

## THE MUNICIPAL MODEL OF TRAINING THE SPECIALISTS FOR THE MACHINERY INDUSTRY

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The present research was conducted in Zelenodolsk municipal region of Tatarstan Republic. We present the description of the dynamics of transformative actions focused on building an integrated model of training of the engineering and technical personnel. The realization of this model in Zelenodolsk Municipal region showed: the integration of educational programs of elementary vocational education, intermediate vocational education and advanced vocational education. In one educational institute helps to form an integral specialist who is able to use gained knowledge and skills holistically and synthetically, to think integrally.

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**Keywords:** the municipal educational complex, a multi-leveled training the specialists, the machinery industry

The present research was conducted in Zelenodolsk municipal region of Tatarstan Republic. We present the description of the dynamics of transformative actions focused on building an integrated model of training of the engineering and technical personnel.

The methodological basis of the research was provided by the fundamental works in the field of the philosophy of education and the methodology of psychological – pedagogical science such as education.

The methodological basis of the research is the following:

*The first one:* the dialectical method of cognition allows to see and explain the current changes in the system of training of the professional personnel in cross-connection with the processes which take place in Branch Manufacture and in society as a whole.

*The second one:* the principle of complex determinism providing the possibility to study the interdependence of connections between the components of the integer.

The educational system of the institute of higher education, integrated educational environment which includes educational institutes, manufacture and other social objects.

*The third one:* system and social cultural approaches which provide the understanding of the general laws of the organization of the multi-leveled vocational training which is directed towards the needs of regional manufacture in providing the favorable conditions for the social progress.

*The fourth one:* the conceptual ideas of the professional training and education, modern theories of personality and activity, principal propositions on the role of the external factor's in personal and professional development.

Addressing the problem of multi-leveled training of the specialists (for satisfying the needs of Economics of modern Russia) also updates the developments in the field of comparative pedagogic. A great contribution to the study of the foreign system of education made

such scientist as Brajnik, Wolfson, Jurinskiy, Ivanov, Malkova and others. The possibility of using the positive experience of the foreign system for the reformation of Russian Education on the regional level updates the works of Dobrynina, Oleynikova, Pisareva, Smirnova and others.

Generalization of the gained domestic and foreign theoretical and practical experience on the issues of organization of vocational education in providing stuffing needs in the field of manufacture showed that despite the development of each of the strands of the research, there is no an organic synthesis of theory and practice of integrating the efforts of social partners in providing effective multi-leveled and variative training of the specialists of machinery building branch for the regional needs of the industry.

The municipal model of training the specialists for the machinery industry built on the basis of cooperative efforts of the industrial and educational institutes of all levels the municipal model of training the specialists for the machinery industry calls for the number of changes in the structure of relations:

- the creation of united educational space, in other words the municipal educational complex;
- the integration of vocational training with the enterprises of the branch;
- the reduction of the prime cost of training of the specialists at the expense of the reduction of the preparation periods;
- the possibility to choose the trajectories of training which answer the opportunities of the students;
- the optimization of the use of the scientific production and training production basis;
- the joint activity pointed at generation the requirements to the graduates in accordance to the received speciality and the specifics of the business of the employer;
- the attracting of the leading specialists, the faculty and students for the research activ-

ity and project development on orders of enterprises on a contractual basis;

- improved utilization of human resources;
- the organization of retraining and improvement of the qualification of the specialists of all the levels: a worker, a technician and an engineer;
- the realization of production projects which include the development, introducing and mastering the new technologies, the output of competitive products.

The introducing of information systems of product design and technologies, enterprise managing provides the qualitative preparation of the demanded specialists.

The development and testing of the model of multi-leveled specialists training was fulfilled in Zelenodolsk city, which is an industrial city in Tatarstan Republic. There you can find large industrial Associations of the machinery Branch:

- 1) «Zelenodolsk Factory named after Gorkiy».
- 2) «Zelenodolsk Factory named after Sergo».
- 3) The branch of Kazan motor-building industrial Association, called Zelenodolsk machinery-buildind Factory.
- 4) Zelenodolsk project-construction bureau (design).
- 5) «Region-Prontech» Company.
- 6) Volga-region Plywood-Furniture Factory.

The city is a unique project-design centre in the field of Economics, household appliances and shipbuilding.

The needs of all the enterprises connected with high technologies have a clear upward trend. The deficiency of highly-qualified workers especially in high-tech and innovative branches is a serious barrier for the development of the regional economics.

The creation of an integrated model of training of the demanded specialists of all levels of professional education for the regional enterprises is one of the solutions of the problem of staff preparation. The realization of this model in Zelenodolsk Municipal region showed:

- the integration of educational programs of elementary vocational education, intermediate vocational education and advanced vocational education. In one educational institute helps to form an integral specialist who is able to use gained knowledge and skills holistically and synthetically, to think integrally.

The experimental work shows that in the integrated groups among the students an individual metacognitive experience is formed. Also an ability to build up more complex connections between different conceptions is developed.

Moreover, they are able to see phenomena in the context of their holistic relationship, to isolate more complex and multiple connections between them.

- The improving of the level of general and vocational training of the students of elementary and intermediate vocational education is due to the use of scientific potential of the Faculty.

– The number of Real graduate engineers is growing as the loss of the students contingent is compensated by better graduates at elementary and intermediate stages.

– After the completion of the whole curriculum of the certain stage of vocational training the graduate gets the diploma of qualified worker, technician or engineer.

– There is a mutual enrichment of all the team members, the scientific-educational and learning-teaching level of engineering pedagogical workers and the Faculty increases.

There is an interchange of information, types and methods of activity, value orientations, social settings in the process of cooperation.

– More rational and efficient usage of training material basis such as training area, teaching and laboratory equipment visual teaching aids and so on.

– Thanks to the integration and training of the specialists according to the integrated curriculum the terms of training the specialists are shortened.

There is the possibility of the expansion of the activity based on the development of the students at the integrated educational institute, which realizes the programs of various levels of vocational education. And the integration of the educational process into the industry process gives more opportunities for the direction of personal development at the level of motivation, action and goal.

Such an integration of the educational process is possible thanks to the cooperation of industrial enterprises and integrated educational institute. Considering the problems connected with the professional motivation, the problem of the influence of the motivation on the success of the activity is one of the most important. The cooperation with the enterprises, establishments, employment center of the city allows to plan and to settle the question of the graduates employment. The technological laboratories were created on the basis of the enterprises. Also various kinds of practice works and probations of the Faculty are organized, the leading specialists in the field of research-pedagogical activity are attracted.

The proposals of the subjects for the real course and final projects are come from enter-

prises. They are worked out for the students who are focused on the future work at the company. The project approach to the formation of the professional competence of the graduates is fulfilled. The employing enterprises take part in it either. Also probations and additional education of the students in other domestic and foreign Universities at the expense of the employing enterprises are carried out. The quality control of the training of the specialists is fulfilled by the employer. The structure of the municipal education of complex includes not only

the establishments of vocational education but also professional – oriented schools.

The training of the matriculants is focused on formation and building up the contingent professionally-oriented in machinery building complex. The cooperation of integrated educational institute with the employers will support the refinement of training the demanded specialists in the labour market, the reveal of talented young people, and the additional motivation of the students to get the higher results in studying and successful career at the certain company.