

The formation of innovative behavior values in new type high schools - national research universities

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THE FORMATION OF INNOVATIVE BEHAVIOR VALUES IN NEW TYPE HIGH SCHOOLS – NATIONAL RESEARCH UNIVERSITIES

Abstract: An important task of the education system in modern market conditions is the preparation and retraining of personnel for innovative activity. Current methods of training specialists do not fully provide the solution of the problem, most of the management training given to the theoretical knowledge. It is necessary to organize context educational process with the participation of managers, owners of existing enterprises, startups and enterprises on the way of modernization of various sectors of the economy that will also help to practice the innovative and entrepreneurial skills. Strategic partnership of Kazan national research technological University and the All-Russian public organization "Support of Russia" in the training of personnel for innovative activity in Russia creates a new resource - innovative knowledge, achievements and technologies of the future, creating conditions for the implementation of the entrepreneurship strategy in future professional activities of young people - graduates of higher educational institutions of the Russian Federation.

The discussion of innovations is one of prevailing discourses in political, academic, and public circles. As applicable to the higher education, it is associated with creating new universities (federal, national research universities). These universities have new forms of managing (Autonomous Non-profit Organizations, supervisory boards, endowment), deeper integration of research and educational activities, research and advanced development and commercialization of knowledge (research and educational centers, business incubators, “innovative belt” of higher education institutions in the form of smaller innovative companies based on intellectual property)^{1,2}.

Innovativeness is one of competitive advantages of a modern higher education institution. However, as a matter of methodology, the question of what should be regarded as innovations in general and the innovative education is still a complex one. Development of innovative tracks of activities depends, among other thing, on creating a generally accepted environment of values and senses for the innovation field in the Russian society. The authors (Kazan National Research Technology University) have declared and justified the following classification of innovative educational activities that has developed as of now:

- in the didactic aspect – these are novelties enabling to either expedite the education process without compromising the quality. The novelties also can make the education process more efficient in terms of parameters of comprehension, strength, novelty and social value of the acquired knowledge (including new special courses or training programs);
- in the managerial aspect – these are novelties yielding higher social and economic results due to more efficient management/ This novelties could include development of new forms of incorporation for a more efficient arrangement and integration of the research, educational and innovative activities (research and educational centers, inter-department and inter-university magistracy programs, corporate universities, etc.);
- in the social and economic aspect – these are novelties including development of process adaptation of knowledge. It could be intensive programs, among other things, in the form of opening of educational programs, departments or training centers by corporations in higher education institution for the purpose of training students for work under conditions of the innovations implemented or planned to be implemented. Participation of students in activities of business incubators, technoparks, etc. in the process of preparing term and graduation papers implying merchantability of science-driven developments made

independently or in association with teaching staff. In practice, it means participation of students in activities and development of university and regional innovative system.

It is noteworthy that a higher education institution under the present-day conditions has a dual nature. On the one part, a leading university is a special institution and an organization. It features a very high summary intellect of employees. Its main functions are preservation of the cultural and educational national potential, improvement of the education level of the population, and the research and technical development of the country, reproduction of the aggregated knowledge and expertise of generations. At the same time, a higher education institution is a part of the market economy, a maker of the intellectual product and educational services. Such dual nature means that the higher education institution is an integral part of the economic system, and, being indirectly linked to the material sphere, it is affected by changes in the market.

The purpose of the innovative activities in the system of the higher education is an improvement of operational efficiency of higher education institutions under conditions of the market economy. That said, it should be understood that the institute of education itself is quite conservative, however strange it may seem in the first instance, and, to a large extent, it focuses on reproducing a sample rather than developing innovations. At the same time, considering the fact that during the recent centuries the higher professional training system has been based on scientific researches, it is a “natural” environment for growing innovations ϕ .

An important objective of the education system is training and retraining of staff for innovative activities. To achieve the stated objective, it is necessary to improve the management system for research, technical and innovative activities of the higher school, namely, to align these activities with the market and the consumer, which is the basis for managing higher education institutions in the modern market conditions. The above implies for an increase of the role of marketing, accounting of abruptly changing environment of the higher school, demands of the consumer and the market, and, as a consequence, a quicker adaptation of the management of the higher school with new objectives, science-driven products, technologies and services of specialists.

Such a new objective for today is the management and practical implementation of innovative projects, which requires new approaches and new specialists. Commercialization of innovative projects becomes the most relevant objective for all members of the process. No positive results can be achieved without a profound analysis of the proposed project and its highly professional operative management. Problems of interaction often occur between parties participating in implementation of innovative projects, which is due to lack of experience with specialists in the field of management and a problem of developing the general and the final objective. For developers of the project, its novelty is important, as well as its innovativeness and relevance; for businessmen, the most important is its economic component, i.e. merchantability and generation of profit. The third party of the process, the government, is of no little importance, as it is often the ordering party for innovations in various fields, who in its turn is interested in the rate of development and implementation of the finished product. Ensuring an efficient interaction of all the parties is becoming one of the major objectives of the manager for an innovative project.

Current methods of training specialists do not fully provide the solution of the problem, as most of the management training is dealing with the theoretical knowledge. Arrangement of a context educational process is possible with the participation of managers, owners of existing enterprises, startups and enterprises on the way of modernization of various sectors of the economy³. It is also necessary to invite specialists experienced in implementation of innovative projects, including international ones. Participation of

businessmen will enable to solve another important problem that is practice and mastering of skills in innovative activities.

To address the challenges facing the organization of this training and developing entrepreneurial competences process Kazan national research technological University was started an educational program in a strategic partnership with the Russian public organization of small and medium entrepreneurship "OPORA Russia" ("Support of Russia"). The program started in 2011.

"Support of Russia" is a public organization. It is a platform for professional dialogue of the owners and managers of small and medium business and representatives of Federal Executive authorities, regional authorities and municipalities, regulatory bodies, infrastructure of support of small and medium enterprises, and also representatives of expert community⁴.

The mutual education program has become one of the first of the kind in Russia. From the point of view of practice-oriented programs for training entrepreneur-engineers through a system of tutorship, the educational program is unmatched throughout higher education institutions in the Russian Federation.

Students are the most dynamically developing part of the society and possess a high entrepreneurship potential. Nevertheless, the degree of implementation of the entrepreneurship aspect in training programs of engineers is insignificant now, more than 60% of students do not have courses of business training in their syllabi, educational institutions do not always find them necessary. As a result, graduates do not have sufficient skills and knowledge regarding how to start their business and are unprepared to assume the risks related to business activities.

Created education program focuses, first of all, on those categories of trainees who have a potential and a desire to go into business or to manage innovative projects. Being trained within the education program, the future entrepreneurs obtain both a good professional training and the ability of work in the competitive environment. Successful businessmen as tutors will lead each of the students to their final goal, which is starting a business of their own. On the first year already, the education program initiated implementation of such magistracy programs intended to develop professional skills of innovative activities, such as Entrepreneurship and management of innovative projects, Management in the education, Quality management in the financial field, Chemical engineering for small-size enterprises. Other programs of the Kazan National Research Technological University develop training programs integrating social economic and engineering education, including Human resource management, Regional management, Municipal management, Innovative processes in the chemical technology, Management of sustainable development institutions and implementation of power- and resource-saving technologies.

Kazan national research technological University together and with the support of "Support of Russia" conducted the activities aimed at the development of entrepreneurial competencies such as public-professional accreditation of educational programs (including entrepreneurship), master classes and platforms leading member of "OPORA Russia" established business incubator of entrepreneurial ideas masters.

The Foundation for support of training of entrepreneurs was incorporated to finance education in the magistracy on a range of programs. Financial support includes partial or full tuition, internships, and scholarships.

As for the teaching staff, regular training of lecturers, professors is supported and stimulated by publication activity, support participation in conferences and trainings, coordination and joint development of training modules, participation in certification of graduates.

The mentorship has become a central link in the process of training entrepreneurs, and incorporation of an enterprise is the result of the training. Entrepreneurship skills are developed in the course of immersion in real problems of the business. Successful businessmen as mentors will lead each of the students to the final goal, which is opening of their own business.

Due to the fact that the idea of becoming a businessman is gaining more attraction among many students, we ran a research for the purpose of identifying of motives affecting the students' choice of the entrepreneurship career, as well as for using the results of the research for a further shaping of business-like thinking in the society and for support of the entrepreneurship in general. The research methodology built on the analysis of similar research practices⁵.

The research involved 1200 students (bachelors and masters), as well as by graduates of the Kazan National Research Technology University. The studies were carried out using the technique of planned behavior (Theory of planned behavior according to which any behavior reflects the influence of three groups of factors: attitude toward the behavior, subjective norm and perceived behavioral control).

The research proved that at the beginning of the training more than 75% of students plan to get employed immediately after accomplishing the training, and as few as 10% of respondents are willing to work in small-size companies with less than 50 persons in staff. The percentage of students planning to establish their business after the end of training in the higher education institution increases from 9% during the first year to 73% by the final year, and less than 7% of the graduates consider an employment. Gender-based differences among those willing to become entrepreneurs are interesting too. Among men, those willing to establish their own business amount to 68%, while there are only 27% of women willing to do the same. Women are more inclined to a career of an employee.

The main factor influencing the choice of graduated engineers the entrepreneurship activity is the desire to earn money and advance the career in the business world also as to realize their dreams and have an exciting, promising and challenging job.

A good involvement of entrepreneurs in the training process enables students to solve real project-related tasks in the field of arrangement and management of small-size enterprises, to acquire skills and knowledge in the field of entrepreneurship. The experience acquired during the traineeship at enterprises managed by mentoring entrepreneurs, solution of production and managerial tasks enabled to achieve a higher professional level of writing final papers, and results of those works are implemented in small- and medium-size enterprises. Subjects of graduation bachelor and master papers are also recommended and supervised by the mentoring entrepreneurs.

Statistics prove that the number of those willing to become entrepreneurs in 5 years after their graduation from a higher education institution grows to 53%. The main factor affecting the choice of an entrepreneur's career is a desire to make money and to advance in the career in the world of business, and to implement their dreams and to have an exciting, promising and prospective work. Entrepreneur parents in a family are not a factor promoting the choice of a business career for their children. More than 50% of respondents plan to begin their business in 5 years after accomplishing their studies irrespective of the fact whether their parents are businessmen or not.

The strategic partnership of the Kazan National Research Technological University and the All-Russia public organization "Support of Russia" ensures profiling of the training of graduates in the field of innovative and business activities, develops competencies in the field of commercialization of innovative projects and entrepreneur activities, it resolves matters of staffing more efficiently by engaging specialists with vividly expressed innovative behavior to the teaching and scientific methodical activities, it implements project-oriented

teaching technologies, enhances the demand for the graduates and contributes to their successful career. The above will enable the Kazan National Research Technology University to become a center for educating a new generation of entrepreneurs. The university environment is one of the key elements of shaping a business ecosystem. It is guaranteed with strong ties with such public associations as the Russian-American Center for Development of Entrepreneurship, Frankfurt Business School, Association of Development of Entrepreneurship for the Republic of Tatarstan, the Chamber of Commerce and Industry of the Republic of Tatarstan, and others.

Therefore, innovative activities of higher education institutions create an absolutely new resource, that is innovative knowledge, achievements and technologies of the future, which create conditions for the implementation of the entrepreneurship strategy in future professional activities of young people - graduates of higher educational institutions of the Russian Federation.

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