



Models of networking cooperation in higher education: from theory to practical implementation

Komin A.E.¹

Ivus O.N..^{1*}

H. Shurukhina T.N.²

Journal for Educators, Teachers and Trainers, Vol. 12 (2)

<https://jett.labosfor.com/>

Date of reception: 25 Dec 2020

Date of revision: 22 March 2021

Date of acceptance: 21 June 2021

Komin A.E., Ivus O.N., H. Shurukhina T.N. (2021). Models of networking cooperation in higher education: from theory to practical implementation. Journal for Educators, Teachers and Trainers, Vol. 12(2). 121 – 126.

¹ Primorskaya State Academy of Agriculture, 44 Blucher Avenue, Ussuriysk, Primorsky Krai, 692510.

²Far Eastern Federal University, Ajax settlement, 10, Russky Island, Primorsky Krai, 690922.



Models of networking cooperation in higher education: from theory to practical implementation

Komin A.E.¹, Ivus O.N.^{1*}, H. Shurukhina T.N.²

¹ Primorskaya State Academy of Agriculture, 44 Blucher Avenue, Ussuriysk, Primorsky Krai, 692510.

² Far Eastern Federal University, Ajax settlement, 10, Russky Island, Primorsky Krai, 690922.

ABSTRACT

The article deals with the issues of improving the quality of higher education through the implementation of networking cooperation with various spheres of science, economics, culture, etc. It is noted that for the first time, Federal Law No. 273-FZ of 29.12.2012 "On Education in the Russian Federation" defines the basis for implementing joint educational programs and networking cooperation between universities. Successfully functioning models of networking cooperation are presented: "educational organization – educational organization", "university-enterprise", "university-research institute". The features of each model are described and the experience of the universities of the Far Eastern Federal District in implementing the main models of networking cooperation is presented. The article may be useful to the management of Russian universities where networking cooperation is developing.

INTRODUCTION

The second decade of the 21st century for the world was marked by the formation of a new way of life, which was aimed at the development of society and the economy, which created new demands on the institutions that were responsible for research, as well as on the development of technology and human beings. Some researchers note that for the time being, higher school may again have a chance to rank high among social institutions, after after renewing the goals, as well as beyond the objectives of the current activities, the types of activities and their subjects, technologies that are used, as well as the formats for the organization [1].

The trend aimed at the long-term period will be the very development of relations between various universities. "This trend reflects the concept that innovation is more effective if institutions share their ideas" [16].

One of the forms of expression in this trend is the organization of networking cooperation between educational and scientific institutions. It is worth noting that for Russian higher education, this relatively new form has received legislative confirmation thanks to the Federal Law "On Education in the Russian Federation" [17]. This law helped to consolidate the trend that was aimed at students studying educational programs at the university, while simultaneously using the resources of different educational institutions, including foreign ones [17]. This article of the law was adopted, thereby providing greater opportunities for universities to find ways of interacting in a network with domestic and international educational institutions that work in the educational, scientific or cultural fields. The year 2015 was marked by the release of methodological recommendations that are aimed at organizing the activities of education using networking forms. These methodological organizations were created by the Ministry of Education and Science of the Russian Federation which provide explanations on the regulation, creation and implementation of educational programs in the form of a network [18].

Today, networking cooperation is a system of vertical as well as horizontal connections that ensures the availability of education that is of high quality for various categories of individuals, and this cooperation also provides several educational options and, that educational institutions are open, raise competence among educators and use ICT technologies that are modern [2].

It should also be noted that this form provides the opportunity to:

- 1) use resources from other educational institutions, even foreign ones. This is necessary in order to improve the quality of development, training and creation of professional competencies that would be unique and relevant;
- 2) introduce educational programs in higher educational institutions together with foreign and Russian educational programs;
- 3) increase the level of mobility of students as well as teachers in the educational institution.

At present, the study of models that work successfully is an urgent topic that opens up opportunities in solving issues of improving the quality of education.

STUDY METHODOLOGY

Problems in collaboration are nothing new. The search for forms of law that would be adequate and suitable for making changes in the educational system has been carried out since the beginning of the 90s of the twentieth century. This question was related to the fact that in the last century the Bologna Process began, which set a number of tasks for universities:

- 1) Develop cooperation among universities;
- 2) Change some of the education programs;
- 3) Focus on developing distance learning;
- 4) New higher education institutions have led to the fact that many professors and teachers began to work in combination;
- 5) The increase in research activities, as well as in the international format, has helped to increase the mobility of the academy, as well as to transfer the exchange programs of teachers and students [1; 3; 4].

Network structures are very different. For example, they may take the form of networking education programs or projects that are classified as scientific, social, or research. They can also look like the duration, the organization of education, the relationship among educational and other organizations [16].

Possible models of networking cooperation are presented in the works of many authors: Ovsienko L. V., Zimina I. V., Klintsova N. N., Muller F., Gitman M. B., Danilov A. N., Stolbov V. Yu., Yuzhakov A. A., Romm M. V., Zayakina R. A., Krasnova G. A., Teslenko V. A., Chicherina N. V., Shuklina E. A., etc.[2; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14]; the theories of setting up network organizations are defined [9; 11;14], the problems of university networking cooperation [6; 7] and the issues of improving the quality of educational programs within the framework of networking cooperation [14; 15]are considered.

RESULTS

We will analyze some models of networking cooperation in higher education on the example of the Far Eastern Federal District and Primorskaya Academy of Agriculture. We distinguish three main models:

- The model "educational organization – educational organization".
- The model "university – enterprise" .
- The model "university – research institute" .

On the one hand, these models are based on various typologies of organizations that participate in networking cooperation. On the other hand, there are criteria:

- 1) Distribution of responsibility between network partners;
- 2) Direction of the strategy objectives;
- 3) Building a trajectory that concerns learning, taking into account the mobility of the academy

Table 1: Main characteristics of models for the networking

Model selection criteria	Models for the networking		
	The model "educational organization – educational organization" .	The model "university – enterprise" .	The model "university – research institute" .
distribution of responsibility among network partners	Rights of strategic partnership ; cooperation is built on the principle of complementarity	partnership rights based on a network agreement	partnership rights
focus of strategic objectives	implementation of the principle in accessibility of higher education	solving the problems of regional development, implementing practical training of future specialists as close as possible to the real conditions of the functioning of AIC	strengthening the strategic alliances of the university with scientific institutions for the formation of relevant scientific inquiry and research

Thus, **the model "educational organization – educational organization"** involves the inclusion of modules in educational programs of other educational institutions. Such a model can be attributed as a model of "partnership", highlighted by colleagues from the Northern (Arctic) Federal University named after M. V. Lomonosov [13]. Its essence is that it is aimed at meeting the needs of universities participating in the network through resource exchange in order to improve the quality of the implementation in the educational program.

Thus, Primorskaya Academy of Agriculture is the basic university for practical training of specialists in the field of forestry in general for the Far Eastern Federal District. The basis for such training is our unique scientific-experimental forestry farm. The Academy and a number of universities (Far Eastern State Agrarian University,

Irkutsk Agrarian University, Yakutsk State Agricultural Academy) have signed contracts for conducting training practices for students in the field of "Forest Science".

On the basis of the forestry farm, the practice on medicinal plants is conducted, as well as the practice for students of the Pacific National Medical University in the field of "Pharmacy".

In return, students of the academy use the bases of other universities that traditionally have high training programs:

- on the basis of the Far Eastern State Agrarian University, students in "Technology of production and processing of agricultural products" get practical training";

- on the basis of the Irkutsk Agrarian University-students in the field of "Forestry science", profile "Hunting";

- on the basis of the Yakutsk State Agricultural Academy – students on the specialty "Veterinary Medicine".

Today, in Primorskaya Academy of Agriculture there are successful programs for exchange of students and teachers, internships of teachers. At present, more than 20 agreements have been signed with universities and research institutes, including foreign ones.

The Erasmus-Mundus program (academic mobility program) allows our students to study for at least a semester at foreign partner universities. In March, a group of students returned from the University of Prague where they were trained in the programs of economics and management, environmental management (6 months). Students of the university also participate in the DAAD Program (German student support program).

Also, students of the academy have the opportunity to take practical training at Seoul National University, Chungbuk National University (South Korea), Dresden University of Technology (Germany).

The following model "university – enterprise" assumes interaction of universities and production organizations, which allows this model to be attributed to the "resource center" model [13].

Agrarian education is a practice and orientation, it indicates that there is a need to pay some attention to the practical issues, this means that a great deal of attention must be paid to training practice, which is as close as possible to the working conditions of AIC. Today, a large agricultural business has come to the territory of the Far Eastern Federal District where equipment, technologies, and, in some industries, specialists are by an order of magnitude higher than what is defined by standards. For a long time, there has been a need for the employer to be directly involved in the study process itself, as well as in the material and technical, and personnel bases, and most importantly – expert and informative areas. This need is used in the training of engineers, agronomists, veterinarians and personnel.

Having extensive experience in dealing with different employers, a problem was identified regarding the fact that there is no cooperation with some process of sharing responsibility which is connected with the very process of work and its result. Often the employer says that he is not at all satisfied with the way the training was conducted and its results. The network form implements that this problem will not exist.

The first step is to find and formalize an employer who is ready to work with the university on a specific learning process. This employer will not be the customer of graduates or the practitioner of students. This organization will understand the clear lack of well-qualified personnel, as well as the one who worked with the university on some of their items of the training plan, sent staff to the educational institution to conduct classes there, thereby gaining some experience on how some subjects are taught and education is provided.

The active search for such employers is carried out by the academy's teachers during advanced training, which is carried out in the form of an internship at a real workplace. In addition to improving the professional level of teachers, such an internship involves the joint efforts with the employers to develop methodological support for the educational process, the selection of practice managers and diploma design.

Within the framework of the agreements reached, the Academy signed contracts with such leading industry enterprises as Green-Agro, Rus-Agro, Mercitrade, Zolotaya Dolina, OOO "Surazhevka", a number of banks, etc.

The training practice programs are approved by the parties to the contract. Student practice is not conducted by a pattern and operates on a permanent basis during the educational program. Each of the students must solve a problem that is set before him personally, so that the production process does not stop. Students can form an opinion about themselves from their direct employer, with the possibility of further employment in a certain place, where they have passed an internship and carried out projects or research.

The programs include academic and research components, so conducting breeding work on the stud farm in OOO "Zolotaya Dolina" allowed the company to obtain the status of a "reproducer" of agricultural animal breeds.

Students in the field of "Agroengineering" get practical training in Japanese companies that produce agricultural equipment (Kubota, Okuno Otomobil)

To create the possibility of applying the knowledge and skills of external specialists in the educational process and additional programs we use the modular principle of organizing the educational process. This is especially convenient when organizing the practice and involving specialists from research institutes.

Another model we present is "university – research institute". In accordance with the Strategy for the Development of Agrarian Education until 2030, it is noted that research in sciences, which is conducted in

universities, is aimed at improving the agro-industry in the country and increasing the number of quality personnel for the agro-industrial complex through scientific, educational and industrial complexes based on the achievements that occur around the world.

Such complexes should provide the following tasks:

- Provide advanced developments to universities to solve current problems, as well as technological modernization of the agro-industrial complex;
- Provide transportation of developments that are advanced;
- Focus on regional needs, and strengthen relationships with companies and organizations that already exist. Ensure scientific, technical and human resource implementation of improvements in industries that are traditional in the new economy;
- In the long term, create an environment that supports the process of restoring innovations that are in demand in all sectors of the economy.

To implement the tasks set, Primorskaya Academy of Agriculture actively cooperates with a number of research organizations, such as V. L. Komarov Mountain-Taiga Station of FEB RAS, the Primorsky Agricultural Research Institute, and the Botanical Garden-Institute of FEB RAS.

RESULTS AND DISCUSSION

In this regard, the network form is in particular demand, and is also trying to find its place in the practice of current education. It can be assumed that the value in various directions, levels, and volumes of the education process is from the fact that schoolchildren will participate in it, and it will also reach the president's program. The main task now is to establish the definition of the "network connection point", and when they will start working.

Many researchers believe that the creation of network links is a process of development, as well as the search for some forms of actions by actors in society on the basis that they are autonomous and independent, and in this regard an effective interaction is needed for the organization system. It is therefore necessary to understand the level of development of the principles of democracy in the educational environment, how much it is open, and ready for the network transformations [14].

However, it is already clear that the connections within the regions that are being built among higher education institutions are needed both for all of Russia and for the Far Eastern Federal District, as a region that claims to priority development

CONCLUSION

The considered difficulties make it possible to draw some conclusions: interaction between higher education institutions is a very good mechanism that increases the training of students, and therefore the level of their education, which is a priority task of the program in the Russian Federation "Development of Education" for 2018 – 2025[21].

On a national scale, the network way of mastering the content of education and organizing educational interaction contributes to obtaining results of a new quality, namely, the formation of new qualities and competencies of future specialists, the concept and creation of information environment projects in education, and other conditions for teachers that have a good effect on the process of professional and educational activities.

In the regional aspect, the creation of models for networking cooperation in conjunction with the university – various organizations (science, industrial production, business partners, etc.) allows you to improve the resource base in the regions, as well as solve the problems that exist in the regions thanks to the network form of education.

REFERENCES

1. Efimov V. S. The future of higher education in Russia: expert view. Foresight-research-2030: analytical report. Krasnoyarsk: Siberian Federal University, 2012. p. 182.
2. Krasnova G. A., Teslenko V. A. Analysis of the main models of networking cooperation in educational organizations // University management: practice and analysis. 2017. Vol. 21. No. 4. pp. 30-40.
3. The Bologna process in Russia: history and modernity. ERASMUS+ National Office in Russia. Moscow, 2017. p. 43.
4. The Bologna process and its significance for Russia. Integration of higher education in Europe M.: RETCEP, 2005. p. 199.
5. Vesna E. B., Guseva A. I. Models of cooperation between organizations in the network form of implementation of educational programs // Modern problems of science and education. 2013. No. 6. URL: <http://science-education.ru/ru/article/view?id=10934>

6. Gitman M. B., Danilov A. N., Stolbov V. Yu., Yuzhakov A. A. Models of networking cooperation of universities in the training of highly qualified personnel. 2012. No. 3. pp. 69-73.
7. Nagaeva I. A. On-line learning: formation and prospects of development // Scientific and theoretical journal "Scientific support of the system in professional development. ". 2013. Issue 3-4 (16-17). pp. 31-37.
8. Popova I. N. Network cooperation as a resource for the development of general and additional education // Online magazine "World of Science". 2016. Vol. 4. No. 6. URL: <http://mir-nauki.com/PDF/47PDMN616.pdf>
9. Romm M. V., Zayakina R. A. Network communities with university participation: established practices of social interaction // Higher education in Russia. 2016. No. 11. pp. 28-37.
10. Chicherina N. V., Bugaenko O. D. Models of the basic educational programs of higher education implemented in the network form. Higher Education in Russia. 2016. No. 10 (205). pp. 24-36.
11. Shuklina E. A. Network University as a form of development of network cooperation in the educational space of the macroregion / / XII International Conference "Russian Regions in the focus of changes". 2018. pp. 84-98.
12. Gruzdeva M. L. Implementation of network cooperation of universities / / Vestnik of Mininsky university. 2016. No. 2. pp. 45-55.
13. The NMC Horizon Report: 2015 Higher Education Edition. The New media consortium. 2015. [Electronic resource]. URL: <https://www.nmc.org/publication/nmc-horizon-report-2015-higher-education-edition/> (accessed 16.01.2017).
14. Federal Law No. 273-FZ of 29.12.2012 (as amended on 02.03.2016) "On Education in the Russian Federation". [Electronic resource]. URL: http://www.consultant.ru/document/cons_dos_LAW_140174/
15. Methodological recommendations for the organization of educational activities using network forms of implementation of educational programs. [Electronic resource]. URL: <http://edu.garant.ru/relevant/docs/649911/>
16. Gafurova N. V., Kozel N. A. Network form of implementation of the educational program with the employer / / Fundamental Research. - 2014. - No. 12-6. - P. 1275-1278; URL: <http://fundamental-research.ru/ru/article/view?id=36316>.
17. Remorenko I. M., Rozhkov A. I. Prospects of application of the network form of realization for educational programs in the sphere of pedagogical education // Bulletin of the Herzen University. 2014. No. 3-4. pp. 19-24.
18. Decree of the Russian Government No. 1642 of December 26, 2017 " On approval of the State Program of the Russian Federation "Development of Education". [Electronic resource]. URL: <https://www.garant.ru/products/ipo/prime/doc/71748426/>