (EC). It describes the cognitive, affective, and conative components of EC and modern measurement tools (IKT, EES, CQS). Within the context of globalization, digital transformation, and labor market demands, the study substantiates the social (62% reduction in ethnic conflict risk), economic (27% increase in income), and methodological (interdisciplinary approach) importance of fostering EC. The research is based on empirical data and Scopus/WoS sources from 2021–2026.*

Keywords: *ethnocultural competence, intercultural communication, students, globalization, artificial intelligence, cultural intelligence, social sustainability.*

Introduction. Globalization, migration, and the intensification of cross-border educational reforms have made the development of ethnocultural competence in modern society a pressing scientific problem. According to the 2025 UNESCO report, 78% of students worldwide communicate with representatives of at least two different ethnic cultures in their living environment.

Uzbekistan, as a multi-ethnic and multicultural society, is historically a country where various ethnic groups (Uzbeks, Karakalpaks, Tajiks, Kyrgyz, Turkmens, Russians, Koreans, Tatars, and others) have lived in harmony. As

of 2025, representatives of more than 130 nationalities and ethnic groups reside in Uzbekistan, which turns the development of ethnocultural competence not only into a matter of social stability but also into a priority direction of state policy. Paragraph 5.2 of the "O'zbekiston – 2030" Strategy sets the task of "strengthening the atmosphere of interethnic harmony in society and developing friendly relations with foreign countries." Furthermore, the Decree of the President of the Republic of Uzbekistan No. PF-6097 of October 29, 2020, "On the Concept for the Development of Science until 2030," includes as a separate module the training of highly qualified scientific and engineering personnel and their orientation toward research activities.

In recent years, the open education policy implemented in our republic, the establishment of branches of foreign universities, and the increase in student and teacher mobility within the framework of Erasmus+ and Mevlana exchange programs have been important factors in integrating Uzbekistan's higher education system into the international intercultural environment. In 2025, more than 12,000 foreign students studied at 45 higher education institutions in Uzbekistan. Under these very circumstances, local students' deep understanding of their own ethnic culture, along with their acquisition of open, tolerant, and constructive communication skills toward representatives of other nationalities, has become a pressing pedagogical problem.

However, monitoring conducted in Uzbekistan's higher education system has shown that the level of students' ethnocultural competence is insufficient: only 34% of respondents feel at ease in intercultural communication, while 58% perceive behaviors not typical of their own nationality as "alien" [1]. Clearly defining the scientific foundations, methods, and effectiveness criteria for developing ethnocultural competence in students is a requirement of the times.

Therefore, the study of ethnocultural competence from pedagogical, psychological, and sociological perspectives requires not only scientific

justification as a matter of social stability but also as a demand of the labor market, and necessitates the formation of these social development issues at a high level – not only for students but for everyone.

To this end, attention should be focused on the following:

1. Scientific concept of ethnocultural competence.

Ethnocultural competence is an individual's ability to relate adequately and communicate effectively with respect to their own and other ethnic cultures at the cognitive (knowledge), affective (emotional), and conative (behavioral) levels.

Recent literature (Lu Baowen, 2022; A. Isomiddinov, 2025) has demonstrated that ethnocultural competence consists of the following components: [1,2]

Component	Description	Measurement tool
Cognitive	Knowledge of the history, values, and norms of ethnic groups	Intercultural Knowledge Test (IKT, 2024)
Affective	Empathy, tolerance, and a critical attitude toward stereotypes	Ethnocultural Empathy Scale (EES, 2023)
Conative	Adaptive behavior in intercultural communication	Cultural Intelligence Scale (CQS, 2025 version)

2. Main Directions of Scientific Significance:

2.1. Development of an integrative methodology:

The study of ethnocultural competence is acquiring an interdisciplinary character. We must pay attention to the fact that new research paradigms are being formed at the intersection of pedagogy, psychology, ethnology, linguocultural studies, and artificial intelligence technologies [4]. This leads to the development of comprehensive diagnostic tools (e.g., the 4-factor model of cultural intelligence).

2.2. Substantiation of social stability mechanisms:

In 2024, a comprehensive study (n=2150 students) involving 14 countries (Uzbekistan, Kazakhstan, Turkey, Germany, USA) showed that in student groups with a high level of ethnocultural competence, the risk of ethnic conflicts is 62% lower, and the social trust index is 2.3 times higher [6].

2.3. Scientific proof of economic efficiency:

According to the World Economic Forum report (2025), the demand for interculturally competent specialists is growing by 18% per year. According to sources [7], the initial monthly salary of graduates with developed ethnocultural competence is on average 27% higher compared to students with low ethnocultural competence.

2.4. Digital transformation:

A 2025 systematic review (Basantes-Andrade et al.) found that virtual exchange programs (e.g., the COIL model) increase students' ethnocultural competence by 39.1%. The most effective digital tools include: simulations (47.8%), interactive maps (33.5%), and cultural chatbots (18.7%).

3. New directions in recent research:

Neuropedagogical approach – In 2025, using fMRI, it was proven that ethnocultural competence training increases the activity of the medial prefrontal cortex of the brain [9].

Artificial intelligence and diagnostics of ethnocultural competence – The AI-CQ (Artificial Intelligence Cultural Quotient) algorithm, developed in 2026, automatically analyzes cultural stereotypes in students' written and spoken speech with 94% accuracy.

Integration of Indigenous (local ethnic) knowledge – Between 2024 and 2026, the traditional pedagogical tools of the Karakalpak, Kyrgyz, and Tajik ethnic groups were successfully integrated into ethnocultural competence programs in Uzbekistan.

Conclusion. The problem of developing students' ethnocultural competence is leading to the formation of a new scientific paradigm at the intersection of modern pedagogy, psychology, and social sciences. Based on the analysis conducted in this thesis, the following final scientific conclusions can be drawn.

First, ethnocultural competence is no longer interpreted narrowly as merely “Intercultural communication skills”. On the contrary, it is a complex, multifactorial, and dynamic personal structure whose cognitive, affective, and conative components have been empirically identified, and valid measurement tools (CQS, EES, IKT) have been developed. This situation scientifically substantiates ethnocultural competence as an independent object of pedagogical research.

Second, empirical studies conducted between 2021 and 2026 have quantitatively proven the social and economic effectiveness of developing ethnocultural competence:

- In student groups with a high level of ethnocultural competence, the risk of ethnic conflicts is reduced by 62% [6];
- The initial monthly salary of such graduates is 27% higher compared to students with low ethnocultural competence [7];
- The demand for interculturally competent specialists in the global labor market is growing by 18% per year [8].

These figures transform the development of ethnocultural competence into a scientifically justified direction not only from a humanitarian but also from an economic perspective.

Third, in the context of digital transformation, the technological channels for developing ethnocultural competence have been scientifically validated. Virtual exchange programs (the COIL model) increase the level of ethnocultural competence by an average of 39.1%, while artificial intelligence-based diagnostic systems (AI-CQ) can automatically analyze

ethnic stereotypes in students' written speech with 94% accuracy. This demonstrates the necessity of introducing the concept of "digital intercultural competence" into pedagogy and developing its methodology.

Fourth, the number of articles indexed in Scopus and Web of Science on this topic has increased 3.5-fold over the past five years, indicating a qualitative growth in scholarly interest in the problem of ethnocultural competence. In particular, in Uzbekistan during 2024–2026, applied research was conducted on integrating traditional pedagogical tools of local ethnic groups into ethnocultural competence programs, which signifies the emergence of a regional scientific school.

The results show that the development of students' ethnocultural competence has become one of the strategic directions of modern educational science. It is not only a theoretical pedagogical problem but also a factor directly influencing real socio-economic and technological processes. It is advisable that further research develop along the following three directions:

- ✓ widespread implementation of artificial intelligence and neuropedagogical approaches in the diagnostics and training of ethnocultural competence;
- ✓ studying the ethno-national specificities of ethnocultural competence development in different cultural contexts (e.g., Uzbekistan, Central Asia);
- ✓ developing adaptive, cross-culturally invariant norms for assessing ethnocultural competence.

Thus, this analysis of the development of students' ethnocultural competence has revealed the relevance of the problem, its quantitatively and qualitatively proven effectiveness, and scientifically new promising research directions.

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