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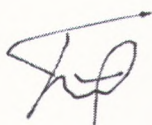
**IMPROVEMENT OF GOVERNMENTAL POLICY IN THE FIELD OF
EDUCATIONAL MIGRATION: STRATEGIES FOR APPLYING
INTELLECTUAL POTENTIAL IN THE REPUBLIC OF KAZAKHSTAN**

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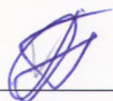
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Regulatory references

1 “Strategy Kazakhstan-2050”: new political course of the established state”, Address by the President of the Republic of Kazakhstan, Leader of the Nation, N.Nazarbayev, to the Nation of Kazakhstan (2012).

2 On approval of the National Development Plan of the Republic of Kazakhstan until 2025 and invalidation of some decrees of the President of the Republic of Kazakhstan, Decree of the President of the Republic of Kazakhstan № 636 (2018).

3 On approval of the Concept of Migration Policy of the Republic of Kazakhstan for 2017 - 2021 and the Action Plan for the implementation of the Concept of Migration Policy of the Republic of Kazakhstan for 2017 - 2021, Resolution of the Government of the Republic of Kazakhstan № 602 (2017).

4 On approval of the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020-2025, Resolution of the Government of the Republic of Kazakhstan № 988 (2019).

5 On the approval of the Rules for the selection of applicants for the award of the international scholarship “Bolashak” and determination of the directions of spending the international scholarship “Bolashak”, Resolution of the Government of the Republic of Kazakhstan № 573 (2008).

6 On the approval of the Rules for the direction for study abroad, including within the framework of academic mobility, Decree of the Minister of Education and Science of the Republic of Kazakhstan № 613 (2008).

Symbols and abbreviations

APA	Academy of Public Administration
CIP	Center for International programs
CIS	Commonwealth of Independent States
EOP	Executive Office of the President of the Republic of Kazakhstan
JSC	Joint-stock company
MES	Ministry of Education and Science
NSSP	National School of Public Policy
PhD	Doctor of Philosophy
UNESCO	The United Nations Educational, Scientific and Cultural Organization
USA	United States of America

Introduction

The relevance of the research topic. Migration policy issues will always be relevant for any country. Depending on how effectively migration policies are implemented states can take advantage of or suffer losses. According to the data of the Bureau of National Statistics (2021), the number of citizens who left the country exceeded the number of arrivals in the period from 1991 to 2003. The migration balance became positive from 2004 to 2011, which indicates some improvement in the situation during this period (The Bureau of National Statistics, 2021). However, since 2012, there has been a tendency for an annual increase in the number of citizens leaving the country (The Bureau of National Statistics, 2021, Section 4). The 2020th year is an exception: the global pandemic of the coronavirus COVID-19 significantly influenced this pattern and the balance of migration in the Republic of Kazakhstan, compared to 2019, decreased by almost 2 times, from – 32 970 to – 17 663 people (The Bureau of National Statistics, 2021). Probably, after the stabilization of the situation with the coronavirus COVID-19, the upward trend in emigrants from Kazakhstan will continue. It is alarming that over 25% of those leaving are young people aged 15 to 28 (Panchenko, 2019). The main reason for their departure is studying abroad: by the international “Bolashak” scholarship, by intergovernmental grants, by grants from host universities, by other international scholarships or by their own funds. Potentially, this could threaten the Republic of Kazakhstan with a “brain drain”; therefore, the government should now work on improving state policy in the field of educational migration and developing a strategy for the effective use of the intellectual potential of citizens graduated from foreign universities in Kazakhstan.

The degree of scientific elaboration of the problem. Educational migration is of great interest to many researchers around the world. For example, Korepina (2018) defines the place and role of educational migration in the general classification of types of the population’s migration movements (p.65). Another author, Samofalova (2015), conducted a detailed analysis of the concept of “educational migration” based on the works of foreign researchers (pp.104-119). Educational migration is also considered as a “soft power resource” (Suvorova & Bronnikov, 2019, p.132), or its development trends in various countries and regions are analyzed, for example, in Russia (Chernykh & Izgarskaya, 2020, pp.15-25), Finland (Strielkowski et al., 2020, pp.32-49), Kazakhstan (Bokayev & Zholdybalina, 2019, pp.92-99) or in the Asia-Pacific region (Baas, 2019, pp.222-234). As we can see, educational migration can be viewed from different angles, depending on the objectives of the study.

After considering the definitions of “educational migration” in works of various authors, it can be concluded, that the essence of “educational migration” is the movement of individuals to another locality for a temporary residence, in our case, a country, in order to obtain education, new professional skills and/or advanced training.

To improve the governmental policy in the field of educational migration, first of all, studying the current regulatory and legal acts concerning a particular area is required. Thus, in the Strategy “Kazakhstan-2050” (2012), a long-term period

document, it has been noted that the state will provide opportunities and will create favorable conditions for Kazakh youth, so that they can “study, acquire new knowledge, master new skills and efficiently and skillfully deploy new technologies and expertise in their daily life” (Part II, Section 2, para. 8). At the same time, it was noted that migration problems should be solved comprehensively (Strategy “Kazakhstan-2050”, 2012, Addressing social imbalances in the regions section). In the National Development Plan of the Republic of Kazakhstan until the year 2025 (2018), a medium-term period document, it has been reported that a special program will be created in order to attract compatriots working in leading foreign scientific centers and universities (Task 6, para. 3). In addition to this, “the percentage of participation of Kazakhstani scientists in international programs and projects that are significant for Kazakhstan” will grow (National plan for development of the Republic of Kazakhstan until the year 2025, 2018, Task 6, para.4).

Other regulatory documents that must be analyzed are Education Act of the Republic of Kazakhstan (2007, July 27), Government program for development of education and science of the Republic of Kazakhstan for 2020-2025 (2019, Dec 27), and other documents related to the acquisition of foreign education by Kazakhstanis. They provide definitions for terms, such as “academic mobility”, “international “Bolashak” scholarship” and “Republican commission on personnel training”. In Population Migration Act of the Republic of Kazakhstan (2011, July 22) and Migration policy concept of the Republic of Kazakhstan for 2017-2021 (2017, Sep 29), there is no definition of the concept of “educational migration”, but there are definitions for concepts, such as “migration” and “migrant” (Section 2). In addition, it is possible to get acquainted with the main goals and objectives of the migration policy of the Republic of Kazakhstan. The lack of clear definitions and regulatory mechanisms in the field of educational migration leads to uncertainty in the implementation of policy in this direction and entails ineffective use of the intellectual potential of Kazakh graduates of foreign universities, and, as a consequence, financial losses for the Republic of Kazakhstan.

This study examines the problem of “brain drain” on the example of the Republic of Kazakhstan. To solve this problem, it is best to rely on the theory of human capital, according to which “education is an investment that produces benefits in the future”, and “recent cuts in education spending will therefore reduce future national income” (Quiggin, 1999, p.131). Quiggin (1999, pp.130-144), Ul Haque (2007, pp.1-51) and Smith (2006, pp.1-95) are authors who have successfully applied this theory in their research. However, there are also critics such as Marginson (2019, pp.187-301) and Fix (2018, pp.15-32) who question the correctness of the human capital theory. Scientific works on the following topics were considered during the process of writing a master's thesis: “brain drain” (Mortensen, 2008; Kazantsev & Borishpolets, 2013; Cowan et al., 2019; Ite, 2002; Chang, 1992; Cebotari, 2018; Ilic & Milosavljevic, 2017), “brain gain” (Tung & Lazarova, 2006; Haupt et al., 2010; Mahroum, 2005) and “brain waste” (Mattoo, et al., 2008; Lo et al., 2019).

The goal of the research is to create a set of recommendations of implementing the policy of applying intellectual potential of the graduates of foreign universities in

Kazakhstan. To achieve the goal of the research, the following tasks have been identified and should be completed:

- To study the theoretical aspects of educational migration, brain drain, brain gain, brain waste, the theory of human capital, research methodology;
- To analyze the regulatory and legal documents of the Republic of Kazakhstan concerning education and science, state migration policy;
- To reveal the readiness and engagement of graduates of foreign universities in development of social, cultural and economic spheres of Kazakhstan.

The objects of the research are the state policy in the field of educational migration and Kazakh graduates of foreign universities.

The subject of the research is the interaction of state bodies in terms of regulating educational migration and applying the intellectual potential of citizens graduated from foreign universities in the Republic of Kazakhstan.

The methods of the research. To accomplish the assigned tasks and achieve the goals of the master's project, scientific works of both local and foreign scientists on the topics of educational migration, human capital, brain drain, brain gain and brain waste were analyzed. The data for the dissertation was collected by using following quantitative and qualitative research methods: literature review, survey, in-depth interview. The data was analyzed by using statistical analysis and policy analysis. Data from the Ministry of Education and Science of the Republic of Kazakhstan, the Ministry of Internal Affairs of the Republic of Kazakhstan, the Ministry of Labor and Social Protection of the Republic of Kazakhstan, the Bureau of National Statistics, JSC “Center for International Programs” and other government agencies were sources of information. Primary data is taken from conducted in-depth interviews with Kazakhstani citizens graduated from foreign universities, living in Kazakhstan or abroad, and from a survey. Secondary data is taken after completion of literature review of main governmental documents and previous scientific works.

Hypothesis or expected results. Improvement of governmental policy in the field of educational migration and development of a strategy for applying the intellectual potential of citizens graduated from foreign universities in the Republic of Kazakhstan will reduce financial losses and will help to effectively use available intellectual resources for the innovative development of the country.

Practical significance. The results of the research, including both theoretical and practical aspects, can be considered by the Government of the Republic of Kazakhstan and implemented into the work of the relevant state organizations.

Research methods

In this investigation mixed research methods were used in order to guarantee accuracy and authenticity of the presented data and results. Mixed research methods using the strengths of qualitative and quantitative approaches help to understand research problems more deeply (Cresswell, 2009).

In order to analyze regulatory and legal documents of the Republic of Kazakhstan concerning education, science and state migration, policy analysis method was used. Policy analysis is the process of analyzing problems and issues and proposing effective solutions for decision makers (Amosa, 2018, p.10). In this case, we considered Strategy Kazakhstan-2050 (2012) as a policy agenda for the migration policy, as well as the National Development Plan of the Republic of Kazakhstan until 2025 (2018). Other considered documents are the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020-2025 (2019), the Concept of Migration Policy of the Republic of Kazakhstan for 2017 – 2021 (2017), The Rules for the selection of applicants for the award of the international scholarship “Bolashak” (2008), and the Rules for the direction for study abroad, including within the framework of academic mobility (2008).

In order to reveal the readiness and engagement of graduates of foreign universities in development of social, cultural and economic spheres of Kazakhstan the survey was conducted.

In total, 1111 graduates of foreign universities anonymously completed the questionnaire. The questionnaire includes 35 questions in 4 sections. The first section includes questions on socio-demographic characteristics of respondents. The second section is based on questions regarding self-development of graduates and professional competencies received from foreign universities. The third section includes questions on conditions of applying intellectual potential in Kazakhstan or in other countries. The fourth section includes questions on assessing governmental policy on applying intellectual potential of citizens, including graduates of foreign universities.

Based on the results of the survey it can be said that a little bit more than 60% of participants are aged 26 to 35, over 25% are in age category between 36 and 45 years old, 5,5% were in the youngest age category – 18-25 years, 6,5% are between 46 and 55 years, and only 2% of participants over 56 years old.

As for the gender, there is almost equability, 552 respondents or 49,7% are female and 559 or 50,3% are male. The majority of respondents are married - 59%, about 35% are single, near 6% are divorced and less than 1% are widowed.

Almost half of the respondents, 47%, indicated that they live in Nur-Sultan; 23% - in Almaty; 10 % in total, or 2,5% of respondents live in each of these regions: Aktobe, Atyrau, East Kazakhstan, Karaganda; about 2% are in Shymkent; participants from other regions were not so active – less than 2% for each region; at the same time about 7% of respondents indicated that they live abroad.

67% of the participants indicated the master's degrees as he highest level of education, the percentage for Bachelor degree holders and PhD is the same – a little

bit more than 16%, less than 1% chose residency (rezidentura). Regarding the year of graduation, the situation is as following: since 1992 to 2007 the low percentage of people graduated from foreign universities – less than 1% in each year; in 2008 – 1%; from 2009 to 2013 the average percentage is 5,5%; in 2013 10,5% of graduates of foreign universities; from 2014 to 2020 around 8,5% of respondents graduated, with exception in 2017 with 9%; in 2021 there are only 3% of graduates.

Regarding languages, it was found that the majority of respondents have language competencies in Kazakh, Russian and English. Other languages were also indicated, but much less than these three.

According to the results of the survey, more than half of the respondents in total indicated that their monthly income varies from 100 000 tenge to 500 000 tenge. For instance, about 19% of respondents receive up to 200 000 tenge; 17% - up to 300 000 tenge; 14,3% - up to 400 000 tenge and 11% - up to 500 00 tenge. About 5 % say that their income is less than 100 000 tenge; 6,5% - up to 600 000 tenge; 5% - up to 700 000 tenge; 4% - up to 800 000 tenge, 3% - up to 900 000 tenge; 4% - up to 1 million tenge; 5% - 1,5 million tenge; 3% - up to 2 million tenge and 5%- more than 2 million tenge.

In this investigation in-depth interviews with 30 Kazakh graduates of foreign universities were conducted: 16 living in Kazakhstan, 14 living in foreign countries. Being a qualitative research method, in-depth interview is an appropriate data collection technique helping to receive detailed and useful information for research (Boyce & Neale, 2006, p.3).

16 graduates of foreign universities currently living in Kazakhstan participated in in-depth interview. 4 people or 25% graduated from Great Britain, 3 or 18,8% - from China, 2 or 12,5 % from Canada and Russia respectively, and by 1 person or 6,3% graduated from Austria, Czech Republic, Malaysia, South Korea and the USA. The age categories are from 27 to 46. 4 people or 25% are in age 29 and 30 respectively; 2 people or 12,5% are in 36; and others, by 6,3%, are aged 27, 28, 31, 32, 35 and 46 respectively. With regards to the gender, 6 or 37,5% of participants are female and 10 or 62,5% are male. Regarding financial sources by which graduates studied, 9 or 56,3% of graduates studied by “Bolashak” scholarship, 1 graduate or 6,3% studied by Erasmus Mundus Scholarship, 2 people studied by hosting countries’ governmental scholarships, 4 people or 25% were self-funded. Respondents live in different regions of Kazakhstan: 5 people or 31,3% - in Nur-Sultan, 2 or 12,5% – in Aktobe and Mangistau regions respectively, others, by 1 person or 6,3%, live in Almaty and Shymkent cities, and East Kazakhstan, Karaganda, Kostanay, North Kazakhstan, West Kazakhstan regions.

14 graduates of foreign universities currently living abroad participated in in-depth interview. 3 people or 21,4% graduated from Great Britain, 2 or 14,3% - from Russia, 1 person or 7,1% graduated from Hungary and Sweden and by 1 person or 7,1% graduated from Canada, China, Germany, Hungary, Italy, Japan, Poland and Turkey. The age categories are from 23 to 41. 3 people or 21,43% are in each of 28 and 29 ages ; 2 people or 14,3% are in 27; and others, by 7,1%, are aged 23, 25, 35, 36, 37 and 41 respectively. As for gender, 8 or 57,1% of participants are female and 6

or 42,8% are male. Regarding financial sources by which graduates studied, 3 or 21,4% of graduates studied by “Bolashak” scholarship, 1 graduate or 7,14% studied by governmental scholarship and by his own financial sources, 1 graduate or 7,1% studied by “Bolashak” scholarship and scholarship from foreign university, 4 people or 28,6% studied by hosting countries’ government scholarships and 5 people or 35,7% were self-funded. Respondents live in different countries: 2 people or 14,3% - Germany, Japan, Russia, the USA respectively, others, by 1 person or 6, 3%, live in Great Britain, Norway, Poland, Serbia, Sweden and Turkey.

Interview guides contained 14 main questions for those graduates who live in Kazakhstan and those who live abroad; they were created in Russian language because it was comfortable language for communication for most of the participants. The main goal of the interview was receiving information regarding applying intellectual potential of graduates of foreign universities in Kazakhstan.

Literature review

Human capital

On the current stage of the development of civilization knowledge plays an important role. Main factor of economies based on knowledge is human capital and its development is one of the most important conditions for the growth the competitiveness of the country. At the same time, not enough attention to the development of human capital can be the main obstacle for innovative development and can have negative effects in the future.

The importance of Human Capital and its development for the world is seen on actions of international organizations. For example, World Bank realizes Human Capital Project supporting the idea that investment to people should be on regular basis (2021).

The concept of "human capital" is widely used in the scientific community, and its problems are discussed in educational, scientific and applied literature. Human capital has been allocated to a separate economic category in the economic sciences. Having become one of the fundamental concepts in economics, "human capital" allows you to describe and explain many processes, for example, economic growth and national wealth, income distribution, the composition of productive forces and other processes.

Nowadays research on human capital is based on neoclassical theories that were introduced and developed by Becker (1993), Schultz (1961) and Mincer (1958). The main idea of human capital theory is that education is considered as an investment to human capital and current "cuts in education spending will reduce future national income" (Quiggin, 1999, p.131).

In this master's project a Human capital theory is considered as main research theory which was frequently used.

Educational migration

The concept of educational migration is studied by scientists from different angles depending on the goals of research.

Educational migration can be described as temporary movement to other country with the goal to study in a foreign country (Korepina, 2018). After finishing studies abroad some the problem of not-return can be emerged (Baas, 2019).

In works of different authors educational migration can be considered as the source of "soft power" (Suvorova and Bronnikov, 2021). In this work, authors recommend to improve current mechanisms of regulation educational migration and to find new ones in order to attract educational migrants to Russia (Suvorova and Bronnikov, 2021).

Educational migration helps to create different forms of social capital (Glorius,

2019). In other work development of programs of qualified migration is considered. It influenced on the growth of popularity of international education In Pacific region. (Baas, 2019).

Intellectual migration

Intellectual migration is another important concept in this master's project. Naito and Zhao (2019) studied interconnection between education abroad, return migration and saving capital, created a model for prediction of returning/non-returning of migrants to their countries.

Intellectual migration is also studied by Kazakh scientists. In the work of Bokayev and Zholdybalina (2019), migration trends in the context of development of intellectual potential were investigated. The authors gave recommendations on decreasing the intellectual migration in order to develop human capital in Kazakhstan (Bokayev and Zholdybalina, 2019). In other work "Bolashak" scholarship is considered and how the government regulates intellectual migration (Bokayev. Torebekova and Davletbayeva, 2020).

Many works on intellectual migration include cases on particular country. One of them is work of Li and others (2020) where authors study how China controls intellectual migration.

Intellectual migration is connected with following concepts: brain drain, brain gain, brain circulation, brain waste.

There are many research works in the issues of brain drain. Most of these research are shown as a case study on particular countries. For example, Murakami (2010) studied Japanese researchers who live in the USA; Vracic (2018) investigated brain drain in Balkans, Botezat and Moraru (2020) studied brain drain in Romania and so on.

The concepts of brain drain, brain gain, brain circulation, brain waste are interconnected with each other. Different literature was analyzed on these concepts.

Public Policy in educational migration

In Strategy Kazakhstan-2050 (2012), the main strategic document of Kazakhstan now, it is written that Kazakh nation has "a great opportunity to capitalise on our human capital and rightfully position ourselves in the world..." (Part II, Section 2, para. 4). At the same time appropriate conditions for people will be created with the goal that they will actively participate in ongoing transformation in Kazakhstan (Strategy Kazakhstan-2050, 2012). The government will also support local qualified citizens in order to prevent their migration to the foreign labor markets (Strategy Kazakhstan-2050, 2012, Addressing social imbalances in the regions section). To achieve the goals, the state should have a highly educated nation (Strategy Kazakhstan-2050, 2012, Knowledge and professional skills section).

In the National Development Plan of the Republic of Kazakhstan until 2025 (2018), it is stated that “development of human capital, investment in a new type of education” will be one of seven basic principles for formation of a new development model of Kazakhstan (Section 3 Basic Principles of Realization). Therefore, the development of human capital is one of priorities of the government’s planned expenditures (National Development Plan, 2018, Task 14, para.10). In the National plan (2018), it is also indicated that all opportunities and conditions for the full implementation of the entrepreneurial, intellectual and creative potential of citizens will be created; as a result, it will increase their income and quality of life (Section 1 Introduction).

According to the Concept of Migration Policy of the Republic of Kazakhstan for 2017 – 2021 (2017), Kazakhstan can face the problem of an increase in the outflow of qualified personnel and talented youth (Section 2). In order to solve this problem, different strategies, that will create new migration policy, will be used. For instance, it is planned to develop human capital of Kazakhstan by attracting foreign workers on short-term and long-term projects (Concept of Migration Policy, 2017, Section 2). Another strategy is realization of national program on improving competencies (Concept of Migration Policy, 2017, Section 2). In order to find effective ways to minimize migration of qualified Kazakh citizens the research on dynamics, structure and reasons migration will be conducted by the government (Concept of Migration Policy, 2017, Section 4.2). Other mechanism for regulation of migration processes in Kazakhstan is integration of current information systems with information systems of governmental agencies (Concept of Migration Policy, 2017, Section 4.5).

Analysis and results of the study

Current statistics and problem statement

According to the Bureau of National statistics, since 2012 Kazakhstan has been facing a problem with negative net migration on annual basis (2021). There might be several reasons of this situation. According to researchers, it is happening because now Kazakhstan citizens with their professional activity have many opportunities to study abroad and integration between countries helps to create non-visa regime (Bokayev & Torebekova, 2020).

If consider educational migration, there is no systematic data on Kazakh citizens studying abroad. However, according to some sources, now more than 100 000 Kazakh citizens are studying abroad (Kapital.kz, 2021, para. 6). According to UNESCO, there are 83 503 Kazakh students studying in foreign universities (2021, Kazakhstan). Most of these students use their own financial sources in order to get knowledge in foreign universities (Abayev, 2020). There is also no exact information on Kazakh students by countries, but from international sources it was found that 61 462 Kazakh students were studying in Russia in 2020 (Study in Russia, 2021, para. 2) and 11 784 in China in 2018 (Textor, 2020). According to JSC “CIP”, there are 1111 current “Bolashak” scholarship students: 688 of them are studying, other 423 are in academic leave, waiting for studies or on holidays (Murat, 2021, para. 8).

Continuing the topic on “Bolashak” scholarship, there is statistical information on graduates of foreign universities. According to JSC “CIP”, in the period of 27 years 14 033 “Bolashak” scholarships were awarded: 785 scholarships - in the period from 1994 to 2004, 13 248 scholarships – from 2005 to 2020 (2021). From these 13 248 scholarships, 3 379 were awarded for bachelor programs, 7 277 – for master’s programs, 35 – for graduate studies (aspirantura), 87- clinical residency, 354 – PhD, 2 116 – internships.

10 981 “Bolashak” scholarship owners successfully graduated from best foreign universities (JSC “CIP”, 2021). The detailed information is shown in the Table 1.

Table 1. The number of “Bolashak” scholarship graduates by programs

№	Program	The number of graduates
1	Bachelor	2 664
2	Specialist	143
3	Masters	5 917
4	PhD	148
5	Graduate studies (aspirantura)	39
6	Internship (Internatura)	12
7	Clinical residency	91
8	Internship	1 967
Total		10 981

Source: JSC “CIP”, 2021

More than half of “Bolashak” scholarship graduates, 54,3%, studied on specialties related to human and social sciences area. 36,7% graduated with degrees in engineering and technical sciences. 7,2% of graduates finished medical specialties and only 1,8% - the specialties in Arts (Figure 1) (JSC “CIP”, 2021).

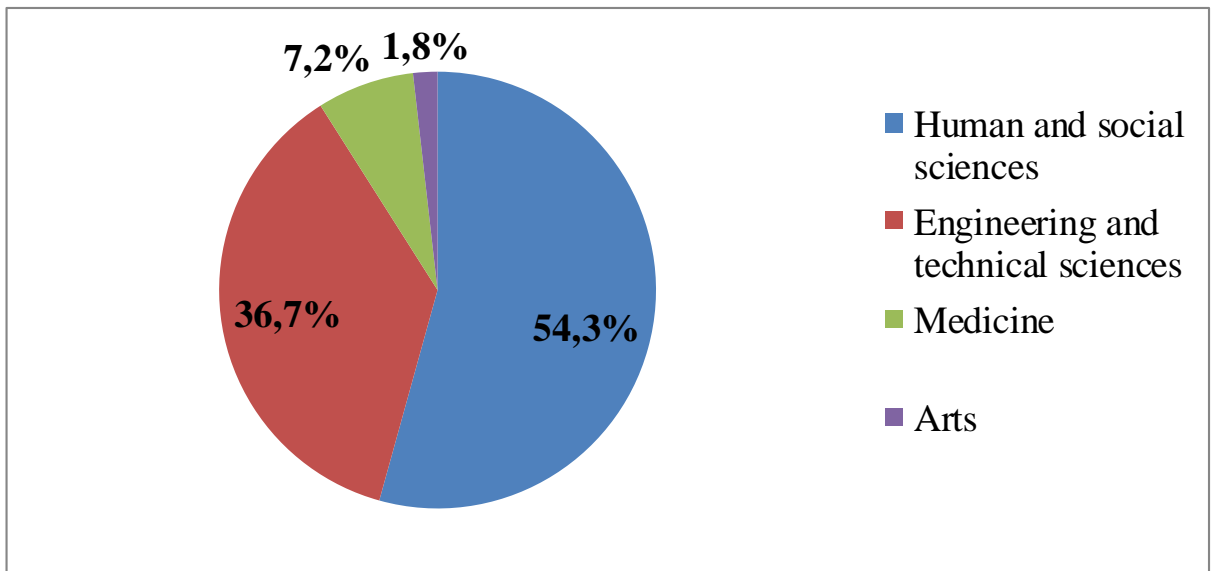


Figure 1. Specialty areas of “Bolashak” Scholarship graduates in percentages

Regarding the regions where “Bolashak” scholarship graduates studied, it can be said that the most popular direction to study was Great Britain and Ireland – 45,2% of graduates studied there. 25,7% of graduates studied in the USA and Canada, 13% - in Europe countries, 8,2% - in Asian countries, 7,9% - in Russia (Figure 2) (JSC “CIP”, 2021).

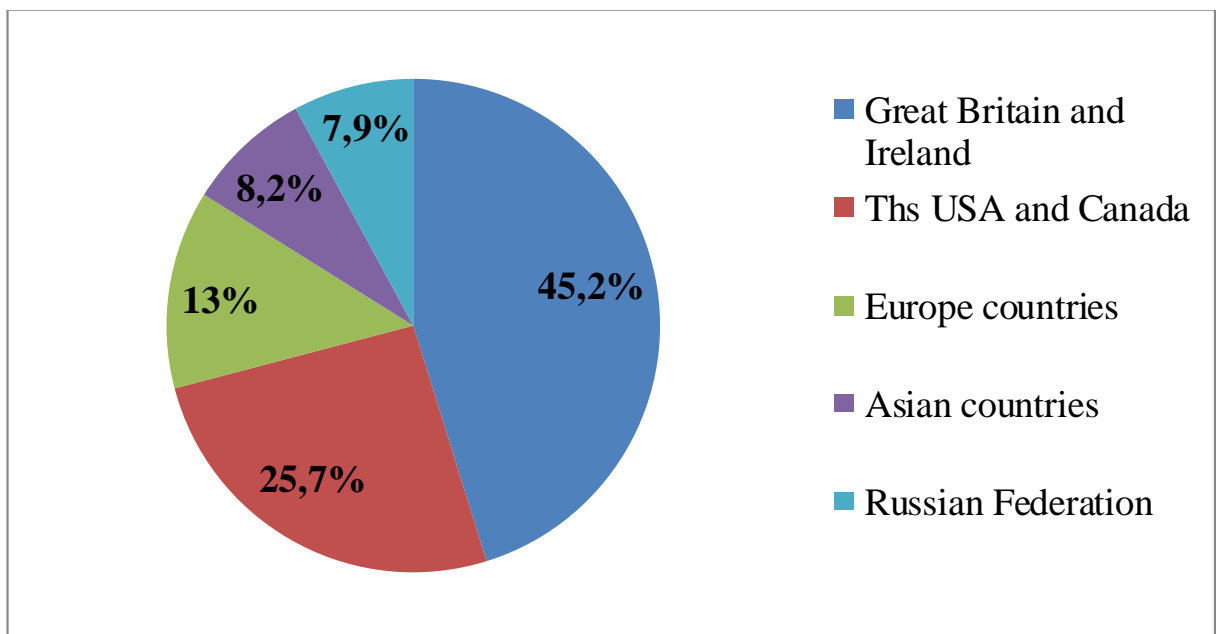


Figure 2. Regions in which “Bolashak” scholarship graduates studied

According to financial reports of JSC “CIP”, in the period from 2013 to 2019 income for operational activities varied from 15,9 to 20,3 billion tenge. Since 2018 the sum of annual income was growing. Outcome for operational activities varied from 15,5 to 20,3 billion tenge. Similarly, the annual outcome was growing since 2018. Balance varied between negative - 1,2 billion tenge to positive 440 million tenge (JSC “CIP”, 2021). Overall, balance was changing, but in 2019 it was positive (Table 2).

Table 2. Financial report on operational activities of JSC “CIP”

Year	Income, thousands tenge	Outcome, thousands tenge	Balance, thousands tenge
2013	16 436 874	16 506 191	-69 317
2014	18 803 431	18 918 962	-115 531
2015	15 991 319	17 247 307	-1 255 988
2016	20 301 421	20 291 351	10 070
2017	16 005 384	15 564 931	440 453
2018	16 479 931	16 807 901	-327 970
2019	17 951 336	17 901 690	49 646

Source: JSC “CIP”, 2021

In order to find effective ways for improving governmental policy and applying intellectual potential of graduates of foreign universities, the Republic of Kazakhstan periodically makes changes in “Bolashak” program. For instance, in the period from 2008 to 2010 preferable categories of applicants which were included to “Bolashak” program are: rural youth, public servant, science-pedagogical worker. Students who studied by mentioned preferable categories had opportunities to learn foreign language abroad before starting academic programs, such as Master’s and PhD. In 2011-2013, bachelor’s degree program was removed from “Bolashak”, but 2 new categories: engineering-technical and medical workers were added to the list of preferable categories. In the period from 2014-2016, new scheme for language preparation of “Boalashak” scholarship holders was introduced: 6+6. According to 6+6 scheme, “Bolashak” students had opportunities to study foreign language up to 6 months in Kazakhstan, and up to 6 months abroad. In this period, criteria to the knowledge of English was increased from IELTS 3.0 to 5.0, 2 new categories were included to “Bolashak” program: Social Media workers and PhD with foreign language preparation. In 2017-2018, requirements to the knowledge of language were increased from IELTS 5.0 to 5.5, differentiated approach by scheme “Center-region” was approved. Previously, contract obligations to work in Kazakhstan were 5 years, but after implementation of the changes to “Bolashak” program these obligations for those who work in regions were shortened to 3 years. In 2019-2020 all preferable categories were removed, as a result, language preparation for “Bolashsak” scholarship holders was also removed (Table 3) (Borisova, 2021).

Table 3. Changes in “Bolashak” program from 2008 to 2020

№	Period	What was changed?
1	2008-2010	Preferable categories of applicants were included: rural youth, public servant, science-pedagogical worker. The privilege for them was language preparation. Also programs for short-term internships were included
2	2011-2013	Bachelor program was removed. Additionally engineering-technical and medical workers categories were included to the list of preferable categories.
3	2014-2016	Language preparation was changed to 6+6 scheme (6 months in Kazakhstan; 6 months in foreign country). The requirements to English language knowledge increased from IELTS 3.0 to 5.0. The list of recommended universities was shortened from TOP-200 to TOP-100. Universities in TOP-30 by specialties were included to the list of universities. Additionally Social Media workers and PhD applicants with language preparation categories were included to the list of preferable categories
4	2017-2018	The requirements to GPA were increased from 3.0 to 3.3, same for English language knowledge – IELTS from 5.0 to 5.5. The list of recommended universities was shortened to TOP-70 by overall ranking and by TOP-20 by subjects’ rankings. Some changes were made into admissions process: 6 stages were implemented. Pre-Masters program was opened. Differentiated approach by scheme “Center-region” was approved: for those, who work in regions, their obligations by contract were changed from 5 years to 3 years.
5	2019-2020	All preferable categories were removed. Language preparation is possible only for rural youth.

Source: JSC “CIP”, 2021

Based on the statistical analysis the current situation is as follows: governmental policy regulates migration processes and application of intellectual potential of foreign universities’ graduates only in one way – by making contract agreements with “Bolashak” scholarship holders. “Bolashak” program plays a key role as Kazakhstan can expect positive changes in country’s development from the present time investments into human capital. Furthermore, according to researchers, “Bolashak” scholarship graduates are ready to make a contribution to the development of Kazakhstan (Bokayev et al., 2020).

Absence of official statistics on Kazakh students studying abroad makes some problems for policy makers because it’s not possible to prepare strategic documents without knowing real situation at the moment. Furthermore, potentially, those who are studying in foreign countries now may stay there after completion of studies and Kazakhstan even will not know about it because the government doesn’t control movements of educational migrants. If educational migration is controlled, it will help Kazakhstan to reduce the number of citizens who plan to stay in foreign countries, or, at least, apply intellectual potential of Kazakhstan citizens living abroad. In any case, control in educational migration and work on official statistics have many benefits for Kazakhstan, so it’s necessary to make changes in the current situation.

More than 10 000 graduates of foreign universities studied by “Bolashak” scholarship. However, their impact on Kazakhstan’s economy is unknown. It means that Kazakhstan didn’t control and measure how “Bolashak” scholarship graduates

apply their acquired knowledge, competencies and skills at work.

According to statistics, only 36,7% of “Bolashak” graduates completed specialties in engineering and technical sciences, comparing with 54,3% of graduates who studied by human and social sciences specialties. However, if the Republic of Kazakhstan wants to have an economic growth it should pay special attention on engineering industry and preparation of engineering specialists. This opinion is supported by the report from Royal Academy of Engineering (2016), in which the correlation between investments in engineering and economic growth of the country is shown.

According to the Rules for the selection of applicants for the award of the international scholarship “Bolashak” (2008), there are no requirements regarding work experience for applicants, except those, who apply to internships. There is also no requirement for applicants to have an employer. There is also not required to connect research with Kazakhstan. These omissions may cause problems such as not readiness of “Bolashak” scholarship holders to study abroad, risk of unemployment for graduates of foreign universities, probability to get not applicable for Kazakhstan knowledge, competencies and skills.

Review of the reasons of the problem and searching for solutions

Motives to study abroad

Analysis of the results of in-depth interviews with graduates of foreign universities explains why they decided to study abroad. Motives for selection particular countries and universities for study purposes are revealed.

One of the reasons to study abroad was the high quality of foreign education. At the same time, it was found, that there is a negative stereotype among graduates of foreign universities about quality of Kazakh education system. Some respondents of the depth interviews compared Kazakh education system with foreign education, and these comparisons were not positive for Kazakhstan.

“I decided to study abroad in order to extend my outlook. I also heard that foreign education in western countries, in total, is more qualitative then here, in Kazakhstan. I chose Canada because some of my friends and relatives already have been studied there. And one of criteria was security of country for life” (Male, 30 years, graduate of Canadian university, lives in Karaganda region).

“It was really interesting to test Bologna process’ credit system on myself... There are great differences between us and European universities” (Female, 29 years, graduate of Austrian university, lives in Nur-Sultan).

“Why did I choose exactly Moscow state university? First of all, it is in TOP-100 universities” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“I thought that I receive best education comparing with Kazakhstan” (Female, 29 years, graduate of Chinese university, lives in Mangistau region).

“I searched for a university. It’s number 1 in China and, in 2018, it was in TOP-30 best universities in the world and I, without any hesitation, decided to apply” (Male, 29 years, graduate of Chinese university, lives in Nur-Sultan).

Desire to fill gaps in knowledge, competencies and skills, was also a motive for some respondents to study abroad.

“With what purpose did I go? Of course, to extend my horizons of education. I always was...hungry to education, I was not satisfied with the level of Kazakhstan’s education since the school... and if I want to be, say, a specialist of my sphere, good professional, it’s necessary to get a degree, any degree abroad” (Female, 30 years, graduate of Canadian university, lives in Almaty city).

“My candidate’s dissertation was on borders of history and demography and I wanted further deepen to this science, demography, which was new for Kazakhstan.” (Female, 46 years, graduate of Czech university, lives in Nur-Sultan).

“I felt a lack of knowledge. I didn’t get what I needed for work in our country. Even if some concepts were used at work, not everyone exactly understood these concepts, how it’s used on practice. That is why I decided to study abroad” (Female, 32 years, graduate of British university, lives in East Kazakhstan region).

Other motive to study abroad for respondents was a desire to explore foreign countries, find something interesting there.

“The third reason is to go abroad and see the world” (Male, 29 years, graduate of Chinese university, lives in Nur-Sultan).

“It was necessity to see more developed countries” (Male, 31 years, graduate of Korean university, lives in Nur-Sultan).

“I wanted to see the world after school. I wanted something new,

interesting” (Female, 29 years, graduate of Chinese university, lives in Mangistau region).

“Because I wanted to be in foreign country, feel this atmosphere... to see their points of view on life, what is a difference” (Male, 28 years, graduate of Malaysian university, lives in Aktobe).

“China is a great country with a great history. I am not a fan of history, but being in other country you feel yourself differently far from family, relatives and friends” (Male, 29 years, graduate of Chinese university, lives in Mangistau region).

Language factor was also one of the motives to study abroad. Graduates of foreign universities were honest with interviewers and can adequately measure their language competencies, so they chose countries with a language that was comfortable for graduates to speak. Other respondent said that learning foreign language is № 1 priority.

“The third key factor is language competency. For example,... I could apply to American or British universities, but a language competency could worsen my academic performance” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“The main reason is to improve language” (Male, 29 years, graduate of Chinese university, lives in Nur-Sultan).

Some participants of the in-depth interviews were influenced by their friends, members of families and other relatives in the process of selection of the place of study.

“First of all, my groupmates already have been studied there” (Female, 29 years, graduate of Austrian university, lives in Nur-Sultan).

“My mother is a businesswoman and she often went to China. When she was coming home, she met a Chinese student and they talked with each other. She asked, where he was studying, how is he studying, how is it going? He said everything in details, and financial part too. In total she liked everything and came home and asked me: “Don’t you like to study in China?” I said: “Why not?” So, I turned up in China” (Female, 29 years, graduate of Chinese university, lives in Mangistau region).

“Then, my friend proposed to go to China... My friend recommended, I was not against” (Male, 29 years, graduate of Chinese university, lives in Mangistau region).

Other finding is that not all respondents went there, where they wanted to go at the beginning. In other words, they had limited options or even didn't have a choice to select desired country for studies. However, they don't regret and even think that it was a best choice for them.

“Regarding Canada, it was not my first choice. When I was applying documents to “Bolashak”, I chose France...And before the first stage of exams, I was called from office of “Bolashak” and was told that “they apologize, that no one, except me, applied to France and when there is only one applicant, they will not organize commission... They told me that that I have 2 minutes to change a country of study or take back documents from the office of “Bolashak”... Probably, it was a destiny. Now, on the contrary, I am very glad that I didn't go to France and went to Canada” (Female, 30 years, graduate of Canadian university, lives in Almaty city).

“Because there wasn't a big choice. There were only French universities and Czech university. Studying in French was not possible, I don't speak French. Only one choice was Czech Republic. Only one... Exactly Czech Republic, more concrete, in Karlov University taught Demography, according to “Bolashak” list” (Female, 46 years, graduate of Czech university, lives in Nur-Sultan).

Analysis of the results of the in-depth interviews with graduates of foreign universities shows that one of the main reasons to study abroad is a desire to get a good qualitative education. Some of respondents noted that their universities are in TOP lists according to world rankings. One of the motives to study abroad was the desire to fill gaps in knowledge, skills and competencies. Participants also indicated a language factor that influenced them in the process of selection of the country. Many respondents answered that they wanted to see the world, explore new countries and cultures. However, some of them were influenced by relatives or friends when they decide to study abroad. Interesting finding was the fact that graduates studied in countries which were not their first choice because of some circumstances.

The reasons of returning to Kazakhstan or staying in a foreign country

Our survey analysis shows that contract obligations play an important role in returning back of graduates of foreign universities: 76% of graduates indicated this point. 63,6% of respondents answered that family and family ties influenced them to come back to Kazakhstan. 29,3 % of graduates of foreign universities were influenced by patriotic feelings when they decided to return home. 9,9% of participants of the survey indicated friends and friendships. 12,2% of respondents came back to Kazakhstan because of native cultural and linguistic environment. Career perspectives were the reason of returning for 8,6% of respondents. Other

reasons of coming back to Kazakhstan – fear of competition in the labour market in highly developed countries – 2,2%, highly paid job – 1%, climate and ecology – 0,5% and COVID-19 – 0,8% (Figure 3).

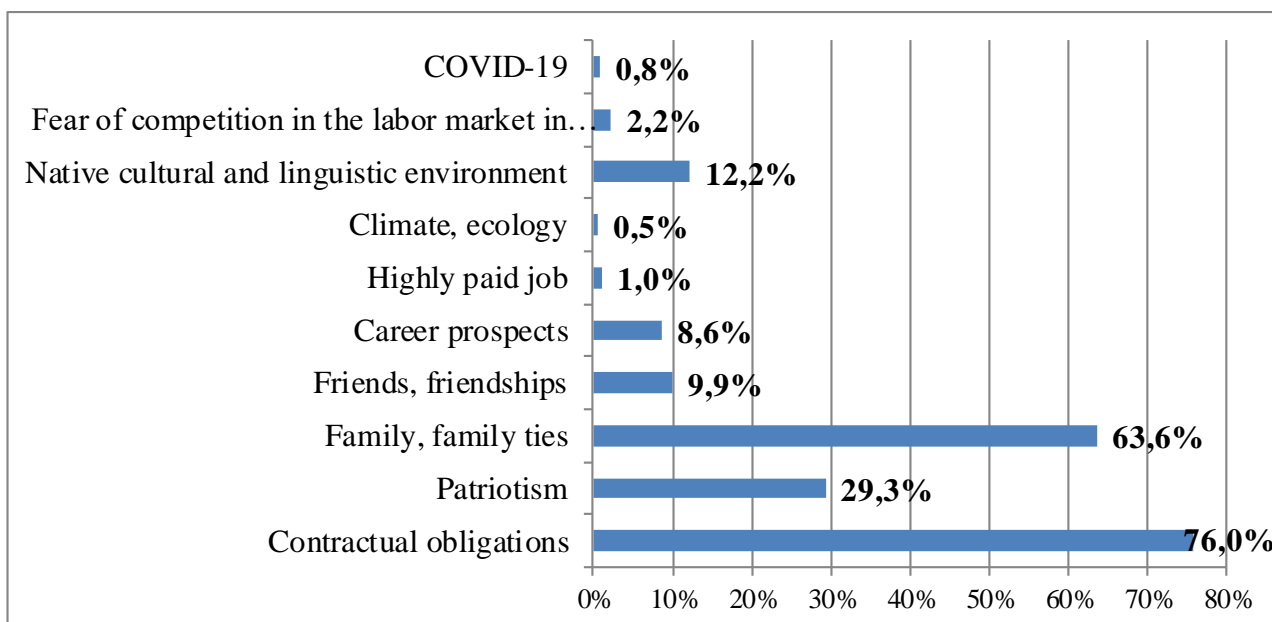


Figure 3. The reasons of returning to Kazakhstan

Analysis of in-depth interviews with graduates of foreign universities shows the results correlated with the results of the survey. Respondents of the depth-interviews pointed out similar to the survey results main reasons of returning to Kazakhstan: contractual obligations, family and family ties, patriotism, native cultural and linguistic environment. Additionally, minority of participants pointed following reasons to return: health problems, friends, and fear of competition in the labour market of more developed comparing with Kazakhstan country. However, all of these cases are single.

Majority of respondents (all of them are “Bolashak” graduates) mentioned contractual obligations as a main reason to return home. Interesting finding from the interview analysis is that contractual obligations are an effective instrument for returning graduates of foreign universities to Kazakhstan. All of them returned to Kazakhstan. If for ones it didn’t play a key role because they planned to come back in any case, but for others it was a barrier to stay in foreign countries.

“I returned to Kazakhstan because I had a contract with “Bolashak”. I must have worked for education’s payment. I came back... But, in total, if I would not have these contractual obligations, I, most probably, would stay abroad” (Male, 30 years, graduate of Canadian university, lives in Karaganda region).

“Third, I have obligations by this program... I was sent on the internship

from a university, international university Silkway. So, I must have come and work on our university. Now I work here” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“I had a desire to stay, work. One year, as I understood later, is not enough in order to get some experience, to change outlook. Returned to Kazakhstan because it was necessary to work on your scholarship. Came back because of necessity” (Male, 30 years, graduate of British university, lives in Nur-Sultan).

“To return.. If answered de jure and de facto. De jure – it’s, of course, our obligations on “Bolashak”. We had contract obligations. We must work at least 5 years by our specialty in Kazakhstan” (Female, 30 years, graduate of Canadian university, lives in Almaty city).

“Third reason is contractual obligations” (Female, 46 years, graduate of Czech university, lives in Nur-Sultan).

“First of all, I had contractual obligations for the country, “Bolashak”, needed to work. Already worked 3 years... But the government sends us for this, with the goal that we come back and implement our knowledge here. That is why, I came back” (Male, 35 years, graduate of British university, lives in North Kazakhstan region).

“I have contractual obligations by “Bolashak” program. I must work at least 2 years, I mean in Semey, it’s 2 years. Yes, this is the only reason” (Female, 32 years, graduate of British university, lives in East Kazakhstan region).

“Contractual obligations for “Bolashak” (Female, 30 years, graduate of British university, lives in West Kazakhstan region).

Family ties are very strong in Kazakhstan. Institute of family plays an important role in the development of Kazakhstan. These statements are supported by the results of in-depth interviews. Family and family ties were important for respondents to come back to Kazakhstan.

“I didn’t have a desire to stay abroad because, first of all, I am married, have children” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“The main reason is that here is my family, my relatives” (Male, 31 years, graduate of Korean University, lives in Nur-Sultan).

“The main reason is, most probably, family. After Malaysia I had offer to stay and work, but I decided to return to Kazakhstan because I had family here... I think, all have this kind of problem. When someone finish abroad, and the question emerged. Came back or stay there? One of the main reasons is family, the place, in which all wait for you...” (Male, 28 years, graduate of Malaysian university, lives in Aktobe region).

Patriotic feelings are other reason of returning Kazakh graduates of foreign universities to Kazakhstan. It's a useful finding; it will be needed when new government policies of Kazakhstan will be produced. Patriots are interested in the development of the country.

“Besides contractual obligations, of course, there is homesickness, longing for close people” (Male, 30 years, graduate of Canadian university, lives in Karaganda region).

“I am a patriot of my country” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“I had, first of all, homesickness. I wanted to return to Kazakhstan and show how Canadians live. We also can do same... I had enthusiasm, plan. I returned with those plans and desire, that next generation of lawyers which I will teach, will not be as they, will not repeat my mistakes” (Female, 30 years, graduate of Canadian university, lives in Almaty city).

“Most probably, it's patriotism... This is a huge love to your Homeland because studying there Kazakhs were big patriots abroad. Doesn't matter how Kazakhs swear with each other, how they talk with each other, but something always merged – the love to the homeland” (Female, 29 years, graduate of Chinese university, lives in Mangistau region).

“I missed my country. Of course Great Britain is very interesting country, good, I like it... But my country is closer” (Male, 35 years. graduate of British university, lives in North Kazakhstan region).

Kazakhstan has rich cultural and language traditions, so it's, probably, influenced on some respondents of the in-depth interviews. They emotionally show their love to culture and language of Kazakhstan, so it can be considered as the reason of returning.

I, probably, was too much Kazakh because of my parents. Because last half-year, when I was listening Kui Adai or when I was listening to all melodies of “Ulytau”, I simply cried, weeped. I only wanted to return to Kazakhstan and hear native speech from relatives” (Female, 30 years,

graduate of Canadian university, lives in Almaty city).

“Land, this is my land. This is my language on which talk, sing and miss. I wanted to return because of them... This is on the first place. Yes. Love to your land and your language” (Male, 28 years, graduate of Russian university, lives in Aktobe region).

However, not all Kazakh graduates of foreign universities decided to come back to Kazakhstan. Even “Bolashak” graduates, despite the contract obligations, decided to stay in foreign countries. According to JSC “CIP”, more than 150 “Bolashak” recipients did not return to Kazakhstan and continued their education or work experience abroad (Galkina, 2018).

The results of the in-depth interviews show that the one of the main factors for graduates of foreign universities that impacted on their decisions to stay abroad is job opportunity:

“I wanted to work here... There are opportunities here, big companies, career prospects” (Female, 27 years, graduate of German university, lives in Germany).

“After receiving PhD I had a chance, in my opinion, very lucky. I met needed for me people, exactly in this moment. And position that they proposed me was very interesting and by specialty. So, I decided not to return to Kazakhstan and to continue my research work” (Female, 35 years, graduate of British university, lives in Norway).

“These are two main, most probably, reasons. Salary and opportunity to work by specialty” (Male, 28 years, graduate of Russian university, lives in Russia).

“During studies on Masters I had an opportunity to work in interesting company on interesting project related to alternative sources of energy in automobiles and I took this opportunity and left PhD. To clarify, I finished masters and didn't finish PhD and started to work” (Female, 28 years, graduate of Japanese university, lives in Japan).

Other reason influenced on graduates of foreign universities to stay abroad is financial factor or in, other words, high salaries:

“I stayed, most probably, not because of particular country. My first reason is a financial reason... Education is costly process... From practical point of view it has meaning to pay off for consumptions that were done... It's easier to do it abroad because salaries are higher. And time for job search is less” (Male, 25 years, graduate of Canadian university, lives in Great

Britain).

Getting new experience, skills from foreign countries was also an important reason for respondents of the in-depth interviews to stay abroad:

I decided to move to abroad, to see something new, new experience. Maybe I can learn something new” (Male, 36 years, graduate of British university, lives in Turkey).

“Desire to see the West in that moment won and I decided to see America” (Male, 29 years, graduate of Chinese university, lives in the USA).

“Why did I stay abroad? To get experience because this is completely other level... But, final goal is to be demanded later, when coming to a local market, a market of CIS” (Male, 27 years, graduate of Italian university, lives in Germany).

Some graduates stayed abroad because of family circumstances:

“In Serbia I turned up last half-year because of marriage. Because husband works, he has a contract job. Have to move because need to be near him” (Female, 29 years, graduate of Turkish university, lives in Serbia).

For others security was important:

“It’s, probably, security. It seems to me, I feel myself more secure, if go to a shop at night...If it would be in Kazakhstan, it will be scary, I will run and pretend to talk by phone with father or something more” (Female, 28 years, graduate of Polish university, lives in Poland).

Participants indicated comfort and climate in places where they live:

“I like Kazan city. During 4 years that I studied here, this city became second city after Aktyubinsk. It’s comfortable for me, I like climate. First of all, there are more objects, the second is climate. And in total I wanted to stay here” (Male, 23 years, graduate of Russian university, lives in Russia).

Respondents also provided information on weak sides of Kazakhstan and factors that influenced them to leave the country. For example, for some of participants of in-depth interviews it was difficult to live in the society of Kazakhstan:

“Why didn’t I stay? Scientific environment doesn’t understand. I am a stranger for them. We talk on different languages. It’s uncomfortable for me.” (Female, 37 years, graduate of universities in Hungary and Sweden,

lives in Sweden).

“It’s freedom. Because our society is Kazakh, it has some conditions, when a girl should be modest, constrained. Must not be against, if talk with someone. And it goes slightly against with my character” (Female, 28 years, graduate of Polish university, lives in Poland).

“In Kazakhstan there is other culture... I, a little bit, got used to that all are polite. When I come to Kazakhstan, I feel that people are aggressive...I, a little bit, feel cultural shock because people are, a little bit, aggressive” (Female, 27 years, graduate of German university, lives in Germany).

Respondents didn’t stay in Kazakhstan also because of not enough high level of economic development in the country and low salaries:

“Let’s start from salary... 150 00, probably, will be salary. And I thought for what it is enough?... Can I be financially free in Kazakhstan?...” (Female, 27 years, graduate of German university, lives in Germany).

“The second reason is, probably, salary. Because, when you live and get salary abroad as a scholarship, you don’t want to get less” (Female, 35 years, graduate of British university, lives in Norway).

“Because of the level of life, probably. Because there are a lot of programs, “Bolashak”, or those people as I am, who went to study self-fund. They see what’s happening abroad. They see how everything happens. But, when it have to come to Kazakhstan, where you are forced to apply all knowledge and skills, which you learnt abroad, but they are not applicable because uselessly to try something against system” (Male, 29 years, graduate of Chinese university, lives in the USA).

“I don’t see development perspectives in Kazakhstan... I left Kazakhstan’s company because there was neither money nor career development... There are a lot of things to do. And if you don’t have levers to do this, change something, this is almost impossible.” (Male, 36 years, graduate of British university, lives in Turkey).

Graduates of foreign universities also indicated that they left Kazakhstan because their specialties were specific for Kazakhstan and, sometimes, not applicable.

“My specialty is very specific. Marine engineering. Marine engineering is only where Caspi” (Female, 35 years, graduate of British university, lives in Norway).

“From the beginning the root of the reason was exactly in the specifics of

graduate medical education. I think, it doesn't work well in Russia, as well as in Kazakhstan" (Male, 28 years, graduate of Russian university, lives in Russia).

The analysis of the survey shows that there are 4 main reasons for returning to Kazakhstan: contractual obligations, family and family ties, patriotism, native cultural and linguistic environment. The analysis of in-depth interviews with graduates of foreign universities shows similar results, but respondents gave more detailed answers. If family ties, patriotism, native cultural and linguistic environment are related to feeling of graduates of foreign universities and the government doesn't have much influence here, but by contractual obligations Kazakhstan can return graduates to Kazakhstan and has juridical power to do it. If look at it through prism of Human Capital Theory, investments to human capital seem to be effective because graduates returned to and work in Kazakhstan. However, in reality it depends on where and how graduates work, and other factors.

The analysis of in-depth interviews also explains why people stay in foreign countries. First of all, they moved in foreign countries because of job opportunities and high salaries comparing with Kazakhstan. Respondents indicated opportunities to get new experience and knowledge there. In rare cases, the reason for movement might be family circumstances, such as marriage. Respondents also explained why they didn't stay in Kazakhstan. There are some factors: difficulties of living into Kazakh society, not good enough level of economic development of Kazakhstan and low salaries. Some respondents said that their specialties are specific for Kazakhstan and, sometimes, not applicable. In this case, according to Human Capital theory, Kazakhstan has financial loses because graduates of foreign universities stay abroad. However, not all respondents studied in foreign countries by "Bolashak" scholarship, so financial loses might be less. If consider this case through "brain drain", Kazakhstan lost qualified citizens of the country. On the other hand, "brain drain" can be transformed to "brain circulation" and will give some benefits to Kazakhstan.

Strategies of job searching

One of the reasons why graduates of foreign universities not completely use their intellectual potential might be that they couldn't find job in in first 6-12 months after graduation. According to the results of the survey, it can be seen more than half respondents answered that they didn't receive offers from Kazakh employers during the time when they were studying or during 6 months after completion of foreign universities (Figure 4).

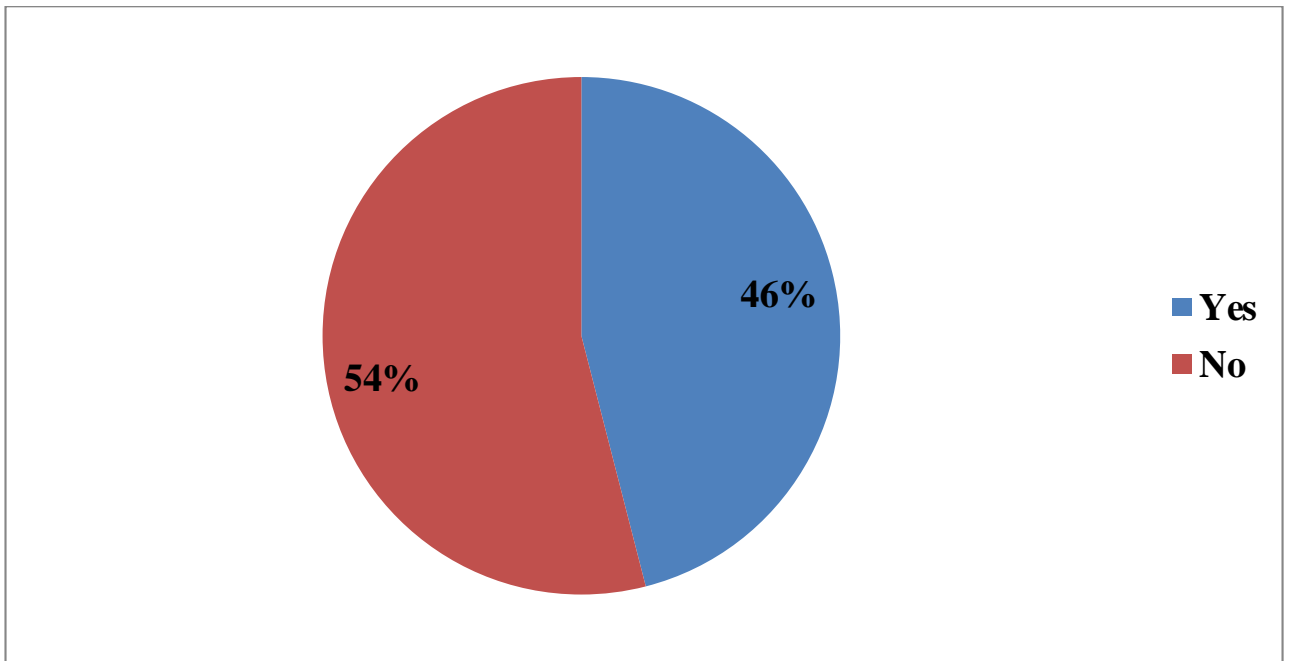


Figure 4. Receiving job offers by graduates of foreign universities from Kazakhstan's employers during the period of education or 6 months after completion of studies

According to the results of the survey, graduates of foreign universities used different strategies in order to find a job, except 21,1% of respondents who already had a job and didn't use any job searching strategies.

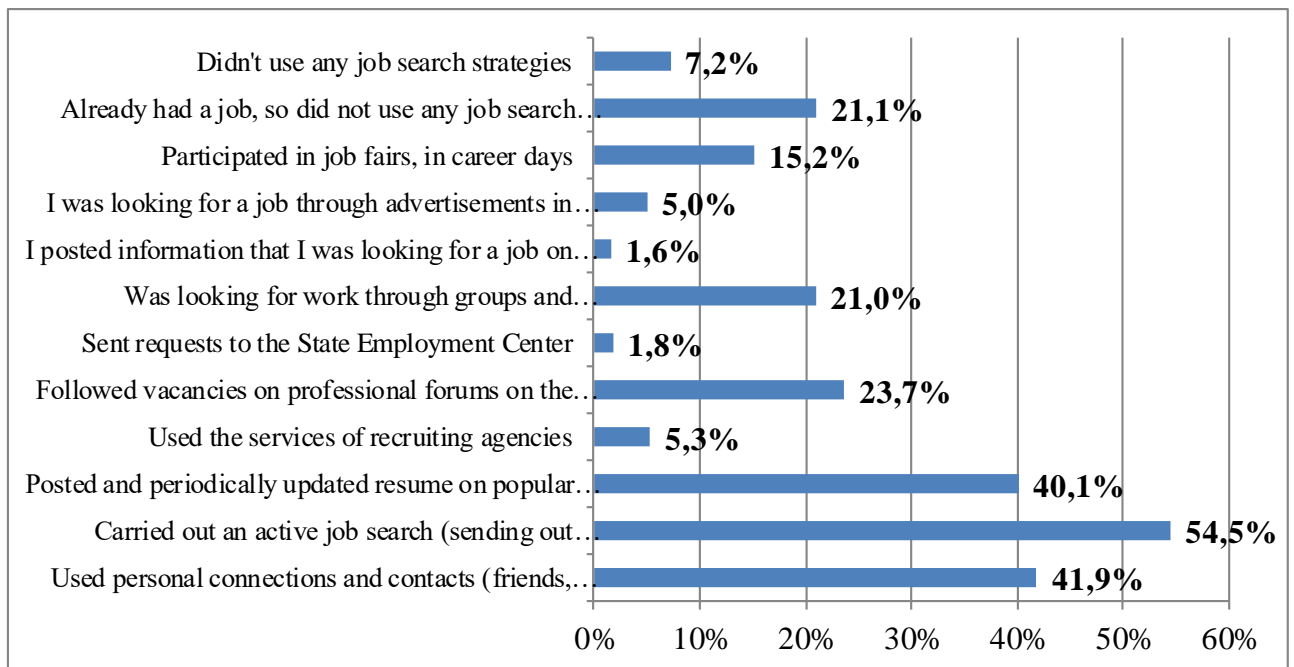


Figure 5. Strategies of job searching used by graduates of foreign universities

54,5% of participants of the survey carried out an active job search by sending out resumes, searching for vacancies on employers' websites, regularly calling

employers. 41,9% of respondents used personal connections and contacts by getting help from friends and relatives. 40,1% of graduates posted and periodically updated resume on popular job sites. 23,7% of graduates followed vacancies on professional forums on the Internet. 21% of participants were looking for work through groups and communities on social networks (Facebook, LinkedIn, Instagram, Telegram, VKontakte, WhatsApp, etc.). 15,2% of graduates participated in job fairs and career days in order to find a job. 5,3% of respondents used the services of recruiting agencies, 5% were looking for a job through advertisements in the media. Least popular strategies of job searching are sending requests to the State Employment Center – 1,8% and posting information about job searching on personal pages in social networks. 7,2% didn't use any job search strategies (Figure 5).

Professional competencies and knowledge obtained in foreign universities

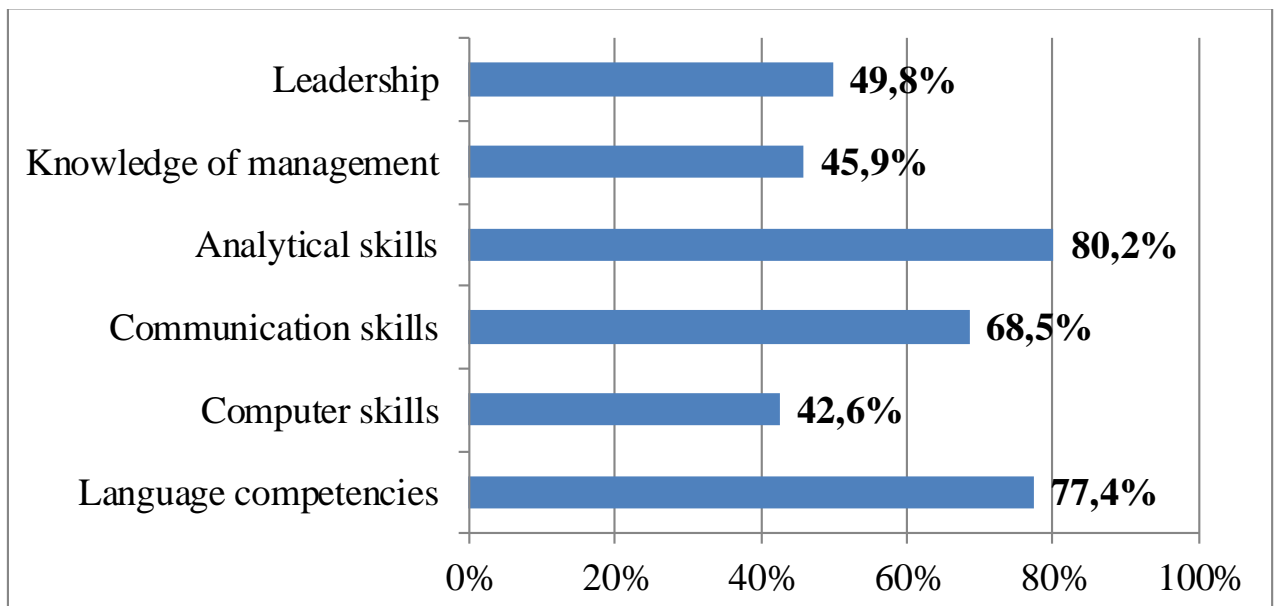


Figure 6. Skills, competencies and knowledge that were developed by respondents in the process of studying in foreign universities

Analysis of the survey shows that 80,2% of respondents developed analytical skills in the process of studying in foreign universities. They developed research skills and learnt how to interpret information, how to solve problems, how to solve problems, how to write analytical notes and so on. 77,4% of graduates developed language competencies. 68,5% of respondents developed communication skills including oral, written, interpersonal and non-verbal communication, presentation skills, negotiations skills, persuasions skills and so on. 49,8% of graduates developed leadership including motivation, delegation, decision making, collaboration, strategic thinking, critical thinking and so on. 45,9% of respondents developed their knowledge of management including people management, project management, time management, conflict resolution, finance, budget, organizational skills, logistics,

action planning, risk management, and other competencies. 42,6% of graduates developed computer skills such as working with office programs, working with data and so on (Figure 6).

The level of applying knowledge and competencies in workplace

The usefulness of received by graduates knowledge, skills and competencies were measured from 0 to 10 and are shown in Figure 7. 21,3% of respondents answered that they completely use their knowledge, skills and competencies and marked it as 10. Overall, majority of respondents agree that they apply their skills, knowledge and competencies to a greater extent, but not fully. For instance, 8,9% of graduates marked it as 9; 16,6% and 15,8% of respondents chose 8 and 7 respectively; 12,3% marked it as 6 and 8,7% - 5. On the other hand, minority of respondents think that they use knowledge, skills and competencies on the scale from 0 to 4. For example, 4,4% of graduates chose 4; 5,7% - 3; and 2,3%, 2% and 2,1% evaluated the application of received skills, knowledge and competencies as 0, 1 and 2 respectively.

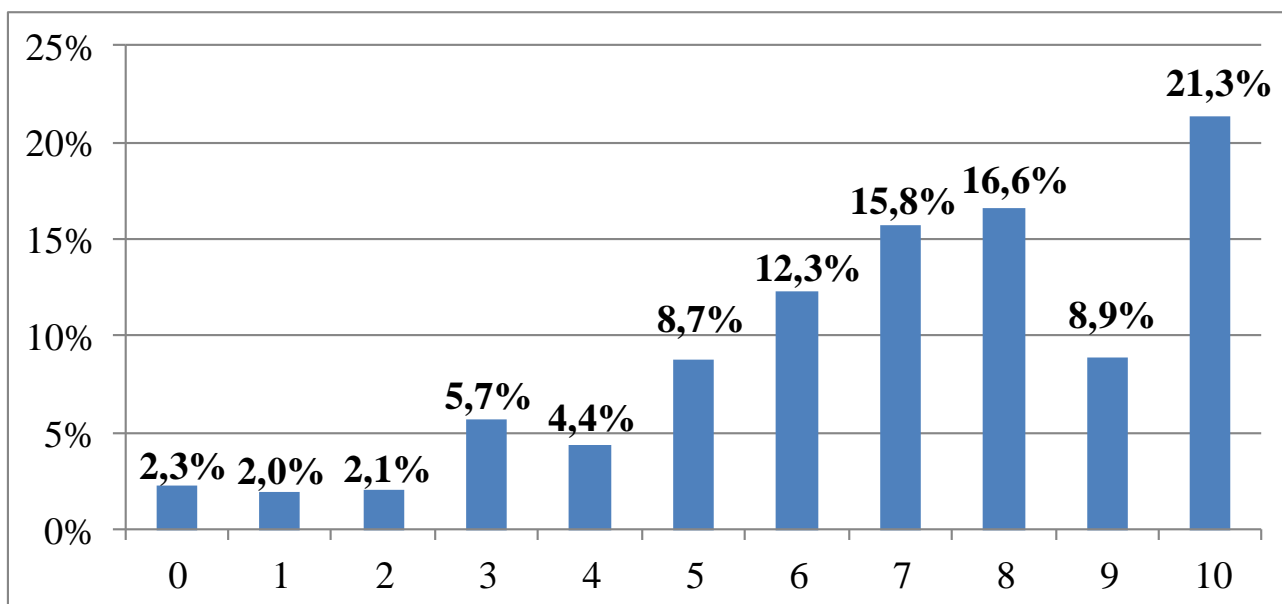


Figure 7. Using knowledge, competencies and skills acquired in foreign universities by Kazakh graduates in current work

The results of the in-depth interview with graduates of foreign universities confirmed that not all graduates who live in Kazakhstan completely use their knowledge, skills and competencies at work. For instance, this is a statement of a graduate who studied engineering in Canada:

“In my current work, I only use skills related to English ... also the ability to give presentations” (Male, 30 years, graduate of Canadian university,

lives in Karaganda region).

Other respondents also answered that their skills, knowledge and competencies are not completely utilized:

“Well, unfortunately, probably to a minimum. Well, something more, maybe, I use a little from project management, but in general, no, practically” (Male, 30 years, a graduate of British university, lives in Nur-Sultan).

“Well, if you count out of 10, then, somewhere, 5” (Man, 29 years old, a graduate of a Chinese university, lives in Nur-Sultan).

“If by %, probably, theoretical knowledge is about 60 %, theoretical part is 60%, not 100. And by practical such hard skill, probably soft skill, probably about 80, approximately” (Woman, 30 years, graduate of a Canadian university, lives in the city of Almaty).

“Well, probably less than even half” (Woman, 32 years old, a British university graduate, lives in the East Kazakhstan region).

“If we talk about 5 points, then, probably, 4 or even 3 with a plus, maybe” (Male, 28 years old, a graduate of the Malaysian University, lives in Aktobe region).

Participants of the survey also measured applicability of their knowledge, skills and knowledge gained from foreign universities. First item is language competencies.

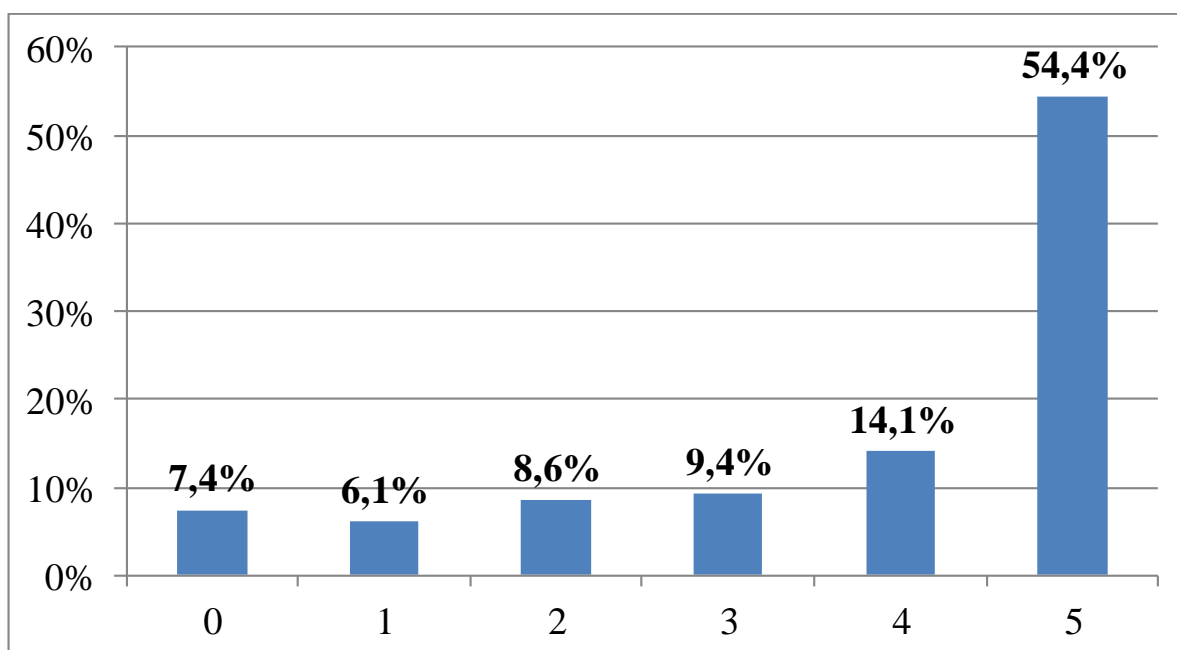


Figure 8. Applicability of language competencies

54,4% of respondents answered that their language skills are applicable on 5 points out of 5; 14,1% - on 4; 9,4% is on 3; 8,6% is on 2; 6,1% is on 1; 7,4% think that language competencies are not applicable.

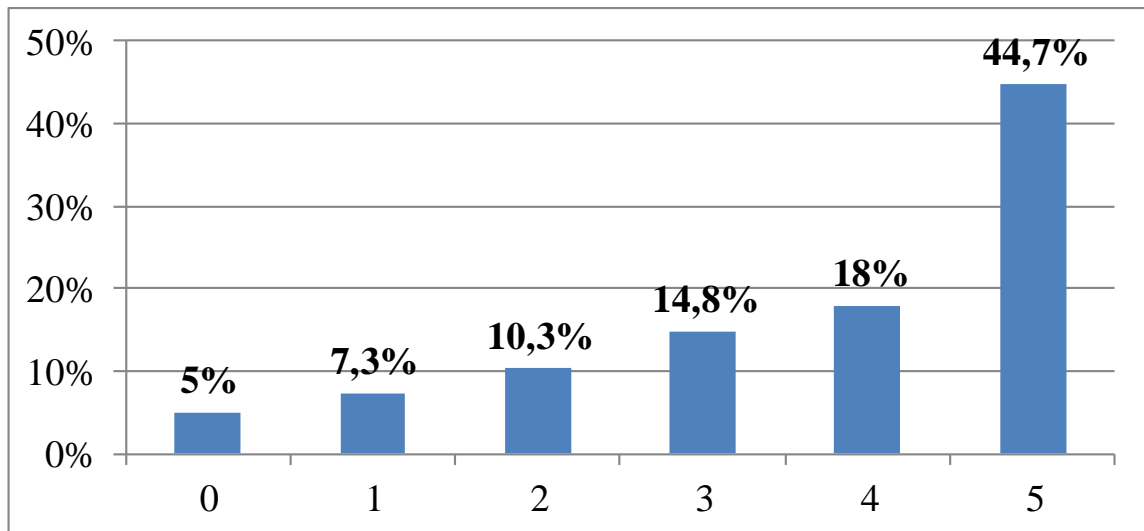


Figure 9. Computer skills (working with office programs; working with data, etc.)

Second item is computer skills (working with office programs; working with data, etc.) (Figure 9). 44,7% of respondents answered that their computer skills applicable on 5 points out of 5; 18% - on 4; 14,8% is on 3; 10,3% is on 2; 7,3% is on 1; 5% think that computer skills are not applicable.

Third item is Communication skills (oral, written, interpersonal and non-verbal communication; presentation skills; public speaking skills; negotiation skills; persuasion skills, etc.) (Figure 10). 49% of respondents answered that their communication skills applicable on 5 points out of 5; 20,9% - on 4; 12,4% is on 3; 11% is on 2; 5,2% is on 1; 1,5% think that communication skills are not applicable.

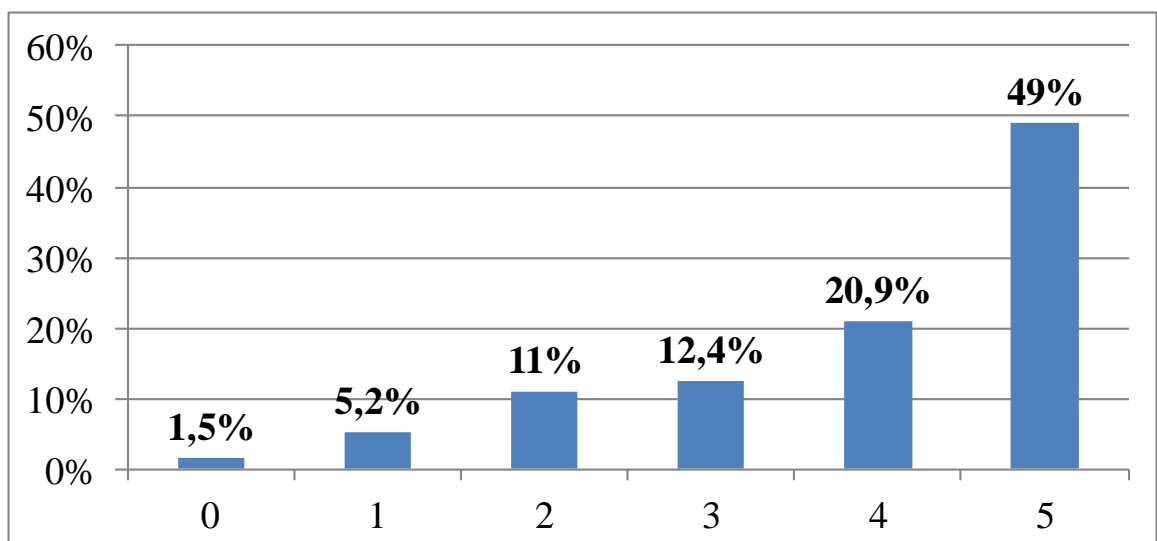


Figure 10. Communication skills (oral, written, interpersonal and non-verbal

communication; presentation skills; public speaking skills; negotiation skills; persuasion skills, etc.)

Fourth item is Analytical skills (interpreting information; solving problems; writing analytical notes; research skills, etc.) (Figure 11). 50,1% of respondents answered that their analytical skills applicable on 5 points out of 5; 22,2% - on 4; 10% is on 3; 11,3% is on 2; 5,3% is on 1; 1,2% think that Analytical skills are not applicable.

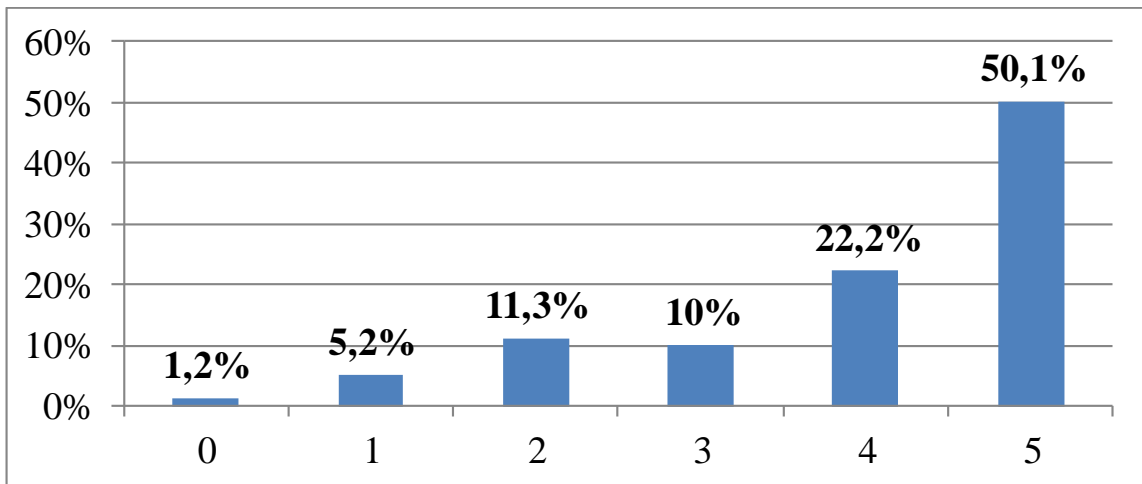


Figure 11. Analytical skills (interpreting information; solving problems; writing analytical notes; research skills, etc.)

Fifth item is knowledge of management (people management; project management; time management; conflict resolution; finance; budget; organizational skills; logistics; action planning; risk management, etc.) (Figure 12). 32% of respondents answered that their knowledge of management applicable on 5 points out of 5; 18,9% - on 4; 17,2% is on 3; 12,5% is on 2; 10,7% is on 1; 8,7% think that knowledge of management are not applicable.

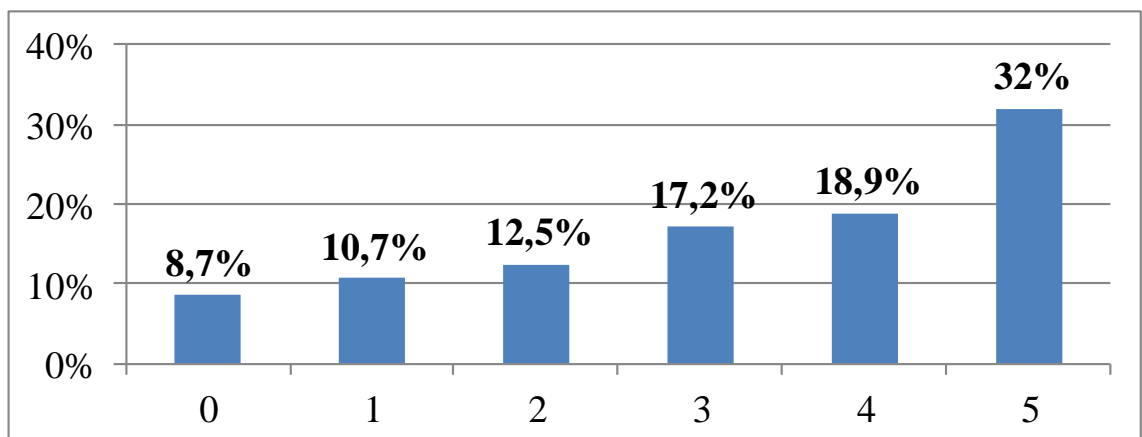


Figure 12. Knowledge of management (people management; project management;

time management; conflict resolution; finance; budget; organizational skills; logistics; action planning; risk management, etc.)

Sixth item Leadership (motivation; delegation; decision making; collaboration; strategic thinking; critical thinking, etc.) (Figure 13). 34,8% of respondents answered that Leadership applicable on 5 points out of 5; 20% - on 4; 15,1% is on 3; 13 % is on 2; 10,7% is on 1; 6,4% think that Leadership are not applicable.

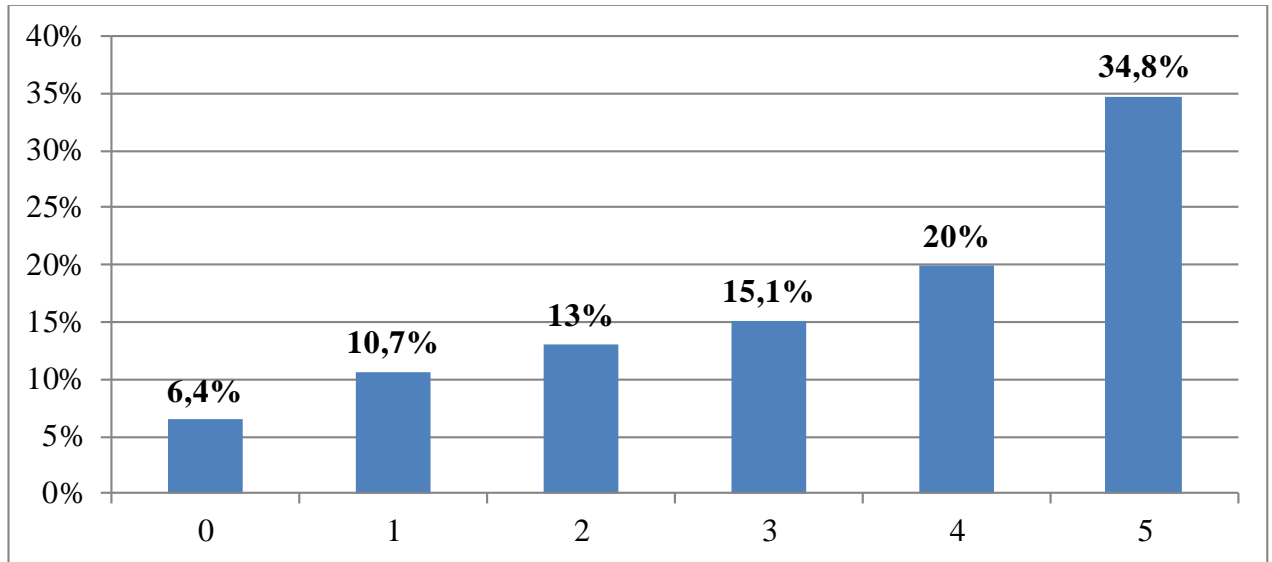


Figure 13. Leadership (motivation; delegation; decision making; collaboration; strategic thinking; critical thinking, etc.)

Factors preventing to utilize at work gained in foreign universities knowledge, skills and competencies

The factors that prevent to utilize at work gained in foreign universities knowledge, skills and competencies are shown in Figure 14.

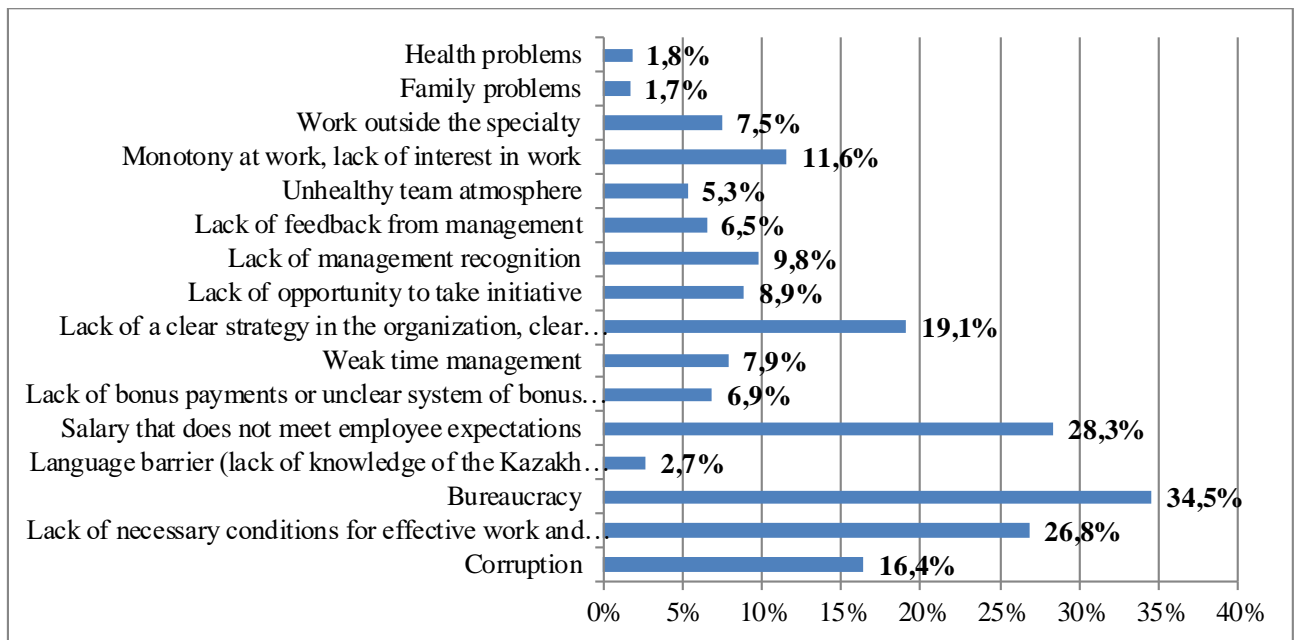


Figure 14. Factors preventing to utilize at work gained knowledge, skills and competencies

Survey analysis shows that main factors preventing utilization at work gained knowledge, skills and competencies are: bureaucracy -34,5%, low salary – 28,3%, lack of necessary conditions for effective work and professional growth – 26,8%. Respondents also indicate that lack of clear strategy in organization may be obstacle too – 19,1%. Other factors are corruption – 16,4%, lack of interest in work – 11,6%, lack of management recognition – 9,8%, lack of opportunity to take initiative - 8,9%, weak time management – 7,9% and other factors.

According to the analysis of the in-depth interview, detailed answers to similar question are following.

“Nothing gets in the way. Absolutely no one and nothing get in the way. There is full the freedom of action. Mostly, it is permitted within the bound what is permitted, within the law”. Initiative is welcomed in our university, in our department. And we always take initiative and university administration always supports our initiatives” (Male, 36 years, graduate of Russian university, lives in Shymkent).

“For example, as a teacher, we even don’t have such branch of science by which I studied. Commercial law... How can we talk about intellectual property, disputes of intellectual property, when in Kazakhstan there is no intellectual property? Everything is monopolized. Of course many factors influence on this. This is political system, our level of education, level of human capital. I don’t say that it’s lower comparing with other countries. In fact, it’s low. But, if take indicators, I think, we don’t lose, but our system works differently than it is supposed to be. Exactly, that these disciplines

don't exist, firstly. Second, it is in greater extent political system in Kazakhstan doesn't permit to realize human rights on full system, or support of free, peaceful meetings in Kazakhstan. Or, for example, marches. In Kazakhstan it's impossible according to our Constitution, From this, unfortunately, I can't apply all knowledge that I received" (Female, 30 years, graduate of Canadian university, lives in Almaty city).

"Already there is no desire to work by specialty. There was moratorium, 2 years oil company didn't accept anyone. Doesn't matter, who you are, from whom you are. On the contrary, people left and were fired. Crisis in oil exchange. Other specialties could be accepted, but oil workers not. I was told that 2 years moratorium. What's the reason to try somewhere? Nowhere. Now 100% will not work on someone. Why? Oil sphere will not give me this, what I already have" (Male, 29 years, graduate of Chinese university, lives in Mangistau region).

"There is no support from line managers... Why do I need it?..."(Female, 32 years, graduate of British university, lives in East Kazakhstan region).

Stimuluses of applying gained knowledge, competencies and skills at work participants indicated in Figure 15.

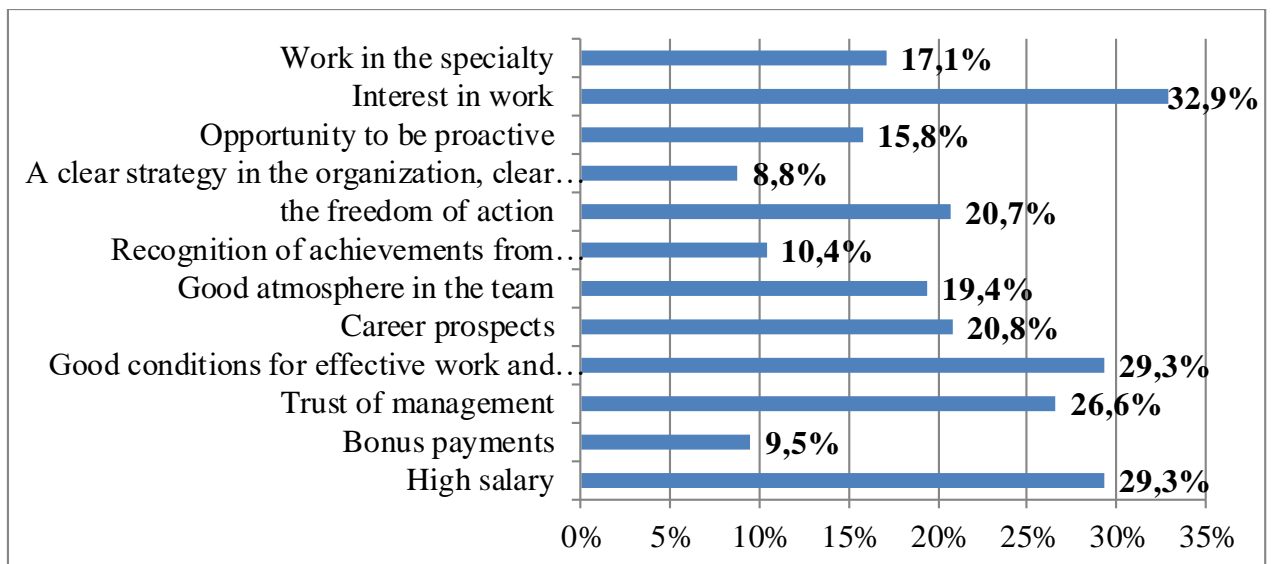


Figure 15. Stimuluses for applying gained knowledge, competencies and skills at work

From Figure 15 it can be seen that main factors to apply skills, competencies and knowledge are high salary (29,3%), interest in work (32,9%), good conditions for effective work and professional growth (29,3%) Participants also indicated trust of management (26,6%), career prospects (20,8%), good atmosphere in team (19,4%), the freedom of action (20,7%) Other factors are work on specialty (17,1%),

opportunity to be proactive (15,8%), clear strategy in the organization (8,5%), recognition of achievements from management (10,4%).

However, more deeply analysis says that returning back to Kazakhstan doesn't mean that foreign universities' graduates completely use their intellectual potential.

“In the current work I use only skills related to English... My current work is not directed on development, it only directed to get money. Considering my previous work, there was a situation, that there were no levers which could make changes in work of the study center. The question at issue is that in more than 2 years, which I worked both in Temirtau and Karaganda state technical university, no one came to me and asked to implement what I learnt abroad. There also were situations, when I proposed different ideas, but they weren't be followed... One thing, which helped, is that I taught college administration make survey in Google” (Male, 30 years, graduate of Canadian university, lives in Karaganda region).

“Unfortunately, minimally, most probably. Maybe, use something from project management, but, in total, no, practically... field of activity mostly doesn't relate to those to which I studied” (Male, 30 years, graduate of British university, lives in Nur-Sultan).

“If count out of 10, it is somewhere 5” (Male, 29 years, graduate of Chinese university, lives in Nur-Sultan).

“Law system in Kazakhstan is very different and no all knowledge that was received abroad is applicable in Kazakhstan” (Female, 30 years, graduate of British university, lives in West Kazakhstan region).

“If talk about 5 point scale, it's, probably, 4 or even 3+, maybe... there is a difference in documentation, in our generations. They got used to work with old, old materials, in old rhythm and all innovations scare them, a little bit. I don't know. They are not ready to accept all of these” (Male, 28 years, graduate of Malaysian university, lives in Aktobe region).

Other finding from the survey is that more than 20% of respondents don't work by specialty which they studied in foreign universities (Figure 16).

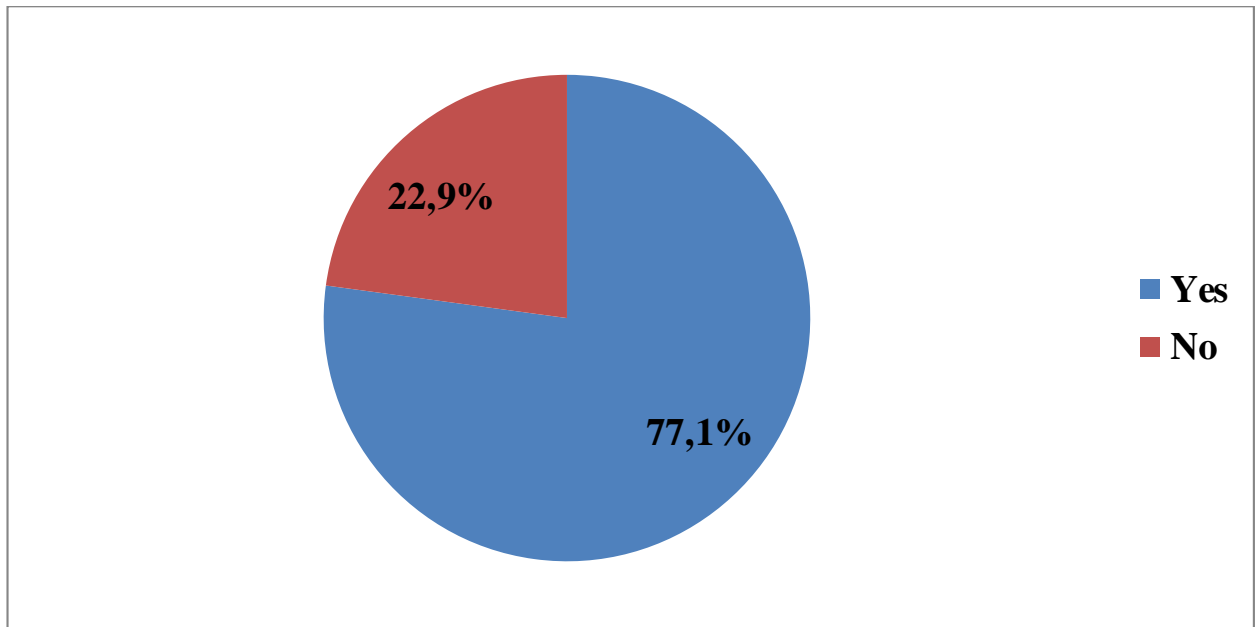


Figure 16. Work by specialty which was studied in a foreign university

Answers to the question “why graduates don’t work by specialty” can be found in Figure 17.

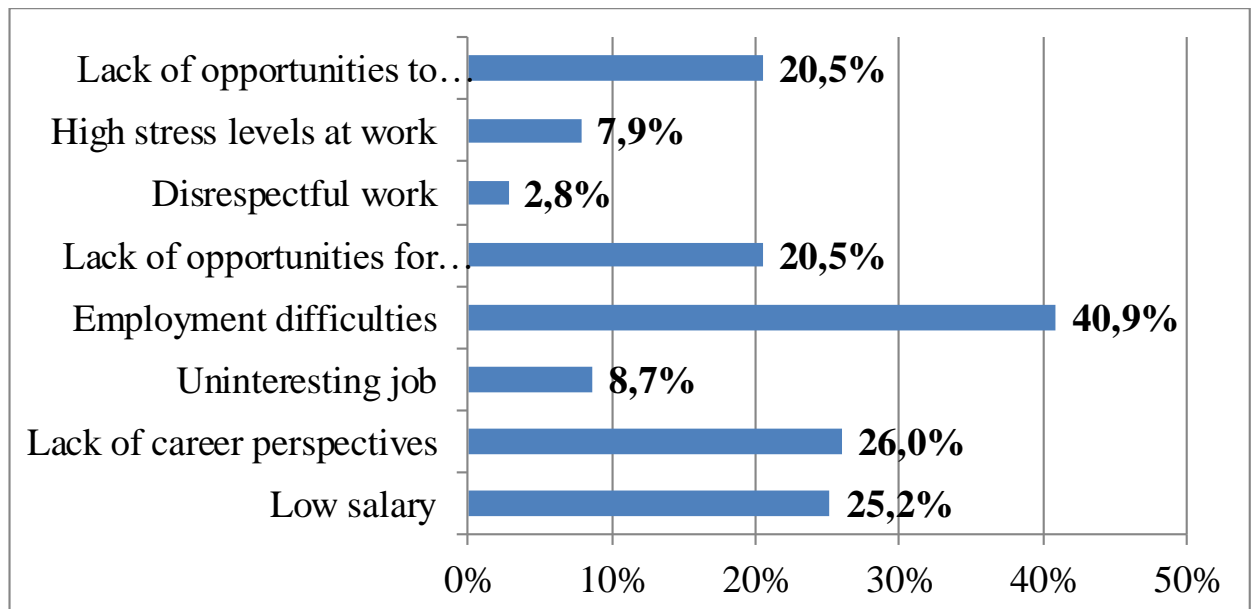


Figure 17. The reasons why graduates don’t work by specialty

There are several main reasons why graduates don’t work by specialty. The analysis reveals that 40,9% of respondents connect it with difficulties on employment. 26% of respondents think that the reason is in lack of career perspectives. Other reasons according to respondent’s answers are: 25,2% - low salary, 26% - lack of career perspectives, 20,5% - lack of opportunities to implement ideas, 20,5% - lack of opportunities for professional and personal development, 8,7%

- uninteresting job, 7,9% - high stress levels, 2,8% - disrespectful work.

Applicability of knowledge, competencies and skills in Kazakhstan can be seen in Figure 18.

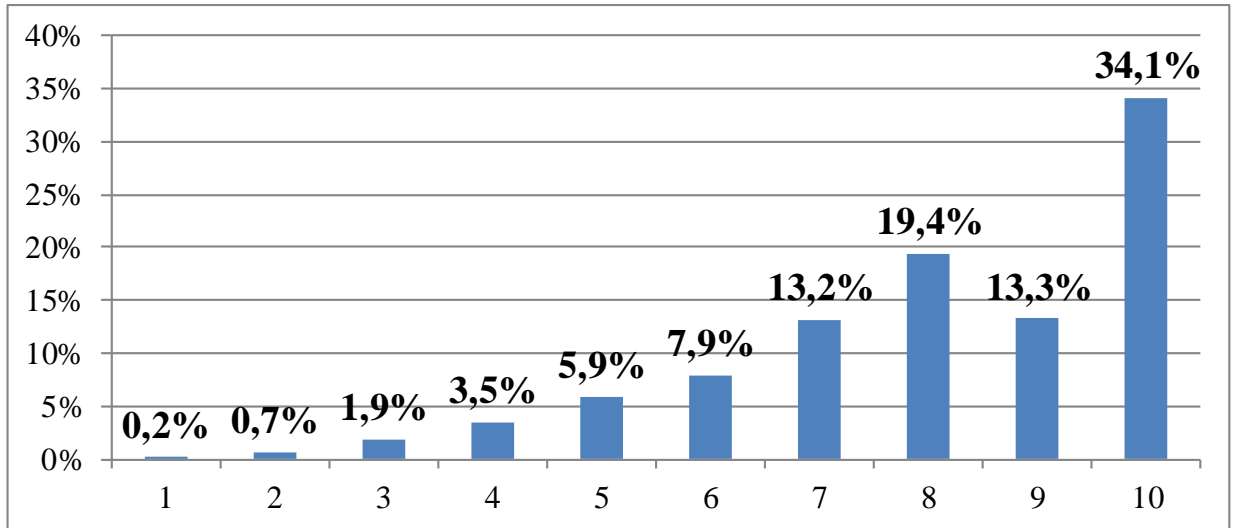


Figure 18. Assess the applicability of your knowledge, competencies and skills in Kazakhstan

It can be seen from Figure 18, that 34,1% of respondents indicated 10. 13,3% chose 9, 19,4% assesses chose 8, 13,2% indicated 7; 7,9% indicated 6; 5,9 indicated 5, 3,5% indicated 4; 1,9 % indicated 3, 0,7% indicated 2, 0,2% indicated 1.

From the interview, those who live abroad regarding applicability of knowledge think that it's not so applicable.

“Exactly, not to 100%, because this is completely different. I could, maybe, make some suggestions on improving system there... Because in Kazakhstan everything is differently organized, my skills would be applicable exactly not to 100%” (Female, 27 years, graduate of German universities, lives in Germany).

“Shipping is not developed in Kazakhstan because we are a country that is not related to, for example, seas, oceans. We are on land and we have only Caspian sea. Shipping there... I don't know. Maybe between 2 different platforms. There only 2-3 ships are possible. It's understandable why I can't use my knowledge in Kazakhstan” (female, 35 years, graduate of British university, lives in Norway”.

“I would say that I would be very useful person in Kazakhstan. Even today, if I could, if I would have opportunity, I would participate with pleasure in different projects, educational or others...by creating some directions for social projects, I would be strongly, I would be a good assistant. I would be

competent in some spheres which are lack in Kazakhstan because of some limitations with languages and so on, I mean, I would be with pleasure, of course, even online, even for free would participate in different projects” (Female, 29 years, graduate of Turkish university, lives in Serbia).

“I think I could successfully work in Kazakhstan because workload that is done by me here, there could be very applicable and even needed”(Male, 28 years, graduate of Russian university, lives in Russia).

“I think applicable, but, most probably, in international company. Unlikely, in local. You know, in local company, my skills might be not needed. Experience which I got for 5 last years, most probably will not be needed. But, if talk about Big4, consulting agencies, there, probably will be places where this experience can be applied” (Female, 28 years, graduate of Polish university, lives in Poland).

“First of all, skill to finish work will be in any case needed... I think that work should be done in any case... We have a tendency that not all people can work. Maybe, not all want to work. All want to create vision of work, but not all get results... So, I think that my skills can be used in Kazakhstan. Other question is scope, effect from these skills might be less, yes? But they will be applicable here too because they permit to do work. Do work, qualitatively, effectively” (Male, 27 years, graduate of Italian university, lives in Germany).

“5, for example. Why do I say this? Because... There are national companies, international companies. I studied by methodic of foreign company. So, foreign equipments, foreign tubes. But Kazakhstan, in Kazakhstan’s, all of these aren’t used. So, I am not demanded. But in foreign company- demanded. But there is limitation. Not all who finished pipeline engineering become pipeline engineer. So, if you are lucky, in foreign company – yes. But if want to Kazakhs company - no” (Male, 36 years, graduate of British university, lives in Turkey).

“100% of course. All 100% for Kazakhstan. I hope that in future I will grow to standards of Kazakhstan and I will be invited or shortlisted, at least... It can be at Nazarbayev University. It can be public service. It can be national companies” (Female, 41 years, graduate of British university, lives in Japan).

“I say that there is no knowledge that is not applicable. There are people whh don’t know what to do with this knowledge” (Female, 37 years, graduate of universities in Hungary and Sweden, lives in Sweden).

Government policy and strategies of applying intellectual potential of Kazakh graduates of foreign universities

Current strategies, governmental programs, regulatory and legal documents of the Republic of Kazakhstan on the themes of educational migration, applying intellectual potential were analysed. Literature review on the topics needed for this research also helped to understand current problems. Results of the policy analysis helped to create a set of recommendations of implementing the policy of applying intellectual potential of the graduates of foreign universities in Kazakhstan.

In Strategy Kazakhstan-2050 (2012), regarding migration issues, it is written that the country may face the problem of emigration of Kazakh citizens with a goal of finding a job abroad. At the same time, it is written that, Kazakh youth must study, to get new skills, effectively use knowledge and technologies in daily life. The government will support youth by creating all opportunities, delivering favourable conditions to them (Strategy Kazakhstan-2050, 2012).

“Bolashak” scholarship is one of key components of governmental policy in the field of educational migration and applying intellectual potential of graduates of foreign universities in Kazakhstan. In the Rules for the Selection of applicants for the award of the international scholarship “Bolashak” (2008), a condition of mandatory return to Kazakhstan and work during 3/5 years is written.

Policy analysis reveals that there is a possibility of having a problem with emigration of Kazakh citizens. In regulatory and legal documents there are no clear definitions on educational migration. That is why there is a weak control from the government in this direction. Regarding applying intellectual potential of Kazakh citizens, it can be said, that it is one of the priorities of Kazakhstan. However, more detailed information or strategies for applying intellectual potential of Kazakhstan was not provided.

Conclusion

This investigation revealed actual questions and problems in the governmental policy in the field of educational migration and applying intellectual potential of graduates of foreign universities in Kazakhstan. Weak control in educational migration and absence of official and regular statistics on students studying abroad can cause problem of brain drain.

In this research it was found that:

- Graduates of foreign universities return to Kazakhstan because of contractual obligations;
- The reason of migration is absence of work in Kazakhstan;
- Knowledge, competencies and skills are not used because of absence of concrete governmental policy;
- People study in foreign countries in order to be useful for Kazakhstan;
- Knowledge, skills and competencies of graduates of foreign universities might be useful even if they live abroad;
- Not all knowledge, competencies and skills are applied in Kazakhstan are effective because of several reasons: bureaucracy, corruption and so on.

In order to improve governmental policy in the field of educational migration and applying of intellectual potential of graduates of foreign universities in Kazakhstan, several recommendations were created:

- To make changes in the Rules for the selection of applicants for the award of the international scholarship “Bolashak” by:
 - adding words “with a total work experience at least one year” to subparagraph 1) of paragraph 4;
 - adding an item “the employer's application for the training of a specialist with the condition of retaining the place of work in the form approved by the Working Body” to paragraphs 10 and 12;
 - excluding the words “indicated in subparagraph 2) of paragraph 4 of present Rules” from subparagraph 8) of paragraph 27 ;
 - adding an item “a condition on the interaction between an employer and a student on regular basis during the period of education and after completion of studies” to paragraph 27;
 - adding an item “a condition on necessity to do research related to Kazakhstan during period of studies” to paragraph 27;
- To develop a strategy by the Ministry of Education and Science on applying knowledge, competencies and skills of graduates of foreign universities in Kazakhstan. For instance, open volunteer mentoring programs, giving opportunities to graduates to teach at universities part-time;
- To activate work of “Bolashak” Association by involving more graduates of foreign universities to different projects important for Kazakhstan;

- To create associations on different directions by graduates of foreign universities with financial support from the Ministry of Information and Social development and the Ministry of education and science.

Table 4. Roadmap for the implementation of the proposed recommendations

№	Recommendation	Current situation	Situation after implementation	Responsible organizations	Dates of realization	Finance sources
1	To make changes in the Rules for the selection of applicants for the award of the international scholarship “Bolashak” by adding words “with a total work experience at least one year” to subparagraph 1) of paragraph 4;	Work experience is not required for applicants on academic programs (Masters, PhD), applicants are not ready to study in foreign countries	At least 1 year work experience is required for applicants on academic programs (Masters, PhD), applicants with at least 1 year of work experience will be ready to study in foreign countries	MES, JSC “CIP, Government, EOP	Quarter 4, 2022	Not needed
2	To make changes in the Rules for the selection of applicants for the award of the international scholarship “Bolashak” by adding an item “the employer's application for the training of a specialist with the condition of retaining the place of work in the form approved by the Working Body” to paragraphs 10 and 12	Having an employer for applicants is not required, after completion of studies graduates may face difficulties with searching for a job or even unemployment	Having an employer for applicants is required, after completion of studies graduates will work on their employers because a job position will be guaranteed, according to contract	MES, JSC “CIP, Government, EOP	Quarter 4, 2022	Not needed
3	To make changes in the Rules for the selection of applicants for the award of the international scholarship “Bolashak” by adding an item “a condition on the interaction between an employer and a student on regular basis during the period of education and after completion of studies” to paragraph 27	There is no active interaction between “JSC” CIP” and employers, the effectiveness of acquired knowledge, skills and competencies is not measured	There will be active interaction between “JSC” CIP” and employers, the effectiveness of acquired knowledge, skills and competencies will be measured	MES, JSC “CIP, Government, EOP	Quarter 4, 2022	Not needed
4	To make changes in the Rules for the selection of applicants for the award of the international scholarship “Bolashak” by adding an item “a condition on necessity to do research related to Kazakhstan during period of studies” to paragraph 27	Doing research related to Kazakhstan is not required, knowledge, competencies and skills of graduates of foreign universities might be not applicable for Kazakhstan	Doing research related to Kazakhstan is required, knowledge, competencies and skills of graduates of foreign universities will be applicable for Kazakhstan	MES, JSC “CIP, Government, EOP	Quarter 4, 2022	Not needed

Suggested recommendations should be realized in frames of current legislation of the Republic of Kazakhstan. These changes will help to send prepared students to

foreign countries because they will have at least 1 year work experience before starting their studies abroad. Graduates of foreign universities will have a job after completion of studies because their employers will guarantee a job for them. Knowledge, skills and competencies acquired by graduates of foreign universities will be applicable in the country because their research will be related to Kazakhstan. Strategy of the Ministry of Education and Science on applying knowledge, skills and competencies of graduates of foreign universities will improve effect of investments to human capital because graduates will more actively use their intellectual potential. Activation of work of “Bolashak” association will attract more graduates of foreign universities and make their communications with each other more effective. The creation of associations on different directions will develop societies of professionals where they can share their knowledge with each other and realize common projects.

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