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Peculiarities and challenges of double degree programs between Japanese and Russian medical schools

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Abstract

Introduction: Niigata University School of Medicine and Niigata University Graduate School of Medical and Dental Sciences have been engaging in medical exchanges with Russian medical universities for over 30 years. In 2015, a double-degree program with Russian medical universities was initiated, leading to a multi-layered education project that included short-term undergraduate student exchange programs and graduate-level double-degree programs, resulting in the circulation of human resources.

Methods: The program was conducted in English, and a maximum of 15 credits could be transferred based on the universities' regulations. Degree examinations were conducted independently, and successful candidates were awarded degrees from both Niigata University and their home university in Russia. The project was overseen by the G-MedEx Centre at Niigata University, which included staff with international experience.

Results: The difference in standard study duration between Japan and Russia was eliminated by using a four-year system in the graduate school doctoral programs. Three study models were proposed by Russian universities, considering each university's regulations and various circumstances. The curriculum was determined based on the rules of the universities in Russia and the circumstances of the students. Agreements were made with each university in supplementary documents.

Conclusion: Despite the differences in educational standards and the lack of a common educational framework between Japan and Russia, the difficulties can be overcome, and educational compatibility can be increased.

Practice Highlights

- Thanks to a long history of interaction with Russia, we were able to organise a large educational project, which included multi-layered programs, one of which was a double degree program.
- As part of the project, we established a coordination centre (G-MedEx Centre) that effectively engaged with students, teachers, and university administration to address challenges and tasks as they arose.
- We successfully navigated the differences in educational standards between Russia and Japan and developed effective mechanisms for collaboration.
- Despite the challenges of the double degree program, we have two successful examples of students who completed their double degrees.
- We were able to train doctors and scientists who gained unique international experience and will be able to make significant contributions on the world stage in the future.

I. INTRODUCTION

Since 2014, Russia and Japan have started to actively cooperate in the academic sphere, particularly after the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) adopted two programs “Special Program for Priority Placement of Japanese Government Scholarship International Students” and “Re-inventing

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Japan Program for Strengthening Universities' Globalisation". These programs were designed to promote interaction with Russia and continued until 2018. Prior to this project, interactions with Russian universities were decentralised, with each university managing its exchange programs. Niigata University School of Medicine and Niigata University Graduate School of Medical and Dental Sciences have also conducted bi-directional medical exchanges with Russian universities since 1993. However, it was in 2014 that the exchange program received a significant boost due to a decision made by the Japanese and Russian governments. Niigata University merged these two programs into one initiative called the G-MedEx (Globalization and Medical Exchange) project (Yamakawa et al., 2018). As a result, the Japan-Russia exchanges made significant progress. The project aimed to expand Niigata University's educational programs and enhance research collaboration (Obst & Kuder, 2012), leading to the establishment of the Double Degree Program (DDP) to advance medical care and develop skilled human resources in Japan and Russia (Teplyashina et al., 2017). DDP allows universities to award degrees to students who meet their graduation requirements. The number of public universities in Japan implementing DDPs has increased from 47 to 56 out of a total of 85 public universities over the past ten years, though only a few have partnered with Russian universities. Intrinsic differences in education and credit systems between Japanese and Russian universities have become an obstacle to student exchange and the establishment of joint educational programs (Jargin, 2024; Sitnikov & Bizunkov, 2016).

This paper reports on specific issues such as the graduate school curriculum, credit system, degree examination requirements, and solutions to help overcome these differences.

II. METHODS

A. Implementation Method

The DDP at the Graduate School of Medical and Dental Sciences admitted up to two students annually from three Russian partner universities. Candidates, recommended by their home institutions, enrolled concurrently at NU and their respective universities upon passing NU's entrance exam. The program was conducted in English.

B. Credit Transfer and Grade Evaluation

Under the DDP agreement, up to 15 of the 30 required credits were transferable. A standardised Japanese-Russian grading system (A–E) was implemented to ensure educational quality.

C. Degree Examination and Conferral of Degrees

Degree examinations were conducted independently per each university's standards. Graduates were awarded a PhD from both NU and their home university. A joint DDP certificate was also conferred.

D. Implementation System

The G-MedEx Centre at NU managed the program. A Russian physician and administrative staff oversaw the program on their end, while liaison professors from partner universities facilitated coordination. Support structures for international students were established in collaboration with university committees. In Figure 1, we compare the credit standards of the Russian Federation with those of our university's doctoral program in medical and dental sciences, which serves as a benchmark in Japan. Russia's ECTS model defines one credit as 36 hours, with doctoral programs needing 180 credits, compared to Japan's 45 credits.

	Study period	Graduate school doctoral program requirements	Study time required for 1 credit
Japan	4 years	30 credits	45 hours
Russia	3 years	180 credits (60 credits × 3years)	36 hours
Russian Partner Universities: Krasnoyarsk State Medical University (Krasnoyarsk) Far Eastern State Medical University (Khabarovsk) Pacific State Medical University (Vladivostok)			

Figure 1. Credits and study hours (Niigata University and Russian Partner Universities)

III. RESULTS

A. Education Reform and DDP in Russia

The European Credit Transfer System (ECTS) and the UMAP Credit Transfer Scheme (UCTS) have enhanced international education quality. Russia, undergoing education reforms since 1991, joined the Bologna Process in 2003 and enacted a federal law on networked education in 2012. Its credit system aligns with ECTS. However, when NU launched the DDP in 2015, faculty-level understanding and overseas credit recognition were insufficient. Japanese and Russian faculty collaboratively developed a compliant curriculum through trial and error.

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B. Graduate School Curriculum and Credit Transfer

Completing two dissertations within the study period required curricular alignment. Figure 2 illustrates the Russian doctoral curriculum which includes general courses (9 credits) and specialised subjects (21 credits) in the first year, advanced coursework (7 credits) and clinical practice in the second year, and research (48 credits) in the third year, culminating in a final evaluation. A structured course mapping and unified grading system aided in credit transfer.

Course structure	Total Number of Credits	Subjects (number of credits)	1st year	2nd year	3rd year
Basic subjects	30	History of Science and Philosophy(5) Foreign Language (4) Specialized subjects (21)	5 4 14	- - 4	- - 3
Practical training	6	Teaching practice (3) Research practice (3)	- -	3 3	- -
Academic research	135	-	37	50	48
National Qualification Examination	9	Graduation examination (3) Thesis examination (6)	- -	- -	3 6
Electives (not included in graduation requirements)	-	Medical English Informatics, etc.	-	-	-

Figure 2. Basic course curriculum and number of credits, Russian Graduate School doctoral program

We developed a group of courses for specialised classes to streamline the collation process. A unified evaluation standard based on Japan and Russia's systems was adopted, significantly speeding up credit transfers.

C. Eliminating Differences in the Standard Study Period and Creating a Study Model

We have worked on eliminating the difference in standard study duration between Japan and Russia, which is a structural problem. Although undergraduate education in the medical field is six years both in Japan and Russia, the duration of graduate school doctoral programs differs. In Japan, it is four years, and in Russia, it is usually three years. Although DDP allows credits to be transferred, it is quite difficult to complete study programs at both universities and write two dissertations in three years. Therefore, we decided to use a four-year system.

The extra one-year study period in Russia has been an ongoing academic issue. After discussions between Japan and Russia, Russian universities proposed three study models based on regulations and circumstances. It was suggested that students spend the first two years in Russia and the remaining two at their home university. They also noted that compulsory subjects are concentrated in the first year, making it appropriate for students to start research and gain basic skills in their native language.

The three study models proposed were as follows:

- Model 1: After completing two years, the student takes a one-year leave at a Russian university. Then the student returns to school for the fourth year and completes the Japanese and Russian programs at the same time.

- Model 2: Establishing a new four-year doctoral course program at Russian universities. This is a special curriculum in which the 180 credits that should be earned over three years are distributed evenly over four years, resulting in 45 credits earned in one year.

- Model 3: At the end of the third year, all completion requirements except for thesis defense should be completed, and graduation is suspended. After it is confirmed that the students are expected to graduate from the university in their fourth year, they will proceed to the examination and officially complete their studies in Japan and Russia at the same time.

In the case of models 2 and 3, students have to pay tuition fees for four years in Russia based on the length of study. Additionally, in the case of model 3, upon completion of the third year, students are required to return to Japan temporarily for up to one month for graduation exams and related procedures. The curriculum was determined based on the rules of the universities in Russia and the circumstances of the students. The agreements were made with each university in supplementary documents.

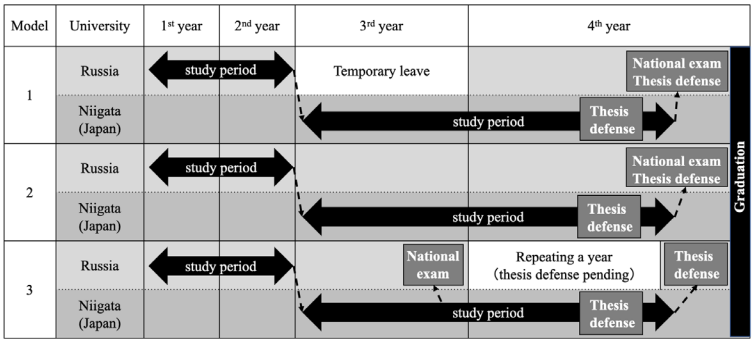

Figure 3. DDP Models

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D. Thesis Defense

Russia and Japan have different systems for evaluating theses. In Russia, dissertations are typically 100 to 150 pages long and are written in Russian. They are reviewed by the Higher Accreditation Commission. In contrast, in Japan, dissertations must be written in English and be published in an international journal. Because of these regulatory differences, a single-thesis evaluation approach was not feasible, resulting in separate reviews for each thesis. While foreign examiners can attend public hearings for dissertations in Russia, they are not allowed to serve on examination committees due to government restrictions.

E. Building a Network with a Dedicated Project Team

Since the G-MedEx Centre's establishment, its international network has expanded across Russia, with exchange agreements established with nine universities. Appointing liaison professors at Russian universities significantly motivated local faculties and had an unexpected positive impact. Regular information exchange enabled the swift identification and resolution of issues, contributing to the project's success and improvements in the study environment and safety management for international students.

IV. DISCUSSION

This paper highlights the challenges faced in implementing the Double Degree Program (DDP) and the measures taken to address them. Six students were enrolled in the program, and two of them have already obtained their degrees. While most of the academic and curricular challenges have been resolved, some issues still need to be addressed. Although credit transfer can reduce some duplication of study content, fulfilling the graduation requirements of two universities within the standard study period is challenging. After gathering feedback from students participating in the program, we learned that many found it very challenging, particularly those conducting research that required wet experiments. In contrast, students focused on statistical research did not express similar concerns.

Another factor contributing to the program's complexity was that the research topics at the two universities often had no connection, forcing students to manage two entirely unrelated projects. This increased their workload and sometimes hindered their ability to complete the program successfully.

Consequently, we concluded that for future programs, it is essential to choose departments that can coordinate their projects, ensuring they engage in collaborative research. This approach would make it easier for students to complete both projects on time. Regarding the credit system, a transfer method based on the "competency-based" approach is being considered, where students are evaluated based on the acquired results of comprehensive and specialised abilities and skills required for the subject, rather than assigning academic training per credit by the time spent in it. To speed up the process, we have limited credit transfer to specialised subjects at our university. However, as the number of students increases and the scale of projects grows, it will be essential to systemise credit transfer and simplify administrative procedures further. Therefore, we need to build a system that guarantees a higher level of educational quality between the two countries while referring to the framework provided by ECTS and the Erasmus Project (European Community Action Scheme for the Mobility of University Students), which are the standard in Russia. From the viewpoint of human resource circulation, some graduates have become post-doctoral fellows or faculty members at Niigata University, while others have returned to their home countries to work as doctors.

V. CONCLUSION

Witnessing young medical scientists grow and start playing active roles in both countries is the greatest joy of international collaboration in education. Russia recently withdrew from the Bologna Process. As a result, the country may develop its own education system that does not depend on the European framework. Russian students may face challenges in integrating into the European education system and accessing European educational grants.

However, interactions with countries not part of the Bologna process—such as Japan, India, and China—will remain unaffected, since these countries operate according to their own independent systems. The key will be finding common ground and promoting academic mobility, though this won't be straightforward based on our past experiences.

Thus, cooperation with these countries will require careful attention. It is essential to focus on the future effects on education and ensure the educational environment's protection for students, drawing on the knowledge and experience gained so far.

Notes on Contributors

SY, the first author, contributed significantly to the design, wrote and edited the paper, and reviewed the literature. OR was responsible for data collection, resource verification, reviewing and editing the manuscript. FO conducted resource verification,

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reviewed and edited the manuscript. HH provided critical feedback during the writing process, analysed the data, implemented and supervised the project. TS led the project, interpreted the data, and provided guidance. TU, the lead conceptualiser, designed the study, was responsible for conceptualisationand obtaining funding.

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Declaration of Interest

The authors declare that they have no conflict of interest.

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