

Modern Approaches to Tolerance Formation as General Culture Competence of Students of Engineering Specialist Field

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Abstract— In the article the actuality of tolerance formation as general culture competence of students of engineering specialist field is justified from the point of view of scientific approaches. The significance of tolerance formation is stressed for students and future managers, whose destination is to regulate relationships in the collective body, to make constructional decisions.

Keywords— scientific approaches; polytechnic education; tolerance; formation; values; interactive education; engineering specialist field; educational process.

1. INTRODUCTION

Nowadays, in the conditions of speed-up introduction and development of new technologies the necessity of qualitative preparation of engineering staff is growing, the requirements to the profession are rising. To get technological, economic, independence of the state, it is necessary to create breakthrough technologies and on their basis to form our own powerful production capacities, which actualize the problem of search for innovation approaches to the improvement of the system of technical education to the changing realities. In modern conditions, future specialist must have an ability not only to ensure the work of complicated equipment and correspond to the level of world standards but also to be able to work in a team, to orient in any situation, based on the principles of tolerance.

Modernisation of higher education (introduction of Federal State Education Standard of Higher Education (FSSES HE) 3+) is connected with a qualitative renewal of the contents, which implies tolerance formation of future engineers as general culture competence.

The paradigm of professional education brings together thinking and doing subject in the process of formation of a personality, aiming at studying culture as a complicated and multidimensional phenomenon, as well as at formation of value system, motives, mindset, interests, styles of behavior in the society in students.

Tolerant consciousness of a person implies his having the highest form of the reflection of the objective world, which underlines tolerance as the main criterion of reflection and systemic, leading value.

Tolerance is respect to something alternate, different from yours; forbearance to the variety of people, any objects of the material and ideal world, understanding of the quality of the existence of people (objects) at different relatively to each other but unique for all stages of their development [1].

For successful organization and realization of polytechnic education it is necessary to pay attention to the points, which comprise its methodological basis. Scientific approaches are as such.

Methodological background on the basis of the complex of scientific knowledge on the problem of tolerance and its place in the modern polytechnic educational process, we consider reasonable to see ideas and principles of scientific approaches, which keep up with nowadays tasks. Let us see and expand each of them separately.

In pedagogical psychological literature the notion "approach" is considered as a special form of cognitive and practical activity; as a study of pedagogical phenomena from a certain angle of view; as a basis which is chosen as invariant in the analysis and design of any phenomenon; as a strategy of study of the process in question; as a base value orientation, influencing the position of a teacher; as a method of structuring of the object under examination and etc.

From the point of view of Z.R.Tanaeva [2], in modern studies an approach is seen as a way of perception and transformation of the reality, i.e. for realization of set-up targets, it fulfills methodological functions, connecting theoretical development with practical activities.

"Approach" in education is seen as a worldview category, in which social mindset of subjects of education as media of public consciousness is reflected; as a certain position, influencing the study, design and organization of the educational process [3].

The transition of higher professional education to the standards FSSES HE 3+ makes the problem of competences and filling the standards with their contents actual and key in the educational paradigm. In this connection recently in pedagogical psychological studies competence approach has been used (V.I.Andreev, V.P.Andronov, L.K.Geifman, L.N.Bogolyubov, N.N.Egovtseva, I.A.Zimnyaya, E.A.Utkin, A.V.Khutorskoy and others). It is necessary to state that competence approach

in the defining of aims and contents of general education is not new at all and far from alien for a Russian school. Orientation towards the mastering of skills, ways of activity, moreover generalized ways of action was the leading one in the works of such native teachers and psychologists as M.N.Skatkin, V.V.Kraevskiy, G.P.Schedrovitskiy, V.V.Davidov and their followers. In this field educational materials and technologies were developed. However, this orientation was not defining; it was practically not used in the development of typical educational programs, standards, value procedures.

The notion of “qualification” has changed, so the question of competence of specialists of a new type arises. Besides, in the native professional education the theme of necessity of convergence of professional education quality with the level of countries of the world community has been discussed.

In the modern situation, generalized approaches of personally oriented education have become specially actual in the problem of training of the engineering staff (N.A.Alexeev, B.G.Ananiev, L.S.Vygotskiy, E.A.Klimov, V.V.Kraevskiy, A.N.Leontiev, S.L.Rubinshtein, I.S.Yakimanskaya and others). The reason for this is also the change of social economic conditions in the country in the 90-ies of the XX century, transition to the market economy.

Personally oriented education is characterized by holistic view on the student as a personality, orientation towards the needs, personal experience and the level of his actual development, and construction of educational process in the sphere of the closest development of the student.

The aim of personally oriented professional education is the development of a personality in the process of professional education, acquiring of profession and fulfilment of professional activity.

Modern polytechnic education actualizes the use of synergetic approach to the organisation of educational practice. Synergetic approach is seen as methodology, proving the view of education as a whole as well as of its participants as self-developing systems (V.I.Andreev, V.G.Budanov, V.A.Ignatova, V.D.Grachev and others).

Synergetic approach is connected, in the first place, with the process of formation of intellectual creative abilities of future engineers. Professional standards are oriented towards all-round development of the personality in the process of education. Quick development of computer graphics, innovation processes of modelling of production technologies require readiness of engineering staff for conceptual thinking, maturity of creative intuition, creative abilities – all this is possible to be realized in the process of the use of synergetic approach during professional training of future engineers.

In the conditions of modern Russia, axiological approach in the education has become actual in the training of highly-qualified staff, ready for successful activity in the society. This was due to a new social economic situation in the country, transition to market economy.

It is also necessary to consider that the questions of formation of value attitude of a future engineer are of a theoretical and practical importance for scientific justification and, as a

consequence, for realization of axiological approach in the sphere of higher professional education.

Works of axiological trend in education and psychology of professional education (A.G.Asmolov, Y.Korchak, A.Maslow, V.A.Slastenin, E.F.Zeer and other researchers) have influenced the methodology significantly.

Axiological approach in the education implies that principles of education are based on the formation of the system of universal human values of students. From the point of view of axiological approach, value orientations are the main axis of consciousness, which ensures the stability of a personality, the succession of a certain type of behaviour and activity and it is expressed in the direction of needs and interests [4].

Values are generalized aims and means of their reach, accomplishing the role of fundamental norms. They ensure society integration, helping individuals to carry out socially approved choice of their behavior in important vital situations as well as in professionally important situations [5].

According to the opinion of M.A.Mannanova, value approach defines tolerance exactly and in-depth as value attitude of a person to people, expressing itself in his acknowledgement, taking and understanding of representatives of other cultures, tolerance is connected directly with moral aspect of human relationships, as a consequence with complicated and many-sided system of moral education of a personality [6].

Studying the problem, it is worth noting the demand for the specialist of a new format, being specific for his creative type of thinking, creative attitude towards making decisions in the constructive dialogue with partners. This, in its turn, requires conditions for creative activity on the basis of tolerance with the use of interactive approach in the education, allowing forming and developing critical thinking.

This approach in the education ensures a deeper understanding of academic material; improvement of skills of complex solutions of problems, concerning tolerant interaction; development of skills of collective work on the establishment of consensus. Let's see the peculiarities of these technologies in the context of tolerance formation as general competence, in particular interactive technology.

In the basis of interactive technologies there are active actions, they are organically integrated into the theory of academic activity on formation of tolerance as general competence of students of technical specialities. They ensure emotional influence on the students, activate spare capacities of students, make it easier to acquire knowledge, skills, improve their actualization. The advantage of interactive technologies is in the fact that they are aimed at group activity and easily changed into different forms of individual activity, allowing each student to try himself in different roles. This is the activity, which inspires emotional interest and helps unconscious learning and involvement into educational process. It's important to note that with the help of interactive technologies the “system” of influences is carried out, which aim is to form the need of tolerant interaction, active interest to something which can be their source.

Under interactivity they understand an interaction, being in the dialogue with somebody or something. Interactive from

English “Inter” – “inter”, “act” is to act. From the above-said the conclusion is that interactive education is a dialogue and collaboration, based on the productive feed-back reaction in the regimes teacher – student and student – student, on permanent open and free communication.

Within interactive education such training methods can be used as trainings, case-stages, method of information computer technologies, business games. Let’s consider business game “Labour argument”. Students should find the way out of a conflict situation. For example, LLP “Chemical goods” in the town of Shumikha, producing medicine with the use of import pharmacological substances, has made a decision to introduce the program of import substitution. For a successful realisation of this program it is necessary:

- to launch new equipment;
- to reduce the number of staff;
- to go through professional retraining;
- to attract external financing.

The aim is to acquaint with dispute situations, arising at production enterprises, at the time of their reconstruction, to teach to differentiate reasons and types of conflicts, to find the ways to settle the quarrels.

The participants of the game:

1. The director of the enterprise.
2. Technical director.
3. Assistant director on finance.
4. Personnel specialist.
5. Chairman of trade union committee.
6. Experts.

The conditions of the game. At the general meeting of enterprise workers there is a dispute of ways and methods of realization of introduction the program of import substitution.

1. The director of the enterprise informs of the current situation.
2. Technical director speaks on the usefulness of introduction of a new technology.
3. Assistant director on finance offers different ways to attract external financing.
4. Personnel specialist gives his opinion on staff question solution.
5. Chairman of trade union committee stands in for the rights of the enterprise employees and represents the ways to solve the problem.
6. The director of the enterprise makes a conclusion of the discussion.

CONCLUSION

The analysis of the game is expert presentations on the questions of enterprise reform and of the discussion and collective discussion of a business game.

From the example given, we see that future specialists have to understand how important it is to create the atmosphere of stability and confidence in the collective, how to build the relations with colleagues, customers, outsourcing organizations.

So the realization of scientific approaches for tolerance formation as general competence, aimed at the development of tolerant position is significant for professional training of students of engineering specialist field in the conditions of fierce competition.

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