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**DEVELOPMENT OF PUBLIC CONSCIOUSNESS IN
PEDAGOGICAL EDUCATION IN RUSSIA AND KAZAKHSTAN**

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Abstract

The article is written in the implementation of the project "Formation of social consciousness and spiritual and moral culture of students in the system of continuous pedagogical education on the basis of the Patriotic idea "Mangilik El". Within the framework of the project, a retrospective analysis of international trends that determine the modernization of public consciousness of citizens, including students of the country, was carried out. The authors believe that the current socio-economic state of the education systems of Russia and Kazakhstan in the form in which they came to the end of XX - beginning of XXI century, cannot contribute to overcoming the current global crisis of civilization development and can not fully withstand his challenges. The entry of the peoples of the world into a new stage of their already information development makes teachers think about the goals and content of education. The results of the analysis prove that in the conditions of accelerated technological development it is necessary to understand education as a partnership. This is a key concept, naturally linked to the process of free knowledge. The teacher does not stand over the student, but freely interacts with the student, conducts a discussion, answers questions, is criticized, justifies its position or takes the position of the student. In addition, in the development process plays a huge role and the interaction of students among themselves. Mutual respect, cooperation and partnership-these are the principles on which the development of pedagogical education in the technological society is based

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1. Introduction

Today, the education it is advisable to be treated as one of the main factors contributing to the emergence of a new quality of the economy of the countries and the digital society, characterized by constant self-education (Bikbulatova, 2016). The harmonization of education in Russia and Kazakhstan and the correlation of education with the development of their national markets does not solve the whole new complex of problems of education.

2. Problem Statement

It can be seen that there is an increasing gap between the certainly necessary level of knowledge for the digital economy, the skills of young people and the systems of General and vocational education (Autor & Price, 2003; Manyika, 2013; Shishov, 2016). Everything says that we will lose huge branches of labor in just 20-25 years (Dubrovskii, 2012). This can lead to social and political unrest on a large scale (Knyazeva, 1992). At the same time, public opinion in Russia and Kazakhstan already clearly adheres to the understanding that it is impossible not to respond to the revolutionary changes in science, society and technology (Kalney, 2013; Abylkasymova, 2015)

3. Research Questions

- 3.1.** Question 1: what are the trends of formation of ordinary mass consciousness of students of pedagogical universities in Russia and Kazakhstan?
- 3.2.** Question 2: how does the systematization of observed social phenomena affect the formation of spiritual and moral culture of students of pedagogical universities?
- 3.3.** Question 3: what are the objective laws of the development of public perceptions in the student environment?

4. Purpose of the Study

The main purpose of the study is to determine the trends in the system of life coordinates of students of pedagogical universities, on what basis are the views of the world's youth and its own role in it in the ever – changing external environment.

5. Research Methods

5.1. The object of the research

The object of the study is a social group of people, motivated to comprehend the mechanisms of formation social consciousness, spiritual and moral culture of students. The subject of the study was the analysis of the mechanisms of formation of social consciousness and spiritual and moral culture of students.

5.2. The empirical base of the research

The General body of research is students of Russian and Kazakh universities of pedagogical directions of training - 896 people from the first to the 4th year of bachelor degree. This community is considered by us as a homogeneous set, represented by a single feature "involvement of the Respondent in

the activity to determine the mechanisms of formation of social consciousness, spiritual and moral culture of students." The study used a systematic probability sample. Out of 896 participants of the experiment in six universities (4 Russian and 2 Kazakhstani) 125 people were chosen for interviewing. With a uniform population, the probabilistic systematic sampling gave each participant an equal opportunity to become a respondent. The sampling error was 1.5 points with a 90% probability.

The following methods of collecting information were used: formalized interview on the questionnaire (125 people), included observation of experts in the process of communicating with respondents (21 people).

6. Findings

Employers, and young people themselves (66% of employers and more than 50% of graduates) state that they could not get the modern competences demanded by practice. Experts speak about incomplete inclusion of pedagogical education systems in Russia and Kazakhstan, both in national and global innovation systems. 80% of experts, 70% of employers and 45% of graduates have a weak connection with the labor market. There is growing inequality in access to quality education of various social and ethnic groups (as evidenced by our sample surveys). There is a growing shortage of highly qualified teachers and trainers who are able to respond adequately and quickly to changes in the social and industrial demand for education.

6.1. The discussion of the study results.

Technology is indeed developing at a revolutionary pace. Here are some examples. The Nobel prize in chemistry was awarded to Jean-Pierre Sauvage, sir Fraser Stoddart and Bernard Feringa in 2016 for the design and synthesis of molecular machines. This opens up fantastic prospects for us. Molecular machines are only a few nanometers in size. Such machines can be used to assemble complex molecular structures with predefined properties. Or, on the contrary, they can be used to disassemble the molecular structure of the atom for disposal, for example, polymers. Another example: in living cells work many thousands of nature created machines. Now artificial can be used to repair the genome. Thus, the Cas9 protein already works, which in combination with the RNA guide is a programmable molecular machine for cutting DNA.

Around the world, hundreds of companies are engaged in the design and testing of unmanned vehicles. Among them, of course, the famous automobile Volvo, General Motors, Volkswagen, Toyota, Audi, BMW, Tesla. But not only. There are those cars never did – Google, Baidu, Uber, etc. including the Russian "KAMAZ". The plant created the first unmanned vehicle in Russia on the basis of a serial truck. This is not all. Flying taxi without a pilot is presented by the Chinese company Ehang. Already 15 companies in the world produce the first samples of flying drones.

Demographic changes are striking. In just 150 years, since 1800, the world's urban population has increased 15 times. Despite the fact that the total population growth was only 250 %. In 1800, the world had only 5% of the urban population, in 1900-13%, in 2000 — 47.5% (or 3 billion people). The urban population is expected to reach 5 billion by 2030. At the same time, citizens "huddle" on a tiny patch of 0.4% of the entire land area. Currently, 30 % of the population of a typical city work in various spheres and

levels of management, 30% — in the field of maintenance, 30% — provide services for the above groups. While, for example, in 1810 in the United States among the workers were 84% of farmers. Today only 2%. This is a huge change in the labor market.

The number of mass open online training courses (MOOCS) in the network is increasing almost every year by more than 100%, and the number of students trained in this type of educational technology is increasing by 100% annually. Today's children should now be called the "digital" generation: they draw information from the Internet, spend a lot of time online, we can say that they live there — in General, for them there is no life without technology (Abylkasymova, 2015). Research organizations Ericsson ConsumerLab and the Swedish Riksbankens jubilee Foundation predict that by 2020 50% of the world's population will be "digital" children. As a result, online secondary education will move, however, gradually. Already in some American schools, students watch video lectures on academic subjects at home, and only discuss what they see in the classroom (Korotkina, 2017). It seems that only primary school will avoid online education for now. Still, the main goal of primary school is not to load a large amount of knowledge, but to teach kids to learn, to instill skills of teamwork, to prepare for socialization. The Internet is not an assistant. Maybe just for now?

Adaptive learning resources such as the Knewton project are already being created, which make extensive use of artificial intelligence. There is an opportunity based on the analysis of online courses that the young man studied, what marks he received, what tasks he coped brilliantly, and what — he had difficulties, artificial intelligence will be able to build a virtual map of knowledge for the user and "push" his identified gaps in the picture of the world or knowledge. Perhaps this virtual tutor will be useful to the child even in primary school. Neurointerface is another solution that will have a serious impact on education (Stepin, 1989). This system will allow the brain of the student to exchange information with the computer, ask him commands (prototypes are already working).

The goals of the governments of Russia and Kazakhstan are: the removal in the coming years of their countries at growth rates above the world average, the transfer of economies in the "figure" and the cultivation of new technologies.

"Digital production" provides for the establishment of the production process, in which everything is automated, used robotic equipment, machines with numerical control. Digital production, as a result, will provide the following changes: will seriously increase productivity; will dramatically increase the quality and complexity of products; change in structure and will increase the requirements for staff; automation of production will reduce the need for labor, reformat the labor market.

In the next few years much more in demand will be these high-tech courses like artificial intelligence, robototehnika, 3D design, augmented and virtual reality, cloud computing, bioinformatics and IT in medicine, IT in education etc.

Today, such concepts as digital enterprise, deserted production, virtual production environment, industry 4.0 (the Fourth industrial revolution), smart field, deserted warehouse, additive technologies are on hearing. But how well are our young people prepared to work in such conditions? And the industry?

It is known that in the leading countries there are 300-400 industrial robots for every 10 000 people. About 15% of enterprises in Germany already use the elements of "Industry 4.0" in their production process.

In 2-3 years, German Industrialists plan to launch the first plants based on cyber-physical systems, fully consistent with the concept of industry 4.0.

In Russia, while 2 industrial robots account for every 10 000 people. According to optimistic estimates, the degree of digitalization of all enterprises of the Russian economy is hardly higher than 10-15%. These are the most advanced enterprises. An example of "digital production" in Russia is the project of development and production of Sukhoi Superjet 100 aircraft, which is implemented by Sukhoi Civil aircraft. The project was launched in 2000, and in 2008 its first flight made the first sample. All work was carried out entirely on digital models. You can call another new center of JSC "Russian Railways" on the basis of the motor car depot "Moscow", where the diagnosis and maintenance of electric trains "Swallow", which are produced by "Ural locomotives".

There is no doubt that digital production will become an integral part of most industries in the next 10 years. By the way, according to German Gref, already now 99% of decisions on loans to individuals are made automatically.

Due to the technological explosion in the next 10-15 years will change the paradigm of obtaining basic vocational education. Even continuous professional development in their main specialty will not save the average employee from the need to regularly retrain for new professions, which can die because of technological progress.

Nevertheless, the main condition for the success of the country will remain personnel-specialists who will be able to effectively improve modern technologies and will absolutely own them.

One after another, international studies began to produce terms such as "digital literacy", "media literacy", "electronic literacy", "techno-literacy", "e-literacy" and even "silicon literacy" (Korotkina, 2017). The key point of this terminological cascade was the use in the English (international) educational and publication space of the word "literacy" in the plural (literacies), and then the rapid spread of the term "multi-literacy" (multiliteracies). By the beginning of the twenty-first century, not only was there an urgent need for conceptualization of literacy, but also the importance of this conceptualization for education reform, since the transition from an industrial to an information economy had led to a revision of the vision and essence of education, the level and quality of which are the most important indicators of the level of development of society itself. As rightly noted by the Australian Professor I. Snyder, we are witnessing the transition from the era of mass communication to the era of individualized communication, from unidirectional communication (from the center to the masses) — to multidirectional, from passive audience — to interactive.

All this leads to a change in the role of the educational organization: training for the profession ceases to be an important target. Young people now need to develop the capacity to adapt and "adapt" to the ever-changing external social, economic and technological environment; and the need for retraining. The teacher is no longer the only unquestionable source of knowledge. Now this place is occupied by the Internet. The teachers will have a mentor who will teach them to work with information, to use the acquired knowledge in real life. Education, of course, will be individual, and each child will have its own optimal educational trajectory. The mentor will provide the conditions for the child to get the necessary knowledge and acquire the necessary skills. He himself (the student) will assess how prepared. Evaluation is no longer the prerogative of an educational organization.

Today, both in Russia and in Kazakhstan, it is generally recognized that the education system in the form in which it came to the end of the XX - beginning of the XXI century, can not contribute to overcoming the current global crisis of civilizational development, can not resist its challenges. The entry of the peoples of the world into a new stage of their already information development makes teachers think about the goals and content of education. It becomes important to formulate new goals and new values that are relevant in the information society. If it is important for us to preserve the "humanity" (Dubrovskii, 2012) of education, it is necessary to radically turn the education system to this idea.

The idea is the first form, it is given a sacred meaning and meaning to everything else, it will ensure the integrity and interdependence of all parts of the whole. The idea is objective, it is not determined by the education system (subject), but it defines the subject itself. This is the law and the condition of adequate time of education development. The extent to which the idea of education is fully realized in a new type of culture is ensured by the feasibility of the set of imperatives of pedagogical practice.

The realities of today becomes the entry of the Russian Federation and Kazakhstan into the world educational space; increase in the number of gifted children who need special conditions during the development of educational programs; poor training of teachers to support children with pronounced creative technological abilities, in various institutional forms. And this, to a certain extent, affects the change of the educational paradigm, assuming that all students acquire real rights of the subjects of the educational process. These rights ensure their personal development and contribute to their socialization. It is necessary to rethink today's pedagogical experience and develop new pedagogical ideas and approaches to teaching technologically gifted children.

But the conservative nature of education as a phenomenon is difficult to leave the paradigm of classical culture and classical rationality. The post-non-classical reality, which professes essentially other purposes and values, and also criteria rational hardly makes its way.

This is due to the fact that methodological guidelines, theoretical constructions and practical forms, means and methods of education, and, consequently, pedagogical values are formed and systematically formed in the course of, as a rule, long-term historical development of society and the education system. They are recorded in pedagogical science as a form of social consciousness in the form of ideas, concepts, theories that in a given period of time are essential for society and a particular pedagogical system and are pedagogical values.

Successful solution of problems of development of children with a pronounced technological bias by the teacher provides not so much the presence of diverse competencies as the presence of their own worldview, ontological regulator of value orientations. These orientations are a set of ideas and the grounds on which the assessment of pedagogical activity in special conditions is based; they are the factor forming the meanings of professional pedagogical activity; represent ideal goals, on the basis of which there are motives, formed and priorities of professional activity of the teacher.

The value system of the teacher includes: values, asserting the role of the individual in the environment, both social and professional (recognized by the society the importance of the teacher as a reproducer of social experience; respect teaching activities, and recognition of the profession, social environment, etc.); the value of communication and of expanding the area of public communication (communication with a wide range of children, their parents and colleagues, the reference of representatives

of the society, the exchange of moral values, etc.); values of self-development of creative individuality (opportunities for the growth of professional skills, hobby, constant self-development as a condition for the implementation of the humanistic position of the teacher, etc.); values of self-realization and orientation to the knowledge of the essence of themselves and other individuals (variability of pedagogical work; improvement and readiness to introduce modern teaching technologies; awareness of man as a measure of all things, pedagogical optimism, etc.); the value of satisfying pragmatic needs.

The reorientation of modern society and education system from the system-centric to the anthropocentric type involves the harmonization of many human relationships based on the recognition of its psychological integrity and characteristics. The idea that the main value of the state becomes the person is proclaimed. The value of man in modern conditions is declared absolute. Such a humane approach is based on the recognition of the self-value of human life as such by virtue of its existence. At the same time, the value of a person carries a relative component, depending on how useful or irrational is the activity of a particular person.

7. Conclusion

Based on the above assumptions from the education system focused on the formation of the technological society in the country, it is possible to formulate the requirements for it: the way of thought expected from students (both General and vocational education) - curiosity, courage, participation in intellectual discussions-involves their ability to communicate their ideas clearly, as well as to listen and respond to different points of view respectfully; the educational organization is aimed at preparing students to experiment with new ideas, to test their own beliefs, to monitor their own points of view and to contribute to the discussion; it is necessary to teach the wards analytical thinking, should be strongly supported in the application of these analytical abilities to their own research, as well as to work in other projects; well, if students generate critical assessments of what they read, see and hear, and develop a healthy skepticism to the surrounding reality; they are aware of the responsibility for their own knowledge, highlight the basic values of the technological community, seek help when they need it, and defend the right to their own knowledge in various situations; they are able to defend their own position, which is nurtured from the realization that education is a partnership.

Understanding education as a partnership is a key concept that is naturally linked to the process of free knowledge. The student has the full right to work independently and to demand the help from the teacher. The teacher does not stand at higher levels, but freely interacts with the student, does not "lecture", but conducts a discussion, answers questions, is criticized, justifies his position or takes the position of the student. In addition, in the development process plays a huge role and the interaction of students among themselves. Mutual respect, cooperation and partnership — these are the principles on which the developing, technological education is based. As noted by well-known researchers and experts in the field of education: in the information age society — the XXI century — knowledge becomes the main capital, and the ability to think critically — the basis of democratic interaction.

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