FORMATION OF FUTURE AGRARIAN-ENGINEERING PROFILE SPECIALISTS PROFESSIONAL COMPETENCES IN PRESENT CONDITIONS

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Abstract. The article deals with the necessity to study and to develop new approaches to the problem of agro-engineering specialists professional competence formation in higher educational institutions in modern conditions. On the basis of scientific literature analysis the author explains the definitions of competence, competency, professional competence of future mechanical engineers from the point of view of systemic approach context, new paradigms of education and agrarian-engineering profile specialists training.

Keywords: professional competences, agrarian-engineering specialist, agrarian, technical, Ukraine.

Introduction

Providing of economic demands, caused by the development of energy-replete, recourses and nature saving technologies is accompanied by the necessity of reviewing of the modern professional education paradigm. The Ukrainian society just as the whole mankind is under the influence of huge global processes, rapid changes in living conditions, rising of competitive principles and the establishment of innovational and research type of development, rethinking of values orientation and strategies of human existence. New generations demand rapid modernization of educational system as prominent point of social and cultural playback, successful human living activities and their future improvement.

Today the agrarian-industrial sphere of Ukraine needs not merely the large quantities of specialists, but professionals able to solve problems in the most important industries and branches of social life, and also have humanistic way of thinking with universal knowledge. That is why the main aim of education system modernization is strengthening of professional training of specialists who can solve production problems in connection with human values saving and enriching. The most important task that can be solved at first is the task of agrarian-engineering specialists efficient training. The main aim of filling the needs both of agrarian-engineering graduates and their customers is to use the competence-oriented approach in professional training of future specialists in higher educational institutions.

The question of the professional education system improvement with the help of the competence approach use is widely discussed in practice and theory of pedagogical science (Amelina S.M., Bezdukhov V.P., Bolotov V.A., Voloshina M.S., Dobutko T.V., Yelkonin B.D., Zymnia I.O., Kernitskii O.M., Markova A.K., Ovcharuk O.V., Omelchenko L.M., Serikov V.V., etc). Beliefs of scientists regarding the primacy of the implementation of such notions as “competence”, “competency” and “competent approach” into the education are ambiguous.

Meanwhile, it is stressed that in psychological and pedagogical sciences the problem of competence formation is researched in different directions and aspects in complex. For example the problem of competence approach to the organization of educational process in secondary education were researched by O.V. Ovcharuk. The system of professional training in the industrial, agrarian, social and cultural spheres on the basis of the competences standard were studied by S.M. Amelina, V.M.Anishchenko, O.M. Kernitsky, A.I. Mykhailichenko, L.M. Omelchenko et all.

Method

It is necessary to research the problems of competence approach and to develop principally new ways of professional competences formation in future agrarian specialists training in present conditions.
Results

The main task of agrarian higher educational institutions of Ukraine is to train competitive agrarian-engineering specialists both on the domestic and international labour markets; such specialists must have creative approach to the deciding of specific engineering, technological and production tasks.

But despite the extensive array of positives in agrarian-engineering specialists training the analysis of scientific research shows that there are some contradictions of the development influencing the higher education in regions. They can be the following:

- difficult economic conditions in the country, insufficient financing of education do not allow to develop technical-engineering basis of a higher educational institution according to requirements of time;
- the rate of increase in the number of higher educational institutions outperform significantly the rate of the research pedagogical staff forming, age potential of doctors and candidates of sciences becomes older and older;
- reducing the number of general secondary school graduates while increasing the number of places in higher educational institutions brings to reducing the requirements for applicants and leads to falling the competition;
- uneven placing of the population and unequal conditions of regional development in Ukraine;
- change of social structure in the society;
- uncertainty of educational reforms and instability of future education development plans (Dubasenyuk, 1995).

Full member of Russian Academy of Education, psychologist I.O. Zymniaformulates three basic stages of competence approach formation in education:

- the first stage (1960-1970) is characterized of the “competence” category introduction in scientific environment and creation of the prerequisites for differentiation in “competence” and “competency” notions;
- the second stage (1970-1990) use of competence and competency categories in the theory and practice of language learning, communication and also as for analysis of specialists proficiency in management, administration and leadership;
- the third stage (beginning of 1990-s) research of competence as scientific educational category (Zymniaja, 2003).

There is no single thought as for realization of the “competence approach in education” definition necessary for providing of the Ukrainian education integration into general educational programs in Europe and world.

In our opinion particular interest represents grounding by an English researcher J. Raven of the necessity of competence approach use with the following aims:

first, for teachers to be able to manage individualized teaching programs oriented on the development of pupils basic competences;

second, for pupils to be able to show their specific aptitudes, watch for their formation in the development process and obtain recognition of their talents and achievements;

third, for teachers to be able to receive recognition of their achievements during learning and evaluation of their teaching activities;

fourth, for those who are responsible for pedagogical diagnosis can plan such kinds of research that would stimulate educational leaders to look for the new ways of educational programs policy encouraging as a whole;

fifth, for it was possible to conduct the efficient policy in the sphere of labour resources based on the on the more subtle professional training procedures, employment and further professional growth of specialists and conducting policy in the personnel selection field that would attract worthy candidates to influential positions in society and reject unsuitable (Raven, 1999).

Selevko G.K. characterizes the general competence of a human being as a complex of cognitive active (behavioral) and relational (affective) components. Analyzing “competence” as psychological characteristics he includes not only cognitive (knowledge) and operational technological (activity) component but motivational (emotional) social and behavioral components (Selevko, 2004).

“Professional Education” glossary gives the following definition: - competence is measure of individuals with social and professional status knowledge, abilities and experience matching the real level of difficulty in
the tasks that they are able to conduct and fulfill; - competence is the range of powers, rights and obligations of a certain state body or the range of issues that are known and experienced by a certain official. Some scientists define competence as complex synthesis of cognitive, subjective-practical and individual kinds of specialist experience. For example M.S.Voloshina thinks that competence includes:

- cognitive and operational-technological components;
- motivational, ethic, social and behavioral components;
- results of learning (knowledge and abilities);
- system of values (Voloshina, 2001).

Omelchenko L.M. and Kernychnii say that future agrarian specialist professional competence is theoretical, practical and psychological forms of his preparedness to professional activity manifesting in his creative ability and all-round (personal, professional, psychological) readiness for its effective implementation and achieving optimal results in a professional activity (Omelchenko, 2010).

Our research is interested significantly in the scientists’ V.I.Zhukova and L.G.Lapteva approach as for the Trinomial structure of readiness taking into account three basic components:

- physiological – the optimum condition of all main physiological functions of the body;
- professional – the amount of systematic special knowledge, Abilities, skills and experience;
- personal – all features of psychological processes, conditions and phenomena on a conscious level.

Summarizing theoretical positions offered by different researchers, we can conclude that willingness as a complex dynamic structure includes the following components:

- motivational (motives, needs, professional rules, interests, values, ideals, etc);
- orientational (knowledge of activity features and its requirements for individual specialist);
- operational (possession of ways and methods, professional activity culture);
- strong-willed (self-control, self-mobilization to a certain activity and to overcome its difficulties);
- evaluation (self-evaluation of the level of training).

All components exist inseparably in a single structure of specialist readiness to professional activity, their maturity and the evidence indicates a high level of a specialist preparedness, provided by his activities to achieve the goal, the mobility of internal conditions, especially the flow of different mental processes, complete manifestation of congenital and acquired mechanisms and cultural behavior, communication and activities throughout the period of his professional training in educational establishments.

To ensure the formation of the future agro-engineering specialist readiness to professional activity significant organizational, technological, methodological changes in the educational process of educational establishments are required, the authority of which is determined by its graduates preparedness to professional activities.

The new educational paradigm as for future agrarians training must provide rethinking of their educational experience taking into account principally new approaches of their grounding:

- understanding the need to study the methodology of professional competence of power engineering specialist formation in the course of his professional training in higher education institutions;
- search for adequate theoretical principles concerning the research in pedagogic, psychology, philosophy of education, sociology, informational technologies and jurisdiction of pedagogical phenomena concerning professional competences formation of the power engineering specialist in the process of his professional training in higher education institutions;
- understanding of an agricultural engineering specialist professional competence formation necessity both during and outside the training process;
- study, systematization and creative use of positive national and international experience in training of future power engineering specialists in higher education institutions;
- changing the stereotypes about the power engineering specialist personality perception and awareness of the necessity of his creative personality formation and basic types of competencies;
- innovative idea about the place, role, tasks and functions of a modern power engineering specialist in the system of social, industrial and interpersonal relationships in the power engineering system of the country;
- understanding of the necessity of pedagogical research fundamentally new orientation on future power engineering specialist training to the professional activity.
Discussion

The system analysis of the competence approach problem in education, figuring out the content of the concepts "competency", "competence" and "competence approach" shows that this problem is multidimensional, complex and requires an interdisciplinary solution. However, the competence approach in education promotes purposeful formation of students basic types of competencies.

One of the main indicators of future power engineering specialist professional competence is the professional thinking formation that represents his intellectual ability to solve professional problems and its content is directly linked with the solution of professional problems on production and it is a direction for further research.

References