

LEASECON 2020**International Conference «Land Economy and Rural Studies Essentials»****ECOSYSTEM OF TRAINING COMPETENCIES FOR THE AIC IN
THE CONTEXT OF DIGITALIZATION**

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Abstract

The review deals with the formation of an ecosystem of competent specialists training based on integrating principles of continuous agrarian education, achievements of digitalization of the agro-industrial complex (AIC) and the educational space of the Russian Federation. Development of perspective markets defined within the framework of National Technological Initiative, development of road maps to develop all sectors of the economy, has sharply defined the need for competent specialists possessing universal knowledge and are capable to carry out the professional activity effectively in conditions of global digitalization. The need of the agro-industrial sector of the Omsk region for highly qualified personnel has minor deviations with the order for targeted training of specialists, as the market situation is constantly changing. Today, the University FSBEI HEI "Omsk SAU" has identified reference points for the development of agrarian education system, considering the scientific and educational potential of the university and the needs of the region. In addition, there is a large-scale work in the formation of a unified educational ecosystem, which includes scientific and educational workers, students, their parents, the administration of the university and the region, industrial partners in the face of agricultural holdings, agricultural enterprises, farms. The special task for Omsk State Agrarian University is the preparation of universal specialists, capable not only to successfully carry out professional activities in the future but also to form an actual agenda for innovation in the agricultural sector.

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1. Introduction

The agricultural sector is strategically important among the economic sectors in our country. It is agriculture that provides the population of the Russian Federation with vital products, solves the problem of food security and is the key industry underpinning the concept of "food sovereignty" (Malov, 2018; Shumakova et al., 2018).

Today, the Russian agro-industrial complex is developing at a relatively high rate against the background of most other sectors of the economy. The evolution of technologies and business ideas in modern agriculture depends on global economic challenges currently facing the country. Therefore, the problems of its development affect the interests not only of the state but also of civil society as a whole (Nardin et al., 2018).

In this regard, the development of agrarian education becomes one of the most demanded, realistic and promising ways to address staffing issues in rural areas (Borgragr, 2015; Obedkova & Opeikina, 2018; Zinich, 2018). The digitalization of economic processes and the introduction of digital technologies in the agricultural sector require not only a rethinking of the principles of personnel training but also the formation of an ecosystem where all key stakeholders will interact on a digital platform in a continuous educational process: students, their parents, university, relevant ministries, industrial partners (Nikulina, 2018; Semin et al., 2018; Shumakova et al., 2018). Scientific works of a number of domestic scientists (Fedorov, 2019; Oleynikov & Podlesny, 2013) focus on the needs for a new concept and paradigm of education and note the key role of digitalization in the transformation of educational processes.

2. Problem Statement

Omsk Region is the largest industrial and agricultural region of Russia. The large-scale program of the agro-industrial complex development of the Omsk region till 2025, developed in accordance with the order of the Governor Burkov, pays special attention to the training of personnel for the agrarian sector. In this connection, the Omsk SAU undertakes to form the educational agenda, aimed at training competent specialists capable to carry out professional activity in the conditions of globalization and digitalization of the economic space. Preparation of competent specialists for the modern agro-industrial complex today is impossible without creating a unified learning ecosystem that combines the interaction between all participants of the educational process and digitalization of the agricultural sector (Kosenchuk et al., 2019; Kosenchuk & Shumakova, 2019).

3. Research Questions

The subject of the scientific article is the analysis of the experience of FSBEI HEI "Omsk SAU" in forming an ecosystem of education for preparing competent specialists of new formation competences according to modern trends in education and digitalization of agriculture.

4. Purpose of the Study

The purpose of the study is to analyze the trends in higher education and broadcast the experience of Omsk State University in developing a new approach to educational activities to prepare competent specialists for AIC in the conditions of digitizing production and economic processes.

5. Research Methods

The research work used analytical methods aimed at studying current trends in agricultural education, considering trends in global digitalization of production and socio-economic processes.

6. Findings

Omsk State Agrarian University named after Stolypin is one of the oldest higher education institutions in the Russian Federation, which provides training for agriculture.

Today the higher education institution solves the most important task in the sphere of providing highly qualified specialists in the agricultural sector of the Omsk region. The combination of long-term traditions in research and educational activities with modern methods of training specialists in the context of globalization and digitalization is a distinctive feature of the University's policy, which makes it one of the top universities of Russia and the only representative of Siberia in the list of the best universities of the Ministry of Agriculture of the Russian Federation. According to the results of the International Ranking of Higher Education Institutions ARES-2018 of the European Scientific and Industrial Chamber, the University received a category B: a reliable quality of teaching, scientific activities and demand of graduates by employers.

Omsk SAU is a key structural unit of the regional agrobiotechnology industrial cluster, established on the initiative of the Government of the Omsk region, interested enterprises, institutions and organizations to promote the development of industrial and infrastructure organizations in the field of agriculture, structuring investment projects to find investors, promoting positive experience in the industry. The University successfully operates multi-profile information and consulting center that provides a full range of consulting services to improve the efficiency of production and processing of crop and livestock products to agricultural producers in the region.

The administration and scientific and pedagogical staff of Omsk State Agrarian University are working on a large scale to transform the educational process and form an ecosystem of learning aimed at effective interaction between key participants. The ecosystem of training of competent specialists at the university, in particular, provides for the formation of a flexible educational trajectory, with elements of practice-oriented learning, project activities, the use of SMART-technologies and digital solutions (Astashova et al., 2017; Kenispaev et al., 2020).

Organization of practice-oriented education within the transformation of the educational process is unthinkable without the collaboration of agrarian universities with major industrial partners. One of the ways to solve this problem was to create a Digital Situation Center (DSC) on the basis of Omsk State Agrarian University in 2020. The main partners of the university in the implementation of the DSC

project are JSC "Rosselkhozbank", Federal and regional bodies of state statistics, the Federal Customs Service, the Government of the Omsk Region, the Federal Service for Hydrometeorology and Environmental Monitoring, LLC "KZ" Rostselmash ", the Competence Center of the National Technological Initiative "Technologies for storing and analyzing big data" on the basis of Lomonosov Moscow State University, Soyuz-Agro LLC, Rassvet JSC, Solyanoye LLC, Triticum farm holding, Milk Systems LLC. The Center provides recommendations on the use of digital solutions in crop and livestock production, systematization and data processing for subsequent creation of digital doubles; online access in real time to territorially remote information resources of enterprises, etc.

It will further develop its computing power and launch new projects: "Analytics", "Assessment of environmental footprints and calculation of carbon tariffs", the launch of remote crop scouting in certain areas; obtaining information from the information bank of the Central Information System of Agriculture of the Russian Federation, which includes a list of information systems of the Ministry of Agriculture of the Russian Federation; exchange and synchronization of data with information systems of related and partner agencies, for example, with information systems of the Federal and Regional State Statistics Office, Federal Customs Service, Federal Service for Hydrometeorology and Environmental Monitoring.

Omsk State Agrarian University develops project activities and actively involves students in them through educational intensive work, including using the platform of the co-organizer - the University of National Technological Initiative "20.35", and the functioning of the "School of Project Management". The main goal is to form project teams of talented, proactive youth with the involvement of leading regional industrial partners to participate in innovation contests, including an increase in the number of projects, the business incubator of the University moved to the investment stage.

During the implementation of the Network Educational Intensives of the University of NTI "20.35", students and personnel of Omsk State Agrarian University received a successful experience of implementing project activities in the educational process. In the future, there is plans for a large-scale event - an educational intensive "miniOstrov 10-22", for students and schoolchildren of the Siberian Federal District. Omsk State Administration will focus on projects in HealthNet and FoodNet markets. The global goal of the event is to test the full range of tools provided by the University of NTI "20.35", to find talented young people and to form a "nuclear" group of students capable of working with digital services, as well as to promote innovative technological solutions in practice.

Circle movement and mentoring system help to prepare competent specialists capable of accepting technological challenges and successfully coping with them. Today the circular movement in Omsk SAU is developing according to the road map "NTI Circular movement", and focuses on NTI markets AeroNet, FoodNet, HealthNet. The most important goal of the circle movement at the university is to form a culture of individual cognition in the continuous education process, which will contribute to the general level of professionalism, implementation of ambitious projects, and creation of new organizational solutions aimed at the development of the AIC.

Within the framework of the transformation of the classical educational process and the implementation of the project approach, the university focuses on continuous personal-oriented learning based on a paradigm that implies the ability of each student to find, create or offer a solution to any problem related to their own learning. Allocation of reference points and construction of individual

flexible educational trajectory provides comparison and comparison of personal educational content of students of Omsk SAU, assessment of individual character of their activity.

Introduction of SMART-technologies in agriculture implies the correct setting of goals and finding the best way to achieve them (Anischenko, 2019). Today, when preparing competent specialists for the agribusiness sector of the region, Omsk SAU uses modern software complexes and digital solutions aimed at formation and consolidation of the required professional competences (hard skills):

- analytics and forecasting system "Simple solutions" of Mustang Company. The program provides free access to 6 demo enterprises with actual data updated daily;
- UNIFORM-Agri program is a comprehensive program for daily dairy herd administration, management and reporting. The program promotes monitoring of animal health, milk production and productivity.

The proposed digital solutions serve as a platform to provide students with access to means of objective control over the physiological condition of farm animals, tools for planning and management of production with elements of Big Dat, a platform for macroeconomic forecasting of demand, close integration of digital agriculture processes with platforms developed in the process of digital economy implementation.

Today, the University is creating a digital demonstration site, whose main elements include "Smart Greenhouse" with installed agro robots; AIS "Agrometeorology" with modernized weather station; "Smart Field" on the basis of educational and experimental facilities of the University. The digital educational online platform "University Open to the Region" is actively developing.

7. Conclusion

Analyzing the presented materials, it is possible to draw a conclusion about the key contribution of Omsk State Agrarian University to the training of highly qualified specialists for the regional agricultural sector in the conditions of globalization and digitalization of production and socio-economic processes. The use of the practice-oriented approach in the educational process, implementation of information SMART - technologies, project activities form the necessary competencies that allow the young specialist to easily adapt to the conditions of real activity at the enterprise and successfully perform production and management functions.

Omsk State University is pursuing a policy of creating an ecosystem of learning that facilitates cooperation between key stakeholders, which is an ideal environment for the implementation of paradigms of learning in the 21st century through the effective use of information technologies, systems and resources. All this makes it possible to prepare competent specialists of the new formation for the successful development of the agricultural sector of the Omsk Region and, in general, the Russian Federation.

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