This article focuses on the cooperation between universities of the North-western federal district (NWFD) of the Russian Federation, Sweden, and Finland, its intensity and territorial differentiation. The analysis was conducted on the basis of public domain information on the international activity of universities available on their official websites. The authors identify the principle areas and leading centres of such cooperation. The NWFD universities have significant experience in cooperation with Finnish universities. Cooperation with Swedish universities is proved to be less developed. Approximately 50 NFWD universities, 29 of which are located in Saint Petersburg, are involved in cooperation; most NWFD universities do not cooperate with the mentioned countries. Such low degree of cooperation in the field of education is a serious inhibiting factor, which reduces competitiveness on the modern market of educational services.

Key words: innovations, Russia, Sweden, Finland, Northwestern federal district, universities, cooperation

Higher education institutions traditionally serve as the "locomotives of innovative development". The internationalization of higher education is a key vector of the modern education development; its advantages are obvious: pooling of resources, especially when they are difficult to access, as now; avoiding duplication and unnecessary copying of research topics, better project identification and growing confidence that they are appropriate to the conditions of collective monitoring [1]. Joint research projects in the field of science and education are being actively implemented in the Baltic Region. Here, most partnerships in this area are developed in the framework of cross-border cooperation.

The purpose of this article is to analyze the intensity of territorial differentiation of international cooperation between
Sweden, Finland and the NWFD in the field of science and education. When preparing the article, the informative material on the existing partnerships between NWFD universities, on the one hand, and Sweden and Finland — on the other has been studied.

In most cases, the cooperation is fixed in documents, but often collaboration is built on a separate unit level; personal contacts between researchers play an important role here. Twenty-eight universities of the NWFD of Russia cooperate with Swedish partners, forty-one NWFD universities established contacts with universities of Finland. The most active participation in cooperation with the education community of Sweden and Finland is demonstrated by the universities of St. Petersburg, Petrozavodsk, Murmansk and Kaliningrad.

Currently there are about 50 universities in Sweden, six of which are included in the 'Times' rankings [4, 5]. 21 universities collaborate with higher institutions of the NWFD. The programmes funded by the EU (Erasmus Mundus, Kolarctic), the Swedish Institute, the Swedish International Development Cooperation Agency (SIDA) and the Swedish Research Council help facilitate this collaboration. Russian scientists can get a Swedish Institute scholarship, the scholarship of the Sverker Åstrom foundation [2, 3], etc. The university cooperation is based on bilateral contracts, as well as the EU and the Nordic Council projects.

21 universities of Sweden cooperate with the NWFD universities. These include the leading-edge Karolinska Institute, Lund University, Stockholm University, Uppsala University, the Royal Institute of Technology, Gothenburg University and Umeå University. The University of Skövde and Söderköping University have no partners in Russia.

Partnerships between the NWFD university cities of the Russian Federation and Sweden are reflected in Figure 1.

Saint Petersburg is most closely linked to Sweden: 17 Swedish universities collaborate with universities of Russia’s northern capital. The most significant progress has been made in building partnerships with universities of Central Sweden (Stockholm and Uppsala). Thus, as it can be seen in the figure, the main area of cooperation between Russian and Swedish universities is along the "Saint Petersburg — Stockholm" line. Less intensive are partnerships with universities of the Southern (especially Malmö University) and the Northern part of Sweden (Harnosand and Umeå cities).

By the number of partner institutions collaborating with Sweden, Saint Petersburg is followed by Kaliningrad and Syktyvkar. The maximum number of contacts with Swedish universities has been established at the Saint Petersburg State University and the Saint Petersburg State Polytechnic University (which have seven and five partners in Sweden, respectively). Among the universities located in the regions, federal universities hold the leading positions — the I. Kant Baltic Federal University (Kaliningrad), the Northern (Arctic) Federal University, as well as Petrozavodsk State University, each having four partner universities in Sweden.

1 All information concerning cooperation between higher education institutions of the North-western Federal District of Russia, Sweden and Finland, used in the preparation of reports, was taken from the official websites of these universities.
International cooperation between universities of Sweden and the NWFD is carried out in various ways. Strong relations are maintained between the Karolinska Institute Medical School, the St. Petersburg State University and the St. Petersburg Pavlov State Medical University. In the framework of cooperation between the Royal Technical College and Petrozavodsk State University, Russian students had an opportunity to have their internship at the School of Information and Communication Technology (KHT). Umeå University participates in the “north2north” programme of Arctic interdisciplinary research, including student exchange with universities in the North of Russia. Luleå University of Technology has been actively involved in the implementation of international research, scientific and educational projects with the Institute of Laser and Welding Technologies, St. Petersburg State Polytechnic University. In the framework of scientific and student projects and exchanges, Uppsala University cooperates with the Department of Computer Technology and Management of the St. Petersburg National Research University of Information Technologies, Mechanics and Optics (ITMO). The Institute of Dalarna has a bilateral student exchange agreement with the Lesgaft National State University of Physical Education, Sport and Health (St. Petersburg).
Among the most notable examples of cooperation is the international Bachelor degree programme in International Social Work, which was implemented by Gavle Institute in 2008. The majority of Russian students (the first graduation was held in 2011) returned to Russia, but some of them decided to stay in Sweden. Thus, the programme can be considered a rather effective tool to stimulate migration. The project supports cooperation between Gävle Institute and the NWFD universities — Petrozavodsk State University, Murmansk State Technical University and Murmansk State Humanities University.

Higher education in Finland can be obtained in one of two parallel sectors: institutes (vocational higher education, universities of applied sciences) and universities. The higher education system is now undergoing change, the reforms are planned to be completed by 2020. As a result of the reforms that have taken place already there are 16 traditional universities, in Finland, which focus on the performance of scientific and theoretical research [6]. Only one Finnish university, the University of Helsinki, is included in the Times rankings (97th place) [4].

As well as Swedish universities, higher education institutions of Finland cooperate with Russian universities in different fields. Thus, the Medical Faculty of the University of Tampere and the Medical Faculty of the St. Petersburg State University are working together on projects in the field of medicine and biotechnology. The project "Nord-Baltica — NW — Russian project" facilitated cooperation between the University of Helsinki and St. Petersburg State Academy of Veterinary Medicine. Aalto University School of Economics has established partnership relations with St. Petersburg State University, and the University of Eastern Finland — with the Herzen State Pedagogical University of Russia (St. Petersburg). The development of cooperation in the field of forest management is determined by the specific character of the Finnish economy. Thus, a joint degree programme between Rovaniemi University of Applied Sciences and Syktyvkar Forest Institute "Young professionals in forestry, wood housing, and international business in Russia and Finland" has been launched.

On the websites of Finnish universities there is some information provided in the Russian language. The majority of Russian students enrolled in the universities of Finland, come from St. Petersburg; which comes as little surprise considering that a representative office of Mikkeli University of Applied Sciences is located there.

Cooperation between higher education institutions of the NWFD of the Russian Federation and Finland is carried out within the "Erasmus Mundus" programme, FIRST, Barents Cross-Border University, grants given by the Finnish Centre for International Mobility.

Links between the NWFD university cities of the Russian Federation and Finland are reflected in Figure 2. The undisputed leader here is St. Petersburg. Of the 27 Finnish universities, 26 are involved in cooperation with higher education institutions of St. Petersburg and the Leningrad region. Partnerships between higher education institutions of Syktyvkar and Finland turned out to be surprisingly efficient. Less intensive are the partnership rela-
tions of Petrozavodsk and Murmansk universities with their Finnish counterparts. Main partners of Russian universities are Universities of Helsinki, Tampere and Turku.

The main areas of cooperation between higher education institutions of North-western Federal District of Russia, Sweden and Finland are: medicine and biotechnologies, laser and welding technologies, ICT, ecology, forest management, multi-disciplinary Arctic research, area specific studies, social work, education, philology and linguistics, journalism, physical education and sports, tourism, culture, music and design, economics and logistics. Other fields of study can be added with the further development of international cooperation between HEIs of the three countries. It is necessary to highlight the importance of further development of cooperation in such fields as medicine and biotechnology, ICT, and engineering science in general.

Cooperation between higher education institutions of Russia and Northern Europe allows Russian scientists to further increase their competence, but at the same time intensive student, teacher and researcher staff mobility creates the danger of the so-called brain drain, migration of highly skilled specialists due to economic reasons.
The analysis of the partnerships between universities of the NWFD of the Russian Federation, Sweden and Finland showed that Finland is our main partner (primarily due to historical reasons and geographical factors). The majority of Finnish universities are willing to extend their partnership with Russia, whereas less than half of Swedish universities demonstrate this intention. Regionalization of partner universities is clearly observed both in Sweden and Finland. Russian universities of the north-west have difficulty adapting to the process of internationalization of higher education. The University of St. Petersburg, as well as several other universities in the region having a long experience in international cooperation (Kaliningrad, Murmansk, Petrozavodsk, and Arkhangelsk) is the most active in this area. However, the majority of higher education institutions of the NWFD do not consider expanding their scientific and educational environment as a factor leading to their successful development; lack of international links reduces their competitiveness on the market of educational services.

References


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