

Essence and Content of the Multicultural Competence of Engineering Students

Vasilyeva E.R.

Department of Humanities and Socio-Economic Sciences
 Ufa State Petroleum Technological University, Branch of the University in the City of Oktyabrsky
 Oktyabrsky, Republic of Bashkortostan, Russia
 vasilyeva@mail.ru

Abstract — Modernization of the system of engineering education is determined by globalization and internationalization of the world community. In the 21st century, the educational process requires perfect methodological knowledge and new approaches to the higher engineering education system in the global space. At the moment, higher education focuses on continuous training of specialists able to transfer national, cultural, and inter-ethnic values. Foreign language learning is acquisition of knowledge and skills which develop a personality. The purpose of the article is to describe the multicultural competence of engineering students on the basis of its components. The article specifies the content and development stages for the multicultural competence and identifies levels and criteria of the structural-functional model of development of the multicultural competence in engineering students.

Keywords — *multicultural competence; technical university; structure; pedagogy; humanitarian sciences*

I. INTRODUCTION

Education technologies do not take into account and do not contribute to the “integrative nature” of multicultural competence of university students. They do not solve this problem as a key task of the educational process and do not consider solutions as an educational task [1].

Significant resources of multicultural education is understanding the fact that the multicultural nature of a person is not of genetic origin. It is socially determined and can be formed if multicultural education is a subject of the main curriculum. Thus, organized multicultural education based on an interdisciplinary approach and aimed at forming cultural reflection is a basis for the educational process. The result of this educational process is multicultural thinking which is a reflection of modern global trends in the educational sphere and the “moral framework” of the individual. The situation demonstrates the need to transfer knowledge and form a picture of the material and spiritual world, transmit national and universal spiritual, cultural and moral values”.

II. RESULTS AND DISCUSSION

A leading component of the vocational education the is training quality, namely, the relevance of professional training for “challenges of the society” viewed through “professional competence”. The result of vocational education is competence as willingness to perform professional functions

in accordance with social standards and norms. It is relevant for both humanities and engineering students [2].

Engineering education is an essential part of the system of higher education in Russia. The analysis of scientific works identified the difference in research objects chosen characterizing priorities of researchers in the space of technical universities. Performance of engineers depends on the levels of training, education and development of spiritual, moral and socio-psychological culture.

The higher the level of culture and general education, the easier to solve technical problems. New requirements are imposed on engineering graduate students:

- “planetary thinking” based on universal values, developed citizenship and intercultural competence;
- self-development, self-education, professional self-determination to achieve professional skills in the global multicultural environment;
- readiness for innovation, implementation of innovation processes into the education system focusing on the professional competence of a graduate [3].

A higher educational institution trains skilled specialists and intellectuals able to understand the “nature-man-equipment” system. Therefore, apart from mastering fundamental knowledge, professional training is required. It is necessary to develop the general and professional culture.

The analysis of peculiarities of the educational process in the technical university identified features determined by the following factors:

- objective factors: the structure of educational standards and curricula (compared to other academic disciplines, “Foreign Language” has specific capabilities in the educational field, since lectures are not delivered);
- subjective factors: humanization of the system of technical universities and additional requirements for improving the quality of culture of teaching and communication.

Official documents specify five core competencies:

1. Socio-political competence: joint decision-making by improving democratic institutions.
2. Multicultural competence: understanding differences, respect for each other, ability to live with people from other

cultures, speaking different languages and adhering to different religions.

3. Communicative competence: knowledge of spoken and written language, knowledge of a foreign language.

4. Information competence: application of information and communication technologies that contribute to critical assessment of the information received.

5. Self-development competence: improvement and development of professionalism.

Based on these competences, multicultural competence in the multicultural society should be analyzed.

In Russian pedagogy, development of the multicultural competence in the professional training has been studied for a long time [4].

The issues of multicultural education and a competence-based approach in the technical university have been analyzed. Special attention is paid to the issues of inter-ethnic interaction of young people in the multicultural educational environment of the university. The multicultural educational environment of the university is a system of conditions aimed at the development of tolerance and readiness for effective inter-ethnic and intercultural coherence. It can be expressed as communication and collaboration with people from other cultures, awareness of the need to preserve national identity and importance of cultural diversity.

The controversial issues in the modern educational environment are as follows:

- accounting for the ethnocultural factor involving the creation of conditions for “integration with the world cultural and educational space”;
- description of organizational and pedagogical conditions for training engineers who will be competitive in the “global labor market”;
- communicative creativity and intercultural competence in the technical university;
- interethnic tension and ethnocentrism in the student environment, insults on representatives of other nations, etc. [5]

These problems are consistent with the exceptional relevance of continuous development of the multicultural competence.

Development of the multicultural competence in students is a key to successful professional activities of future professionals. The multicultural competence of university is an integrated personality professional quality expressed in knowledge, skills, and creative views on cultures and traditions of peoples (the primary basis is ethnic culture).

The multicultural competence of engineering students is an integrative characteristic of student’s personality, ability to solve various tasks using knowledge, skills, competencies, value relationships and experience. It includes motivational, value, cognitive and behavioral components and allows for effective interaction of students in the multicultural environment of the technical university using resources of the "Foreign Language" course.

The multicultural competence includes a set of competencies: reflection on the ethnic diversity of interacting and own beliefs, knowledge of diverse cultures; technologies which are in compliance with ethnic characteristics.

The areas of development of the multicultural competence are as follows [6]:

- formation of the culture and knowledge system which implies a high level of knowledge of cultural diversity in space and time, allowing for creative activities of the individual in the multicultural environment;
- development of the behavior culture corresponding to the multicultural environment;
- formation of the self-development culture in the multicultural environment;
- formation of the emotional culture corresponding to the multicultural environment.

To understand the process of formation of the multicultural competence, the following approaches should be considered: activity, culturological, axiological, systemic, integrative cultural.

The activity approach is associated with the structure of the personality, taking into account structural components of the personality. In terms of social pedagogy, the following components can be distinguished in the structure of the personality: orientation (social forces of the personality: needs, interests, attitudes, value orientations, beliefs, worldview) and personal experience (knowledge, skills, habits). Student’s personality (motives, goals, interests, needs, value orientations) is in the center of the education process. Therefore, the educational process should be based on cognitive needs and interests of the student.

In the activity approach, there is an activity component defined as “a form of manifestation of personality activity, social mobilization caused by needs and aimed at knowledge acquisition and transformation of life activities”. Interaction of students and teachers in such forms as orientation, adjustment, evaluation, stimulation, fixation of practical activities is a determinant. Therefore, it determines the dynamics of multicultural competence development.

The culturological approach performs a system-forming function in improving the pedagogical practice and implementing the principle of culture-specific education. Education is viewed as interiorization (appropriation) and development of cultural achievements. The culturological approach is based on ethno-pedagogy which is relevant to the education of both Russians and Tatars, Chuvash, Bashkirs, Germans and many other peoples living in Russia.

The axiological approach considers education as a socio-pedagogical phenomenon reflected in its main ideas: universality and fundamental nature of humanistic values, unity of goals and means, priority of the idea of freedom.

Universality of humanistic ideas is due to their applicability to all individuals and social systems. In the humanistic worldview, it is possible to go beyond cultural relativity, national, economic, religious, racial or ideological

differences, which is reflected in right to life, love, education, moral and intellectual freedom. The important thing interaction of universal and national values of humanism [7].

The fundamental nature of humanistic values is due to the fact that they are not secondary values. The unity of ends and means is impossibility to achieve goals using these means. The priority of the idea of freedom is due to the fact that freedom is an element of other social values.

The systemic approach presents structural, functional and integrative components of the multicultural competence.

The integrative culturological approach is based on declaration of universal human values; restoration of foundations of humanistic, democratic education; personality development; accounting for the socio-cultural situation; preservation, reproduction and development of culture by creating its new forms.

Along with axiology, the integrative-culturological approach makes it possible to carry out the most important activities:

- orientation to socially and personally significant values, understanding of the value of common cultural knowledge;
- formation of a valuable attitude of students to future professional activities;
- development of positive motivation to form the multicultural competence [8].

The structure of multicultural competence of engineering includes motivational and value, cognitive and activity-behavioral components that ensure organizational and educational integrity of the multicultural competence of engineering students and contribute to effective professional activities.

1. The motivational value component is perception of future professional activities as a value; the need for formation and self-education of the multicultural competence; the need for continuous personal development and self-development.

2. The cognitive component assumes formation of a system of multicultural knowledge as an indicative basis for the personal activities in the multicultural society. The cognitive component of multicultural competence includes a system of knowledge, including knowledge of culture; values of world culture and individual cultures; interaction in the multicultural society; methods of multicultural competence development; culture of communication in the multicultural society. The system of knowledge included in the cognitive component is a basis for understanding the holistic multicultural picture of the world which explains the role of a person in the system of the universe; socially safe methods and ways of life contributing to interaction with people of different cultures; moral and ethical attitudes, emotional-value attitudes to representatives of other cultures and own cultural environment, etc.

3. The activity-behavioral component involves development of communicative skills which contribute to formation and involvement in inter-, intracultural communication with representatives of foreign cultures; self-

development; independent creative activities aimed at solving problems.

Multicultural education in the technical university is considered as

- a new phase of humanization of the educational process;
- a new factor in development of the multicultural educational environment contributing to tolerant views of students;
- conditions of a competitive engineer;
- means for preventing nationalism, separatism, radicalism, and xenophobia present in the student environment [9].

The tasks of multicultural education of oil and gas engineers are as follows: formation of ideas about diversity of cultures in the world and in Russia; deep and comprehensive learning of the basics of interethnic culture which is a condition for integration into other cultures; development of a positive attitude towards cultural differences contributing to the progress of humanity and self-development of the individual; development of skills for productive interaction with representatives of different cultures; development of tolerance in future oil and gas engineers; education of a person as a subject of culture able to communicate with other people; formation of positive views on world and Russian cultural heritage; development of personal cultural self-determination; formation of cultural (ethnic) identity, etc. [10].

III. CONCLUSION

Thus, the level of multicultural competence of the future engineer, namely the oil and gas engineer, contributes to constructive consistency and brings communication to a new level which is a condition for quiet coexistence and interaction of different cultures.

References

- [1] O.V. Danilova, "Peculiarities of Forming General Cultural Competences in Students of Institutions of Higher Technical Education by Means of Interdisciplinary Integration", SHS Web of Conferences, vol. 50, pp. 1–5, 2018 [CILDIAH–2018 – Current Issues of Linguistics and Didactics: The Interdisciplinary Approach in Humanities and Social Sciences]. DOI: 10.1051/shsconf/20185001216
- [2] E.R. Vasilyeva, A.R. Nurutdinova, "The academic model of managing integration processes: study case of the multicultural educational space", SHS Web of Conferences, vol. 50, pp. 1–3, 01223, 2018 [CILDIAH–2018 – Current Issues of Linguistics and Didactics: The Interdisciplinary Approach in Humanities and Social Sciences]. DOI: 10.1051/shsconf/20185001223
- [3] L.Z. Samigullina, E.F. Samigullina, "Linguistic and normative aspects of oil and gas business terminology", SHS Web of Conferences, vol. 50, pp. 1–5, 01220, 2018 [CILDIAH–2018 – Current Issues of Linguistics and Didactics: The Interdisciplinary Approach in Humanities and Social Sciences]. DOI: 10.1051/shsconf/20185001220
- [4] O.V. Gukalenko, V.P. Borisenkov, "Multicultural education in the conditions of globalization", SHS Web of Conferences, vol. 29, pp. 1–5, 2016 [International Conference "Education Environment for the Information Age" (EEIA–2016)]. DOI:10.1051/shsconf/20162901026
- [5] A. Amin, "Ethnicity and the multicultural city: living with diversity", Environment and planning A, vol. 34, pp. 959–980, 2002.

- [6] E.R. Vasilyeva, I.M. Sinagatullin, “Regional and ethnocultural specifics for developing intercultural and lingua-cultural competences: the pedagogical strategy”, SHS Web of Conferences, vol. 50, pp. 1–4, 01222, 2018 [CILDIAH–2018 – Current Issues of Linguistics and Didactics: The Interdisciplinary Approach in Humanities and Social Sciences]. DOI: 10.1051/shsconf/20185001222
- [7] M.Ya. Khabibullin, L.Z. Samigullina, L.Z. Zainagalina, “Laboratory studies for the momentum of liquid optimal impact on hydrocarbon formation”, *Advances in Engineering Research (AER)*, vol. 157, pp. 276–279, 2018 [International conference “Actual issues of mechanical engineering” (AIME 2018)]. DOI: 10.2991/aime-18.2018.53
- [8] A. Nurutdinova, E.V. Dmitrieva, E.A. Nelyubina, L.R. Nurova, K.R. Wagner, “The interactive education in teaching languages: microblogging as the way to improve postgraduate students’ communicative interaction in English”, *XLinguae*, vol. 11, pp. 120–135, 2018.
- [9] N.V. Krasilnikova, N.A. Biryukova, I.M. Sinagatullin, S.A. Gaponova, S.A. Domracheva, “Internationalisation of Curriculum at a University as an Integral Part of its Strategic Development”, *The Social Sciences*, vol. 11, pp. 1792–1797, 2016.
- [10] A. Nurutdinova, R.N. Tukaeva, I.S. Solodkova, A.A. Katekina, “Intercultural Communicative Competence in Hospitality Managers’ Training and Regional Tourism Attractiveness”, *Educational Researcher*, vol. 47, pp. 979–986, 2018.