The European Proceedings of
Social & Behavioural Sciences
EpSBS

Future Academy ISSN: 2357-1330

http://dx.doi.org/10.15405/epsbs.2017.07.02.15

RRI 2016
International Conference «Responsible Research and Innovation»

ROLE OF STUDENT PERSONAL CHARACTERISTICS IN DEVELOPMENT AND IMPLEMENTATION OF INNOVATIONS

Margarita S. Bureeva (a)*, Elena G. Leontyeva (b), Anna I. Banzemir (c)

* Corresponding author

(a) National Research Tomsk Polytechnic University, Lenin Avenue, 30, Tomsk, Russia, msb6@tpu.ru, +79521642840,
(b) National Research Tomsk Polytechnic University, Lenin Avenue, 30, Tomsk, Russia, leoeg@mail.ru, +79138250164,
(c) National Research Tomsk Polytechnic University, Lenin Avenue, 30, Tomsk, Russia, bansemir@yandex.ru, +79234291069

Abstract

Nowadays innovations define the competitiveness of the country and its economic advance. The efficiency of the development, introduction and practical use of innovation are ensured with the quality of the human capital. The main goal of the research is to determine the principal personality characteristics required of graduates of technical universities for the effective development and implementation of innovations in different areas of activity of the state. The purpose of the research is personal traits of the greatest inventors of the world – Nobel Peace Prize laureates. It was considered the Nobel Peace Prize, because it is awarded for outstanding research in the scientific field, the revolutionary invention, as well as a major contribution to the development of society. The subject of the research is the personality qualities of potential students of technical universities. Monographic method was used for studying literature on this problem; theoretical analysis was used to identify and review the individual signs of the objects of research; synthetic method used for connecting the selected sides of research subjects in a unit; hypothetical method was used to develop recommendations for the study of the subject; comparative analysis was used to compare the common characteristics of these objects. The authors carried out comprehensive analysis of the traits of the national culture, which inherent to most of the greatest inventors of XX-XXI centuries (Nobel Peace Prize laureates), have identified a list of common personality traits. It was suggested that testing procedures to identify the personality qualities of applicants of technical universities.

Keywords: Innovation; applicants; university; invention; Nobel Peace Prize.

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

1. Introduction

Today, economic growth of any of the countries depends on the results of scientific progress. Innovations are the basis of scientific progress which influence competitiveness not only of a single business, but also of the whole country. An innovation is defined simply as an introduced new developed thing which provides the existing market with quantum growth of process or product efficiency (Jaroslavskaja, & Jakubov, 2012). The efficiency of development, implementation and practical application of innovative technologies depends on human capital quality.

The ground for economic growth of modern Russia could and should be young people. Enterprising young talents are a key factor to increase country competitiveness.

2. Methods

The goal of this work is to identify main personal qualities that the technical high school graduates should have in order to develop and implement innovations in different spheres on the basis of discovered culture characteristics of the Nobel Peace Prize laureates.

It should be noted that, previously, personal qualities of technical university applicants were not analyzed in detail in the context of that how they influence success of the graduates as innovation developers.

The research object is personal qualities of the greatest inventors of the world – the Nobel Peace Prize laureates. The Nobel Peace Prize was taken into consideration because it is one of the most prestigious international prizes which are annually given for outstanding research in the scientific field, the revolutionary invention, as well as a major contribution to the development of society. The research subject is personal qualities of the technical university applicants.

According to the Concept of long-term socio-economic development of the Russian Federation till 2020 (approved by the Governmental decree of 17 Nov 2008, № 1662-p), one of the main directions of activity of the state is the transition from the export of raw materials to innovative model of development. To complete this ambitious difficult task, human capital should be used. Specialists should have engineering knowledge and skills and be able to develop and commercialize innovative projects and products, to run effectively science-absorbing industry. Most education programs of technical universities focus on this result.

The significance of the work consists in an opportunity to use suggested recommendations in order to select technical university applicants.

3. Results

3.1. Personal qualities and cultural values of nationalities

Personal qualities are formed under a powerful influence of cultural values. The human cultural values are usually determined by national roots (Boldyrev, 2010). Today, the nationality is hardly to be identified because of the world globalization. For example, it is hard to identify what nationality the Russian famous writer Boris Pasternak, the Nobel Peace Prize laureate has. His family was Jewish but

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

lived for a long time in Odessa. In order to identify personal characteristics of the Nobel Peace Prize laureates, national origin of their family and culture was detected. The total number of laureates contents of 854 people. Results of analysis of information sources (Musskij, 2003) showed that the most of the Nobel Peace Prize laureates are Jewish (20%), Americans (Anglo-Saxons) – 18%, German people – 9%, English people – 8%, French people – 5,5%, Japanese – 2,8%, Russians – 2,1%. According to the analysis most inventions of the XX-XIX centuries belong to Jewish and only 2,1% – to Russians (Fig.1). It should be noted that the Nobel Peace Prize was mostly given to Russians in Literature, Economy and Peace (Cittlau, 2012), but assessment of these areas is quite subjective and involves having more creative and leadership potential than inventive.

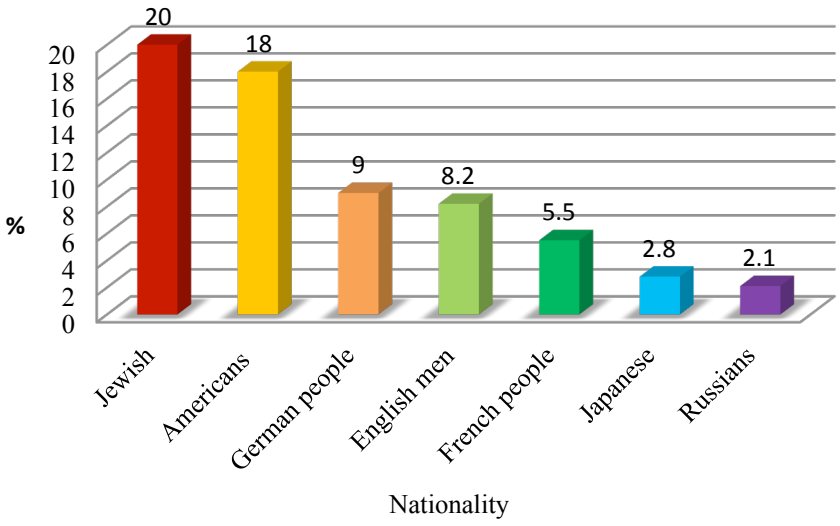

Fig.1. The nationality of the majority of Nobel laureates

In order to find out what influenced these numbers, let us study culture values and personal qualities of nationalities (Sadohin, 2013) most Nobel Peace Prize laureates belong to (Table no. 1).

Table 1. Culture characteristics of nationalities

Nationality	**Culture characteristics**
The English	Restraint. The tendency to understatement. Scrupulousness. The veneration of the property. Enterprise. Busily. Independence, bordering on alienation and uncommunicative. Patience. Politeness. The ability to compromise.

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

	Respect for the other person. Avoiding categorical assertions or denials. Avoiding discussion of privacy. External affability and kindness. Strict adherence to the rules and laws. Punctuality (Moul, 2006).
German people	Diligence. Diligently. Punctuality. Modesty. Zealous. Efficient management of resources. Self-organization. Pedantry. A serious approach to business. Prudently. Accuracy. The desire for order. Perfectionism. Following the plans and regulations. Unquestioning adherence to the instructions, regulations, orders. Courtesy and Care (Ter-Minasova, 2008).
French people	Mindfulness. Caution. Amicability. Foresight decision-making. Politeness. Courtesy. Prudently. Developed sense of humor. Resourcefulness. Independence. Emotionality (Badrak, 2005). Wittiness.
Jews	Self-confidence. Self-esteem. The lack of shyness and timidity. Courage. Savvy. Perseverance in achieving the goal. Reciprocity. Impudence. Adaptability. Resistance to conflicts. Inventiveness. Joyous. The ability to withstand the blows of fate.

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

	High intellectual level (Fal'kova, 2007).
Americans	Efficiency. Constructivism. Focus on profit. Ease. The tendency for non-standard solutions. Openness. Punctuality. Energy. Materialism. Individuality. Respect for human rights. Independence. The competitive spirit. Directness. Curiosity. Vainglory. Honesty and frankness (Chugunova, 1986).
Japanese	Diligence. A sense of aesthetics. Tradition. Discipline. Devotion to the authority. Call of Duty. Politeness. Belief in destiny. Accuracy. The desire for order. Composure. Thriftiness. Zealous. Curiosity. Team spirit (teamwork). Suppression of emotional outbursts. Stability. Risk-oriented thinking. Ceremonious.
Russians	Team spirit (teamwork). Emotionally. Conscientiousness. Shifting responsibility. The tendency to rely on luck / bad luck. Make the impossible, if it is very necessary. A creative approach to solving problems. Predisposition to impromptu. Openness. Honesty.

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Patience.
The ability to take risks.

Despite the fact that the Nobel Peace Prize was given to some nationalities more often than to others all of the laureates have common characteristics:

- pursuit of individualism,
- independence,
- commitment,
- striving for recognition and fame,
- diligence,
- rationality.

3.2. Personal characteristics of applicants

Taking into consideration the results, we can assume that we should pay attention not only to state exam results, but also to certain personal characteristics such as (Mokina, & Gerget, 2012):

- commitment, the ability to set and achieve goals;
- competitive spirit – the ability to defend one's own position, to fight for one's own rights, not to be afraid of difficulties;
- independence – the ability to make one's own informed management decisions;
- development of logical thinking;
- non-standard approach to addressing the various issues – the ability of a different perspective to look at the problem and to develop effective methods for its solution;
- striving for self-realization and continuous self-development (Kirillov , & Leontyeva, 2014).

It should be noted that the formation of competences, needed to educate a future inventor, is affected not only by extra culture characteristics typical for different countries, but also by environment, e.g. school, university, social circumstances, infrastructure, innovation policy of state (Rodermel, 2012).

The Innovative Development Strategy of the Russian Federation for the period until 2020 determines the main priority directions of innovative development of the country, among which there are:

- the development and buildup of human resources in the field of science, education, technology and innovation (creation of favorable conditions and incentives for joining science of talented young people);
- increasing innovation activity of business and accelerating the emergence of new innovative companies;
- wide implementation of the activities of government of modern technologies;
- the formation of a balanced and a sustainable research and development sector;
- the integration of Russia into the global processes of creation and use of innovations.

Today highly skilled and highly qualified staff is considered to be the key success factor because of strong international competitiveness. In order to provide with needed resources and to develop human

http://dx.doi.org/10.15405/epsbs.2017.07.02.15
Corresponding Author: Margarita S. Bureeva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

potential efficiently, competitive management, research and proactive staff is to be developed and appropriate friendly infrastructure is to be built (Remaud, 2012).

It should be noted that not all competences of the graduates can be developed within 4 years. Forming competences of prospective Nobel Peace Prize laureates takes a long time and strength (Markova, 1996). High quality of Italian furniture e.g. is provided not only by fine process technology but also by high quality raw materials. Success of education depends on qualities of students studying at the university. The potential, intellectual reserve, natural ability and cultural values define a student as a perspective graduate from the university (Leont'eva, & Moiseenko, 2015).

Applicants are usually young people aged 17-18, that is why not everyone understands environment and oneself. The question is how to help applicants and selection committee to make the right choice. The authors of the work suggest the following method. During the selection exams, personal abilities and characteristics of applicants should be tested. For testing students, the prepared tests, the development of psychological service of the university and interviews with psychologists could be used. The research results should be handled by experts, psychologists and representatives of the educational profile in order to determine the feasibility of training according to this educational program. It is important to presents the test results to the university staff and also to future students.

4. Conclusion

The task of every single university is to educate high qualified specialists who are able to work efficiently for their own country (Kudrjashov, & Majboroda, 2007; Malysheva, & Nevraeva, 2006). The keystone of modern economy – development and implementation of innovations, competitiveness of country itself, which depends on volumes and speed of development of innovation technologies. A university is a source of potential authors of such kind of innovations. In order to educate good specialists, we should pay attention not only to state exam results but also to personal characteristics which are common for most Nobel Peace laureates.

References

Badrak, V. (2005). Antologiya of genius. – Kiev.:KVIC, 474.

Boldyrev V. (2010). Introduction to the theory of cross-cultural communication. – M:Russian language. Courses, 144.

Chugunova, J. (1986). Social and psychological features of creative activity of engineers. – M:LGU, 161.

Cittlau, J. (2012). From Diogenes to Jobs, Gates and Zuckerberg. The botanists, who have changed the world]. - St. Petersburg, 223.

Fal'kova, E. (2007). Cross-cultural communication in the basic concepts and definitions: Methodical manual]. - St. Petersburg.:SPbGU, 77.

Jaroslavskaja, E. & Jakubov, B. (2012). Innovative business in unity of three main components. Modern problems of science and education, 6, 25-37.

Kirillov, N. & Leontyeva, E. (2014). Competitiveness of the graduates: problems and solutions. Bulletin of the Tomsk State Pedagogical University, 6, 9–13.

Kudrjashov, O. & Majboroda, T. (2007). Information system of an expert assessment and self-assessment of professional and important qualities of engineers of industrial production. Official bulletin of

Russian Agency for Patents and Trademarks «Program database of computer integrated circuits», 1, 153-157.

Leont'eva, E. & Moiseenko, J. (2015). Competencies of freelancers in new labor market conditions. *Siberian Journal of Science, 17 (*2), 127-136.

Malysheva, A. & Nevraeva, I. (2006). Competencies of young graduates: The employers' point of view. *Bulletin of the Tomsk Polytechnic University*, *309*(8), 225–229.

Markova, A. (1996). Psikhology professionalism. International humanitarian fund «Knowledge».

Mokina, E. & Gerget O.M. (2012). Informational support for estimating the competencies of university students. Siberian Journal of Science, 3 (4), 136–142.

Moul, D. (2006). Features of national psychology of the people of new Europe: business, communication, success. – M.:AST, 381.

Musskij, S. (2003). Great hundred Nobel laureates. – Moscow.: Veche, 480.

Remaud, B. (2013). Competencies of graduates that have changed their major: European perspective. *Engineering education, 12, 12–*21.

Rodermel, T. (2012). Relations of professionalism and competence in the modern cultural context. *Bulletin of the Tomsk Polytechnic University, 320*(6), 125–127.

Sadohin, A. (2013). Introduction to the theory of cross-cultural communication: Study guide.M.: KNORUS.

Ter-Minasova, S. (2008). Language and cross-cultural communication. M.: Slovo.