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**Conference on Land Economy and Rural Studies Essentials****ACADEMIC MOBILITY AS A TOOL FOR DEVELOPING  
COMPETITIVENESS OF FUTURE ENGINEERS**

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**Abstract**

The significance of the paper is due to the importance of academic mobility in human capital accumulation that ensures the future competitiveness of specialists in the world labor market. Nowadays, academic mobility is growing and the number of students studying at European universities is constantly increasing, including students of Russian universities. The paper aims to assess the importance of students' academic mobility, its diversity, and the main determining factors underlying academic mobility. The paper shows the formation of competitiveness in the global market, gives an example of preparing the future engineers for academic mobility for French universities. Thanks to this training, students enter French universities as part of the scholarship programs of the Republic of Tatarstan and the Embassy of France in Russia. The attractiveness of French universities is accounted for by the French government policy to attract foreign students, the quality of education, geographical diversity, a variety of majors, low tuition fees, the opportunity of finding a job after internship, etc. The paper also shows the skills and knowledge acquired by the future engineers who have been trained for academic mobility. The paper notes that students who have studied abroad and returned to their country are generally more competitive in the labor market than those who have studied at only one university, since they have a set of characteristics, such as depth of professional knowledge, initiative, creativity, work experience, goal commitment.

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*Keywords:* Academic mobility, competitive ability, educational program, knowledge-based economy, scholarship program



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## **1. Introduction**

In the modern world, academic mobility of students is one of the tools aimed at balancing the global labor market. Based on strategic developments, countries are strengthening their mechanisms to create, attract, and maintain a "reserve" of scientific and technical human resources. Academic mobility is also a vector of knowledge exchange and enrichment of people. The modern society needs highly skilled scientists and specialists who interact at the national level and integrate into the global educational and economic environment. In addition, the international competitiveness of educational institutions is valued, based on international university ranking. It is important to note that academic mobility is, on the one hand, an object of growing interest and an increasing concern about the scale of the brain drain phenomenon among senior officials and in the media – on the other hand (Bezrukov et al., 2018; Ziyatdinova et al., 2018).

Integration processes in the global community have impacted many aspects of human life, including higher education. Today, Europe places a high priority on reciprocal recognition of academic degrees as well as international cooperation in science and education, both of which are critical for Russian institutions. Students' academic mobility plays an important role in the integration of Russian universities into the international educational sphere, as it serves to improve the quality of education and increase understanding between different cultures and peoples. Students' academic mobility is growing, and the number of international students, especially students from Russian universities, is increasing. Furthermore, there is a demand for specialists who, throughout their university studies, not only obtained a good professional education, but also mastered foreign languages well enough to compete and realize their full potential in today's market conditions (Giliazova & Valeeva, 2021; Kraysman & Valeeva, 2014).

## **2. Problem Statement**

Over the past twenty years, one of the main characteristics of economic development has been strong independence in terms of creation and use of new knowledge. The uprisal of knowledge-based economy is manifested in a strong increase in demand for qualified specialists, in particular, engineers and scientists. Students are candidates for engineers and scientists (Shageeva et al., 2018). Over time, they have become more and more mobile world-wide and formed a reserve of scientific emigration. Every year, the number of international students in Europe, the United States and Russia is increasing. Besides, nowadays, academic mobility is growing and the number of students studying at European universities is constantly increasing, including students of Russian universities. Academic mobility has become an important factor in human capital accumulation, a process that improves the scientific and research potential and thus ensures the future competitiveness of specialists in the global labor market. Academic mobility of students should be studied as a factor in the formation of the competitiveness of future engineers (Fakhretdinova et al., 2021; Volkova et al., 2021).

## **3. Research Questions**

The subject for study is the preparation of engineering university students for academic mobility to French universities in the context of Russia's integration into the world educational and economic environment. A highly qualified specialist must be a good specialist in his field, speak foreign languages

in order to have a stable position in a world of fierce competition, be able to work effectively in an international business context.

#### **4. Purpose of the Study**

This paper aims to highlight the importance of students' academic mobility, its diversity, main inputs of academic mobility, the formation of competitiveness in the global labor market, as well as to show how students are being prepared for academic mobility at Kazan National Research Technological University.

#### **5. Research Methods**

The paper is based on empirical research methods, i.e. observation, expert assessments, results analysis. Participatory observation, conversations, personal meetings were of great importance. In addition, the analysis was carried out through the study of foreign and Russian literary sources, as well as personal contact with foreign partners.

#### **6. Findings**

We will consider academic mobility of students entering French universities. France has become one of the main countries accepting students from all over the world as part of academic mobility, especially through the ERASMUS program. In general, France is very attractive for students. In fact, for every French student who studies abroad, there are four foreign students continuing their studies in France. It can be emphasized that this situation has not been changing for the last ten years. This attractiveness is based on the governmental policy to attract foreign students, the quality of education, geographical diversity, a variety of majors, low tuition fees, the opportunity of finding a job after internship, etc. In addition, even if academic mobility is a common way of internationalizing higher education, academic mobility at the level of educational programs is developing rapidly in the world. Academic mobility can be implemented in at least three ways: 1) distance learning using information and communication technologies; 2) a double degree program and mutual recognition of diplomas from two or more countries; 3) an educational franchise or sale of an educational program to a foreign university (Osipov & Ziyatdinova, 2015; Valeeva, 2013).

On June 29, 2015, Russia and France signed an intergovernmental agreement on mutual recognition of education, qualifications, and academic degrees with the view of further cooperation in education and science, which favorably affected the academic mobility between French and Russian universities. This agreement shows Russian and French governments' commitment to engage as many students as possible in studying in these countries. Through academic mobility, students acquire knowledge overseas to further use it in their own country. The open educational space implies the growth of student mobility and cooperation of university teachers from different countries.

There are major determinants of academic mobility:

- the quality and variety of academic offered programs and the required conditions for training, as well as the reputation of universities in the host countries;
- mutual recognition of diplomas between the sending and receiving countries and the recognition of diplomas in the labor market;

- the cost of living abroad (including the registration fee for training) and the quality of the host country's infrastructure (accommodation, foreign language learning tools, social benefits, academic mobility funding policies, etc.);
- the language of the host country, geographical and cultural proximity, quality of life;
- availability of diasporas and student support systems, such as student associations.

Academic mobility is a factor of integration into the intellectual economy and a well-known effective means of training and knowledge dissemination. Based on this, academic mobility plays a leading role in creating an international space for higher education and science. It should be noted that academic mobility can only develop with the strengthening of the rating system and the mutual diploma recognition.

Brain drain is a vital problem for developing countries. In order to reduce brain drain, a policy of employment assistance after returning to the home country should be in place. Besides, academic mobility should be developed for a short period. In addition, an effective way to prevent "brain drain" is the development of double degree programs in universities, which allows you to study abroad for a short period, then return to your home country.

It is important to understand that academic mobility creates competitiveness in the global labor market. The students who have studied abroad and returned to their country are generally more competitive in the labor market than those who have studied at only one university, since they have a set of characteristics, such as:

- depth of professional knowledge (the students have gained professional experience both in their own country and abroad);
- initiative, creativity and abilities (living and studying abroad increases the ability to create out-of-the-box ideas and solutions, expands the horizons, develops abilities, increases culture);
- knowledge and hand-on experience (master's programs in French universities involve on-the-job training which lasts from 3 to 6 months);
- focus on and pursuit of success (students studying abroad develop their ability for cross-cultural communication and personal and professional relationships);
- self-control (students studying abroad develop high efficiency, ability to concentrate and work in stressful conditions);
- goal commitment (there is a need to achieve a goal, focus on the final result, ability to live, learn and work according to a certain plan).

The development of students' academic mobility contributes to the solution of such problems as: the formation of individual study routes, improving the quality of education, improving the efficiency of universities. In 2003, Russia joined the Bologna Process. One of the main areas of implementation of the Bologna Agreements is the expansion of academic mobility. The need to develop academic mobility and create conditions for free flows of students, teachers, education managers, as well as researchers, undoubtedly requires restructuring education content, reforming the higher education system, changes in educational programs, courses and increasing the requirements to university graduates (Shageeva et al., 2020; Yushko et al., 2020).

It should be noted that student academic mobility in Russia is still underdeveloped. While in European countries it is quite well introduced, because, firstly, most Europeans speak several foreign languages, and secondly, Europe has a single Schengen area, so Europeans can move freely from one country to another. In addition, in Europe, all social and household expenses (accommodation, travel, medical care, food, etc.) are borne by the student (the student uses various student social programs), and the host university provides free tuition (Valeeva et al., 2020; Vorontsova et al., 2019). This social program system is poorly developed in Russia.

It should also be emphasized that the development of modern forms of academic mobility should be based on promising trends in the development of science, economics, and technology. It is important to note that not all universities can offer an academic mobility program to students, that is, a program that meets modern requirements to teaching techniques, methods and content.

Kazan National Research Technological University (KNRTU) is constantly developing academic mobility of students to French universities. Since 2014, 14 KNRTU students have won the "Henri Poincaré grant to study for master's degree in France and have entered French universities for master's programs. After studying at a French university and receiving master's degree, students return to Tatarstan and find jobs at enterprises applying their knowledge, experience, and skills.

KNRTU trains students for academic mobility for French universities in order to make students more prepared for university and non-university activities in France. This training aims at preparing students for studies at French universities, that is, at improving their French to meet special requirements and introducing them to the higher education system in France. During the academic mobility preparation classes, students are taught to:

- express their thoughts in French and understand the French language in the university administrative environment (in deaneries, departments, international activities departments, etc.);
- carry on official business correspondence in French, which is necessary for admission to the university;
- know international etiquette;
- know the rules of conduct in various situations of university and non-university communication;
- be able to use vocabulary related to the main topics in business, cultural, socio-economic, university and professional communication;
- master monological and dialogical speech, so that students can participate in practical classes, colloquiums, prepare reports, speak to the teacher and students;
- master written academic speech to be able to write articles, term papers, master's thesis;
- know the culture, traditions, customs, daily life of modern France and much more.

This educational program was created by the teachers, who took into account the new realities and potential of modern society. The academic material is built on competence-based ideas. They are designed to be adaptable, taking into account the students' degree of linguistic ability. The linguistic and methodological content of students' language training, based on a competence approach, is critical for their successful integration into French universities. During practical lessons, students learn about the French educational system, its strengths and weaknesses, and how it compares to the Russian educational system. They learn a professional French, focusing on the concepts and words that students in their major language

are familiar with. The students do a variety of exercises using physics, chemistry, mathematics, and other texts. Students also learn to give presentations on their majors, translate and render specialist materials, write summaries and reports, understand mathematical formulas, tables, and diagrams in French, and much more. During class, teachers show videos of excerpts from lectures on physics, mathematics, chemistry, and other subjects, which are read by French university professors (Khusainova & Galikhanov, 2021; Kraysman et al., 2021).

Also, one of the course's objectives is to acquire abilities for productive speech development in varied communication contexts in accordance with modern language traditions. As a result, a portion of the courses is devoted to tasks and exercises for the development of speech clarity, accuracy, and connection, and its use in communicative tasks in a specific communication context is recommended. Only in this scenario can we conclude that future specialists are culturally prepared and capable of acting as active and full-fledged cultural subjects. Furthermore, the culture of the country where the language is studied is taught during the course of study. All areas of human life should be covered by the socio-cultural component of educational curriculum. The decision is based on the value of the topics to both the students and society. Social and political issues, the advancement of science and technology, reforms in numerous fields, environmental culture, and so on are examples of such topics. The expansion of students' socio-cultural space, the study and comparison of native and foreign cultures, the detection and explanation of similarities and differences between representatives of different groups, the formation of tolerance for representatives of different cultures, openness to them, and so on, all contribute to intercultural communication experience.

To study in French universities, students must have a B2 proficiency in French according to Common European Framework of Reference. Some technical universities accept B1 students. Students of our university successfully pass this exam and receive B1 and B2 diplomas. The B1 and B2 levels in French guarantee that students understand lectures and practicals, give them a knowledge of the university's organizational and administrative structure, and enable them to master writing (to make notes during lectures, write an analysis, comments, essays, etc.).

According to the students who have studied in France and returned to Tatarstan, after completing a specialized course of preparation for academic mobility and passing the DELF exam, tangible results are visible. During their studies in France, students are able to:

- understand the meaning of lectures and reports on their specialty, even if not all the vocabulary is known to them;
- participate in discussions, debates, and defend their points of view at seminars;
- understand reports of various durations, even if such reports are not very structured and the connection between the thoughts is not very clear;
- understand presentations on abstract topics that are difficult for students;
- understand speech in the professional field and in the field of university communication, even if the accent of the speaker is not familiar to them;
- understand the written handout of lectures;
- understand the humor and manner of speaking of the teacher;
- understand idiomatic expressions and spoken language if the speaker changes the register of speech;

- write well-structured texts within their specialty highlighting crucial points, arguing their conclusions, making their examples;
- write text synthesis and comments, integrating information and data from various sources, then compare, classify, and organize them;
- interpret the results of data analysis, argue and give their point of view, make conclusions, etc.

## 7. Conclusion

In summary, academic mobility develops and updates the educational process, improves the quality of education. This allows increasing the competitiveness of university graduates in the global labor market, achieving recognition of university graduates' qualifications in the pan-European educational environment. Despite the problems faced in academic mobility implementation, it is necessary to seek and develop various forms, mechanisms and tools to support academic mobility for students.

The paper shows how KNRTU students are being prepared for academic mobility to French universities. Preparing for academic mobility motivates students to enroll in French universities and helps them adapt more quickly to their studies and everyday life in France. Thanks to such training, technological university students win grants and study at French universities, then return to Tatarstan and find jobs in the specialty mastered in France, applying their knowledge, skills, and experience.

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