Innovations of modern system of vocational guidance in technical high school

T B Kurbatskaya, T I Bychkova
Kažan Federal University
423800, Republic of Tatarstan, Naberezhnye Chelny, 68/19 Mira avenue

E-mail: chelny@kpfu.ru

Abstract. This article is devoted to the description of system of modern innovative forms of vocational guidance in a higher educational institution of a technical profile.

1. Introduction
Technological modernization of Russia is impracticable without development and improvement of engineering education which has to be based on the best traditions of the Russian engineering school. In the 90th years of the XX century as many researchers state, the Russian engineering school in many respects lost the former positions. The rupture of communication of science, education and the industry led to departure of the most talented engineers in other spheres of action, many groups of researchers and developers broke up. Participation of technical and technological colleges in development of the industry, space and defensive complexes was decreased considerably. Nowadays preparation of technical shots and their employment not fully conform to modern requirements. According to the results of commission session at the President of the Russian Federation on modernization and technological development of economy of Russia instructions are approved the by D. A. Medvedev which realization is urged to promote support and development of the Russian engineering education. In them, in particular, the important part is assigned to creation of effective system of vocational guidance of youth; to increase of prestige of engineering professions; to professional development of engineering shots and quality of their preparation; to strengthening of state-private partnership in questions of training of specialists; to introduction in practice of continuous monitoring of requirement for technical shots on economy branches taking into account inquiries of a labor market; to social and economic support of teachers of educational institutions with a technical profile, the students who are training on engineering specialities; to development of material base..

2. Basic part. According to the Federal target development program of education for 2011-2015 [1] at the Institute Naberezhnye Chelny is developed the system of vocational guidance and prevocational training in educational institutions for increase of their motivation to the subsequent work. In it are provided measures for ensuring increase of appeal of training for educational programs of higher education with an engineering profile; increases of level of technological education of pupils, restoration of necessary volumes of technological training of pupils in all forms of comprehensive school; profound pre-university training of pupils in subjects of a natural-and-technological science by development of profile classes. Our purpose was creation the system of the educational space helping the personality at different levels of training to develop inclinations of technical and design abilities for further professional activity at the automobile branch [2]. In this system we sought for realization:
- concepts "Education during all life";
- systems of the formation of a professional orientation;
- individualization of a choice of an educational trajectory;
- orientations to a concrete type of the follow-up professional activity according to requirements of employers;
- uses of the innovative methods, pedagogical technologies and training techniques;
- possibilities of the optimization of the system and processes in its structure on the basis of the analysis of carried-out monitoring;
- systems of an assessment of the quality of the work.

The system of the professional orientation work with pupils of schools and students is following at present:

1. Professional orientation diagnostics:
   - Diagnostics of professional intentions of pupils of 9 and 11 forms (it is carried out together with the Center of testing and developments (Moscow) since 2007 by means of the computer Proforiyentator program. This testing helps pupils to reveal professional tendencies, to choose a specialized secondary or higher educational institution, training specialization in higher education institution, to define a suitable profile of training in the senior classes of school (in November, 2012 this diagnostics passed 189 pupils of profile schools) [3];
   - Diagnostics of professional and important qualities of the personality by means of the device of system diagnostics "Aktivatsiometr ATs-9". During the period since September, 2012 research on the device of system diagnostics there passed 168 people [4].

2. Professional education:
   - the organization of excursions in the museum of history of higher education institution for pupils of general educational institutions in Naberezhnye Chelny;
   - the presentation of educational institutions in Naberezhnye Chelny;
   - presentations of educational services and distribution of presentation materials and CD disks with information on educational services of higher education institution [5];

3. Professional orientation projects:
   - the intellectual project "Academic Marathon" (for pupils of 11 forms);
   - the city competition "Future Leaders of Tatarstan" (for pupils of 10-11 forms);
   - talk-show about problems of vocational guidance "My choice" (with participation of leading experts of the enterprises of the city, marketing specialists, sociologists, psychologists, representatives of mass media);
   - festival of scientific and technical creativity of higher education institution "A step to perfection" (for pupils 9-11 forms);

4. Preparation of professional orientation materials:
   - preparation of an educational and methodical grant "Psychology of scientific and technical creativity";
   - preparation of an educational and methodical grant "A complex of psychodiagnostic techniques for detection of tendencies of pupils and students to professions like "People – the Technician";

5. Participation in conferences of a professional orientation profile:
   - article preparation "Specifics of formation of professional intentions of the personality during joint projects "school -higher education institution""
     (V Republican scientific and methodical conference "The integrated system of professional education in conditions of a scientific and educational cluster: problems and ways of developments" ("NMK-KNITU (KHTI) — 2012"), on April 11, 2012. Kazan);
   - Participation in the All-Russian scientific and practical conference with the international participation "New technologies of knowledge intensity of mechanical engineering: priorities of development and training" (on May 17, 2012);

6. Participation in competitions and grants:
- Participation in 9 All-Russian open competition of teachers "Educational capacity of Russia" (An educational and methodical grant "A complex of psychodiagnostic techniques for detection of tendencies of pupils and students to professions like "People – the Technician") – 1 place;
- Participation in 1 Open All-Russian competition of author's programs, educational and methodical materials and virtual resources on development of creative activity of children, teenagers and youth" (An educational and methodical grant "Psychology of scientific and technical creativity");
- Project preparation for participation in competitive selection on receiving a grant of the Ministry of Education and Science of the Republic Tatarstan within implementation of the project "School After School" of Zakamye of Tatarstan). The grant on 1 million rubles is won.

For the purpose of the analysis of specifics of being trained students specialists psychologists of the Naberezhnye Chelny institute annually conduct researches of students of a first year on K. Rogers and R. Daymond's technique [6]. In 2012 414 first-year students of a full-time department took part in research.

Results of the conducted research are presented in tables and in figure 1.

As a result of the conducted researches it was revealed that adaptability of students makes 141,3 points (at norm = from 68 to 136 points). Results of adaptability of students on faculties:
- Automotive faculty - 135,6 points;
- Economics department - 137,3 points;
- Automation faculty - 145,5 points;
- Construction faculty - 146,9 points.

The result is interpreted as the highest. Therefore, adaptability of students of faculties is at very high level; students of all faculties accept themselves and others, test emotional comfort [7]. In groups with the smallest number of points on a scale "adaptability" the corresponding psychological trainings [8] were provided. Thus, research of adaptation on K. Rogers and R. Daymond's technique showed that level of adaptation of pupils of a first year is at high level. Also anti-stressful training and training on motivation among masters of faculty of automation and progressive technologies was provided. Changes in system of professional education involve emergence everything new and new problems both personal, and the professional plan. Therefore monitoring of the relation of the personality to a profession, formation of the positive relation to future profession, desire to be realized in it demands search of new forms and innovations in vocational guidance in higher education institution [9]. The purpose of modern educational space - to allow each pupil and the student regardless of the
psychophysiological features, educational opportunities, tendencies to realize itself as the subject of own life, activity, communication [8]. One of the most important tasks of modern school is development in the identity of a creative initiative and independence, design and rationalization skills. In this regard the role of technical creativity in formation of the personality capable in the future to high-performance work, technically saturated production activity raises.

3. References
[1] . http://www.fcpro.ru/the Federal target development program of education for 2011-2015.
[2] . Kurbatskaya T B Motivational structure of professional intentions in the course of option and vocational training in HIGHER EDUCATION INSTITUTION. 1997 Abstract of the dissertation of candidate of psychological sciences. Kazan.,
[3] . Kurbatskaya T B Shaykhelislamov R. F. Motivational structure of intentions of the personality. 1999 Collection of Materials of the international scientific and practical conference. Naberezhnye Chelny
[4] . Tsagarelli E B Strukture of system of psychology and pedagogical diagnostics and correction of the personality in educational process 2012 Modern problems of science and education, No. 8,
[5] . Pryazhnikov N, Rumyantseva L. Self-determination and vocational guidance of pupils. 2013 M, Academy,
[6] . Raygorodsky D Ya Practical psychodiagnostics. Techniques and tests. Education guidance. 2001 Samara. Bakhrah-M.
[7] . Bezyuleva G V Psychology and pedagogical maintenance of professional adaptation of pupils and students. 2008 M, MPSI.
[8] . Kurbatskaya T B Psychology of work. 2009 K., Yuniversum.
[9] . Tsagarelli E B Structure of system of psychology and pedagogical diagnostics and correction of the personality in educational process 2012 Modern problems of science and education, No. 8.
[10].Kurbatskaya T B, Shaykhelislamov R F Research of motivational structure and features of communication of the personality 1999 Scientific notes of the Kazan state university. Nabereznye Chelny.
[11]. Petrushin S V Psychological training in numerous group. 2000 M, Akkad. Project.