

# Problems of Personnel Training in the Field of Environmental Protection and Safety

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**Abstract** – The relevance of environmental education of management personnel is reflected in the documents of the UN Conferences on Environment and Development, materials of a number of other international conferences. In accordance with the Federal Law "On Environmental Protection", heads of organizations and specialists making environmental decisions have to be trained in the field of environmental protection and safety. The article analyzes scientific literature and Internet sources in which theories are projected into practice. The authors of one of the key problems of personnel training in the field of environmental protection and safety highlight the need for implementing online education in agricultural universities. Thanks to digital educational trajectories, students will be trained for very narrow tasks. They will not have proficient professional competencies and a complete picture of the world. Continuing education will be reduced to a narrow set of professional competencies. The concept "multi-skilled worker" will be eliminated.

**Key words** – environmental safety, personell training, ecological enlightenment

## I. INTRODUCTION

In 2015, environmental legislation has been modified. A number of legal acts have been changed (articles of the laws "On Environmental Protection", "On Ecological Expertise", "On Production and Consumption Wastes", "On Protection of Atmospheric Air"). In October 2015, the Government of the Russian Federation issued Decree No. 1062 "On Licensing Activities for Collection, Transportation, Treatment and Disposal of I-IV Hazard Class Waste". The amendments came into force in January 2015, 2016, 2018, 2019 and 2020. Since January 1, 2016, transportation and disposal of waste of hazard classes I-IV are not allowed without licenses. Until that date, all companies applying for a license should submit documents to the Federal Service for the Supervision of Natural Resources Management. If the license was obtained before 01.07.2015, it is valid until 01/01/2019.

One of the requirements for a license applicant is that the licensee has professional training to work with wastes of hazard classes I-IV; its lack is one of the worst violations.

Individuals can be trained in organizations that have licenses for educational activities. Training is conducted in accordance with the Order of the Ministry of Natural Resources of Russia of December 18, 2002. No. 868 "On organization of vocational training for the right to work with hazardous waste" which approved an exemplary training program for persons entitled to work with hazardous waste.

There are no additional requirements for training under the programs "Environmental Protection and Ensuring Environmental Safety by Managers and Specialists of General Management Systems" and "Ensuring Environmental Safety by Managers and Specialists of Environmental Services".

Many Agrarian Universities of Russia provide educational services for the training and retraining of personnel to ensure environmental safety by managers of environmental services. In the system of continuous education, global digitalization is a new trend.

Training of personnel in the field of environmental protection and safety is education which can be viewed both as a type of human activity, a process of interaction between various social communities involved in training, and as a social system, and as a social institution. Continuing education is a tough need. Agricultural universities train highly qualified personnel for rural areas, agricultural holdings, livestock farms, environmental protection and safety areas. To understand the nature of social interaction of communities in the system of agricultural continuous education and in the educational system as a whole, subtle psychological and pedagogical mechanisms, economic, agricultural, ecological, philosophical and social knowledge are required. The transitional nature of economic, political and social reforms caused by social democratization, transition to the digital economy influence the education system [1].

## II. PROBLEM STATEMENT

Many Agrarian Universities of Russia train and retrain personnel in environmental safety. In the modern system of continuous education implemented in agrarian universities,

global digitalization is a new trend. Training of personnel in the field of environmental protection and safety is education which can be viewed both as a type of human activity, a process of interaction between various social communities involved in training, and as a social system, and as a social institution. Continuing education is not a tribute to fashion, but a tough necessity. The specificity of agricultural universities is the preparation of highly qualified personnel for rural areas, agricultural holdings, livestock farms, as well as in the field of environmental protection and environmental safety. Continuing education is a tough need. Agricultural universities train highly qualified personnel for rural areas, agricultural holdings, livestock farms, environmental protection and safety areas. To understand the nature of social interaction of communities in the system of agricultural continuous education and in the educational system as a whole, subtle psychological and pedagogical mechanisms, economic, agricultural, ecological, philosophical and social knowledge are required. The transitional nature of economic, political and social reforms caused by social democratization, transition to the digital economy influence the education system [1].

### III. MATERIALS AND METHODS

Works by sociologists on the problem of education in general and general education in particular are of special interest. They analyze education as a social process whose result should be personal development (V. Baydenko, E. Zaborova, S. Ivashevskaya, G. Serikov, A. Subetto, V. Kharcheva, E. Shuklina). Many Western and Russian scientists were engaged in the problems of digital education (M. Spitzer, P. Waibrow, M. Spitzer, S. Iden, R. Caspari, G. Spectr, S. Appa b, T. Chernigov, A. Matveev, D. Dakhin, I. Shilov, A. Chetvirtikova, M. Nikitin, S. Stolyarov). "Today, there are a large number of distance learning systems (DLS): Moodle, SharePoint LMS, SAKAI, Claroline, WebTutor, ATutor, iSpring Online, AcademLive, ShareKnowledge, OLAT, ILIAS "[2]. Having analyzed theoretical sources, we found out that the most popular system is "Moodle". This program is designed to create full-fledged distance learning courses. It is used by universities, schools, companies, independent teachers. At the beginning of 2015, Moodle was used by more than 85,000 sites in 240 countries. Today, the number of users is larger [3].

In the scientific literature and Internet, there are a lot of publications on digitalization of continuous higher education in the agricultural sector, but there is no solution of the problem of staff training in the field of environmental protection and safety.

The article analyzes scientific literature and Internet sources in which theories are projected into practice. General theoretical aspects of digital education, environmental education in agricultural universities are analyzed. They will help compare and identify potential and actual phenomena.

### IV. DISCUSSION

The key ideas of environmental safety training in the framework of digital continuing education are as follows:

1) Education begins at school and lasts continuously for life. Continuing education in agrarian universities is a service. A student buys skill to sell them at a profit. A student is a commodity striving for professionalism in the field of environmental protection. Knowledge of managers and specialists of organizations whose activities have a negative impact on the environment is in high demand in the labor market.

2) Digital continuing education in the field of environmental protection and safety is based on the "eugenic approach" assuming initial inequality of a creator and "one-button people". It creates individual trajectories of development. For some students, "human learning" is used, for other ones – online learning.

3) A fundamental change in the content and methodology of training according to the Federal State Standard. Since "lifelong education" involves acquisition of competences, only some subjects are taught on a traditional basis. Basic education is expensive. Online education is cheap. It is unacceptable when training managers and specialists of organizations whose activities have a negative impact on the environment [4].

Only persons having secondary vocational and (or) higher education or persons receiving secondary vocational education and (or) higher education can be trained.

When using information technologies in the system of continuous education as part of the programs "Environmental Protection and Ensuring Ecological Safety by managers and experts of general economic management systems" and "Ensuring environmental safety by managers and experts of environmental services", it becomes impossible to train a highly qualified professional because the learning process becomes subjective without real Teachers, Innovators, Researchers and Ecologists. With online learning, the teacher becomes a "tutor" [5].

Let us consider the negative impact of lifelong education based on the principles of online learning. Continuing online education in agrarian universities has not not fully implemented. However, the "Academic Writing" discipline is given less and less attention in curricula. Motility and coordination will suffer due to digital education. Scientists from the Norwegian University in Stavanger concluded that people who write quickly read better. And vice versa: people who read slowly do not write well. Spelling, punctuation and grammar rules will not be learnt by students, because all gadgets and browsers have an auto-correction function [6]. Future managers enrolled in continuing education programs will be worse at articulating their thoughts. After all, handwriting requires a higher form of abstract thinking. It will be difficult for students to learn and memorize, because they will lose handwriting skills. Computers can do almost everything, but the person will not structure texts, think [7]. Many practical tasks in the disciplines "Russian legislation in environmental safety and environmental protection", "The system of public administration in the field of environmental protection. State environmental control (supervision)", "Nature management, environmental protection and environmental safety", "System of documentation on

environmental issues”, “Organization of industrial environmental monitoring”, “Regulatory and quality indicators of the environment”, “The order of the use of water resources”, “Safe waste management” involve searching for information on the Internet. Students get used to finding answers online and reading quickly, without a deeper insight. Training in agricultural universities makes students “closer to nature, makes them know features of animal husbandry, farm management.

In addition, future managers and specialists should spend a lot of time using headphones which deteriorate their hearing, eyesight, the state of the internal organs, muscles, etc. [6].

IPads, smartphones and Xboxes are a digital drug. Dr. Peter Weibrau, a director of the faculty of neurology at the University of California (UCLA) calls screens “electronic cocaine”; Chinese researchers call them “digital heroin” [7]. When a person crosses the line of addiction, he needs to undergo detoxification before any treatment can help him. He has to abandon the use of computers, smartphones, and tablets [8].

Digital reality creates a “new kind” of a person, a “Homo Confusus” or a “person of confusion” [9]. Most schoolchildren and students suffer from loneliness and cannot live without social networks. These are results of a survey conducted by the All-Russian Popular Front. The study covered almost 80 regions of Russia. When students use the Internet, social networks substitute real communication. When 90% of communication occurs through the Internet, it is not normal. It will be difficult for such managers to build human relations, respond to conflicts, carry out management and social activities [4].

In Germany, the bestseller list is headed by the book “Digital Dementia”. How we are depriving ourselves and our children of reason” [10]. Its author is Professor Manfred Spitzer, a Medical Director of the University Psychiatric Clinic in Ulm, Germany. He is considered one of the most prominent experts on the human brain. Using Google and Wikipedia, people remember only where information can be found. “Advanced digital technologies have a negative effect on spatial orientation” [11]. Digital technologies in lifelong education replace everything. The use of wireless networks is dangerous for the health; nevertheless, they are used in training. On February 24, 2017, the international conference “Children, time spent in front of screens and radiation from wireless devices” was held in Reykjavík. Experts on electromagnetic radiation, oncologists, teachers and a number of other specialists participated in the conference [12]. American scientists showed the risk of vision problems in people who use electronic devices for more than three hours a day [4].

In the basic project “Childhood 2030”, there are prescribed gaming computer forms of learning: a school as a digital gaming space. After this, it will be impossible to explain a student how harmful are computer games used in training.

Researchers from Dartmouth College found that depending on the type of a carrier, a person perceives information received in different ways. The type of a carrier has an impact

on abstract thinking. When reading from the screen, we focus on details rather than on the overall picture of what is happening. Scientists carried out a series of experiments to analyze the speed of decision making and the quality of text perception. Volunteers aged 20 to 24 years were involved in their experiment. Representatives of one group were given printed texts, and others – pdf-files on the screen. Readers of printed texts answered logical questions much better (66 % vs. 48 %). The task was complicated. Participants got acquainted with a table of characteristics of four cars. In addition, each characteristic was marked (“excellent”, “adequate”). But one of the models was better by main parameters. Those who read printed texts correctly identified the best option (48 %). Only 30 % of participants with laptops did it. Children using computers will be able to perform tasks, but they will not be able to draw complex conclusions and see relations. The quality of online training is lower. Transition to universal digitalization of education begins when catastrophic consequences of e-schools are discussed in the Western countries [13].

## V.CONCLUSION

When training personnel in the field of environmental protection and environmental safety, online courses are applied. Their quality is terrible, but organizers do not care about it.

The “Development Strategy of the Electronic Industry of the Russian Federation until 2025” states that “there must be a permanent connection of each individual with global information and control networks. Nanoelectronics will be integrated with bio-objects and provide continuous monitoring for the maintenance of their vital activity” [4]. Implementation of the project on digitalization of continuous education in agricultural universities will create a generation of illiterate managers. Thanks to digital educational trajectories, students will be trained for performing narrow tasks. They will not be competent in environmental protection and environmental safety and will not have a complete picture of the world. They will not be creative. Continuing education in agrarian universities will be reduced to a narrow set of competencies required for a specific area.

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