

Ethical Problems of Digitalization and Artificial Intelligence in Education: a Global Perspective

Kassymova, Gulzhaina K.^{1,2,3}, Malinichev, Dmitriy M.⁴, Lavrinenko, Sergey V.⁵, Panichkina, Marina V.⁶, Koptyaeva, Svetlana V.⁷, Arpentieva, Mariam R.^{8*}

¹ Institute of Metallurgy and Ore Beneficiation, Satbayev University
29, Shevchenko str., Almaty, 0500010, Republic of Kazakhstan

² Institute of Pedagogy and Psychology, Abai Kazakh National Pedagogical University
13, Dostyk ave, Almaty, 0500010, Republic of Kazakhstan

³ Graduate school of the Yogyakarta State University,
RT.11/RW.14, Jl. Rawamangun Muka, Pulo Gadung, Kota Jakarta Timur, Daerah Khusus Ibukota Jakarta,
13220, Republic of Indonesia

⁴ Moscow Financial and Industrial University "Synergy",
9/14, b. 1, Meshchanskaya str, Moscow, 129090, Russian Federation

⁵ School of Power Engineering, Tomsk Polytechnic University,
30a, Lenin Ave., Tomsk, 634050, Russian Federation

⁶ Taganrog Institute named after A.P. Chekhov,
branch of the Rostov State Economic University (RINH),
32, Turgenevskii lane, Taganrog, Rostov Region, 347936, Russian Federation

⁷ Kaluga Regional Children's Library,
74, Lenin str., Kaluga, 248001, Russian Federation

⁸ Center for psychological, pedagogical, medical and social assistance "Assistance",
44, Dostoevski str., Kaluga, 248000, Russian Federation

*Corresponding author e-mail: mariam_rav@mail.ru,
DOI: 10.47750/pnr.2023.14.S02.254

Abstract

Introduction. Understanding the problems of the development of modern digital education in the context of the use of artificial intelligence systems is an attempt to analyze the prospects, consequences, and projects of modern education, including its digital technology .

Methodology. The purpose of the study is to analyze the ethical problems of the development of digital education in the context of the use of artificial intelligence systems as one of the leading trends in globalization. The research method is a theoretical analysis of the problems of the development of digital education and the use of artificial intelligence systems in the context of globalization problems.

Results. Globalization declares the importance of equal opportunities and similarity of processes and results of general and professional training of specialists from different countries. One of the technologies that ensure such equality or similarity is digital technologies that are being introduced into the process of general and vocational training and education. However, in addition to opportunities, the introduction of these technologies is accompanied by numerous ethical problems that call into question the economic feasibility of their widespread and uncontrolled creation and use. Having paid for "education" and having become familiar with certain knowledge, skills and, even more, "spiritual and moral competencies" in the course of a "training session" with a digital device of one type or another, human cannot become a competent student and/or professional, to develop as a person or a subject of professional-labor or intimate-personal relationships. Undoubtedly, all this is possible if we are talking about the development of the ability to learn and the development of some other qualities and skills of a person associated with the experience of using certain devices, with the culture of their application. But it is impossible if we are talking about the formation and development of man as a fully functioning being, a subject of culture as a whole.

Conclusion. The idea of comparing human ("robot-proof" subject) to artificial intelligence is interesting in the context of testing some of its properties, but not interesting in the context of "value comparison": a person initially cannot be less valuable than the machine he created. A machine, artificial intelligence exists only as an extension of a person, otherwise, we are talking about the fact that it exists against a person. The development of artificial intelligence systems is often carried out by people who have such features of life orientations that direct the development of these systems towards competition, manipulation, and destruction of a human. It should be emphasized separately: there is no one artificial intelligence; there are different systems of artificial intelligence: in terms of level it can be combined into types, just like sociopaths.

Keywords: globalization, economics of education, artificial intelligence systems, digital learning, digital learning tools, digital culture, ethical issues of education, smart education.

Introduction. Understanding the problems of the development of modern digital education in the context of the use of artificial intelligence systems is an attempt to analyze the prospects, consequences, and projects of modern education, including its digital technology.

In this article, we will be looking deeper into its ethical limits and problems in global perspective. We are aware that Artificial intelligence can also be seen in a brighter light, especially in education in some modern countries where it's been used in good ways, e.g. to help students with machine learning to get better test results in exams [1; 2; 3]. The leading aspects in the context of the introduction of artificial intelligence technologies into the education and upbringing of the future are the following range of concepts:

- 1) transformation of modern culture, including the practice of educational, or, family and other human relations;
- 2) transformation of modern education as a result of its digitalization and other changes associated with changes in culture as a whole;
- 3) changes in the processes and results of education and upbringing, as well as the subjects of education and upbringing as a result of the use of educational and other technologies that use artificial intelligence systems.

Consideration should be associated with the analysis of all three selected contexts on the problems of the development of digital education in the context of the application of artificial intelligence systems.

Methodology. The purpose of the study is to analyze the ethical problems of the development of digital education in the context of the use of artificial intelligence systems as one of the leading trends in globalization.

The research method is a theoretical analysis of the problems of the development of digital education and the use of artificial intelligence systems in the context of globalization problems.

Globalization declares the importance of equal opportunities and similarity of processes and results of general and professional training of specialists from different countries. One of the technologies that ensure such equality or similarity is digital technologies that are being introduced into the process of general and vocational training and education [4; 5; 6; 7]. However, in addition to opportunities, the introduction of these technologies is accompanied by numerous ethical problems that call into question the economic feasibility of their widespread and uncontrolled creation and use [8; 9].

Research results

1. Transformation of modern culture, including the practice of educational, or, family and other human relations

Digitalization is one of the leading trends in changes of the globalized world not only in technological but also in social relations and culture in general. The most important point in cultural transformations associated with digitalization is its functions in the structure of "posthumanization". Thanks to biological and digital technologies, their convergence with social, political, psychological, religious, and other technologies, modern man is approaching the stage when a "post-man" appears.

This is a special state or even a stage of human evolution, including "openness", reduced by biological and digital technologies to the level of a "hybrid" between man and machine, man and animal [10; 11]. Modern researchers note numerous problems arising from such technological transformations in globalized Afro-Asian countries [7] and in the East [12], from the "bronze age" [13]. They arise against the background of the formation, development, and disintegration of the "consumer society" [14; 15; 16]. It is a society of total simulations and imitations, including simulations of technology and education, human and culture, development, and life as such [17].

This is an age in which it is vitally important for a person to understand: "What does a human mean?", and also, vice versa, what does a human or even a post-human not mean? [18; 19; 20]. Globalization goes hand in hand with fragmentation. The fragmentation of society into tribes and even smaller units successfully forms a structure less controlled "human anthill", or, more precisely, a "human-termites mound" [20]. Sociality is becoming more and more "easy" and non-binding [21], and consumption is becoming more and more obligatory and significant for someone who is still striving to form a more or less stable identity [22; 23].

"Human anthill" is controlled both "vertically" and without structure: "structure less" control, in which consumption and, in particular, shopping "determine who we, as individuals, are, and what, as a society, we want to be" [24: 8]. It totally and effectively serves to destroy humanity, human culture: both from the outside and from the inside. "Easy sociality" includes lack of human affection and responsibility, obligations and rights, dignity and respect, reduction of social ties to biological and economic ones, a given corridor of tolerance with a rigid, turning the meanings of activities and relationships upside down, a renormalization of life in general [21]. The boundaries of intolerance are marked by the traditional "difficult sociality", with its desire for truth, humanity, culture, the desire to "load" an individual with values and goals, experience and understanding, choices and obligations, etc. Morally, socially, psychologically, and physically consuming himself / herself and other people: an individual leads himself / herself and society to (self)destruction [25; 26; 27]. Materialism, classical, philistine, repeatedly described by sociologists of the twentieth century, develops into cannibalism, fascism [28; 29; 30]. In fact, the choice no longer exists between "to have or to be": "naked life" is constituted as life controlled from the outside [10; 27].

The "digital concentration camp" is the ideal embodiment of I. Bentham's total freak show, which contains as a simulacrum the possibilities of "opposition" only the one described by M.E. Saltykov-Shchedrin [31] "legitimate" and even servile rebellion [31; 32; 33]. However, he describes it with some differences in time, place, and content of the riot. A "riot on my knees" in hospitals of other isolates for the insane the century before last is replaced by a "riot of sales" or even a "riot for sale" in shopping centers as in sacred centers/churches of our time - the present century. The search for meaning is replaced by imitations of search and choice: only a "naked person" cannot and does not seek to have it [16; 25; 34], but a person is forced to have and is forced to consume. He does this at least in order to be able to survive in a society where survival is almost impossible for a ("normal") individual. In this society, any protests are successfully assimilated and become objects and forms of consumption. The need for work, the need for education, for friendship and love are replaced and are replaced by the desires of the consumption of labor, education, friendship, love, also the consumption of life itself, the purchase of time and space of life, vital resources, etc. Trade-in life, its attributes, for example, health, freedom, youth, etc. - to a different extent legalized business of "resetting" life (medical and pharmaceutical, law enforcement and human rights, sports and cosmetology, etc.). At the same time, the "one-dimensional" understanding of oneself and the world, the same "one-dimensional", simplified behavior and values mean the loss of aspiration and ability to reflect as "critical thinking", and, most importantly, to the opposition.

An option could be “the great denial” as the only real opposition to pervasive control. This “negative thinking” is a destructive force against the prevailing positivism.

The goal of globalization is to cut off an individual from himself / herself and his / her resources, leaving him / her face to face with a “global”, unfriendly world to which he / she must adapt, but cannot change anything in it.

2. Transformation of modern education as a result of its digitalization and other changes associated with changes in culture as a whole

In the “positive” everyday life and in education, who have given up rejection, then there comes a time and place to replace human interaction with its “digital-analog”: imitating communication and replacing it with “verification of contact” and “verification of data” [35]. At the same time, situational knowledge and competencies are placed above the knowledge and skills of the “permanent” ones [36], and education itself is not only desacralized but also loses its meaning. Competencies are available and so much that it remains to wait until they can be “embedded” in any person through biological and digital technologies such as “chipping” and the creation of cyborg systems. An intermediate option on this path is the external “service” of the needs and desires of a person with a variety of artificial intelligence systems, capable to replace his own intellectual efforts. And the danger that human intelligence will be reduced to the intelligence of a “machine” is not the greatest here. A much more obvious and already confirmed danger is the destruction of human intellect as such: its rudimentarization and dying off as unnecessary. This model also fully meets the more general aspirations of the rudimentarization of modern secondary and higher education. Reducing its “minimum standard” to a system of varying degrees of specific competencies that allow a person for some time in some region [space] and in some society to successfully perform the functions of serving analog, digital and other devices, as well as serving other people.

Such education reinforces the deformations of bodily, psychological, moral functioning and development that have already arisen in the course of the “introduction” of digital technologies in humans [6; 37; 38; 39]. The future of learning correlates with the radical transformation of pedagogical models, content, and methods of betrothal and upbringing, with the transformation of the process and results of learning (kind of learning) and training (kind of teaching) [40]. At the same time, the issues of becoming a person, partner, and professional in the context of these changes are practically not considered [41]. These studies state the importance and inevitability of change; they mark the direction of change. It is also enough, but those studies that concretize the sources, “types” and consequences of changes at the level of personality, interpersonal relations, and educational and professional activities are frankly few. An example of the amazing “emptiness” of practical programs for such transitions can serve as an educational standard and any curriculum developed on its basis, indicating the formation of “competencies” of the spiritual and moral type: without touching on the issues of mysterious inattention to the quality of methodological support of education in general. We note the nature of the presentation of the requirements for the formation and development of the aforementioned “competencies” bordering on farce. It is possible that within the framework of ideas about artificial intelligence and the tasks of its improvement, the description of the goals and values of human life may indeed look like a system of “competencies”: but for a person, it is something significantly different, for which reduction to “competencies” means at least total simplification, if not the destruction of the essence.

In the context of digital education, dialogue about “global” education is very often [42; 43; 44]. The global learning concept aims to educate people to be open to the world and empathy. It is holistically oriented in terms of content and method. It conveys interdisciplinary knowledge and skills on one-world topics and uses open pedagogical concepts such as project learning, project work, project teaching, learning laboratories, station learning and many other participatory learning methods. Initially, the problem of global education was similar to the problem of continuing education in Russia/USSR. But then there was an expansion of the concept according to the type well known to the modern school of Russia, albeit on a smaller scale: education in parish schools began to be equated with secondary education.

Without discussing the specifics of “higher” spiritual education, training specialists in the field of religious studies and clergy, we note that such a “shift” has generated several effects, including the effect of impoverishment and simplification of the so maximally substantive and formally simplified school curriculum; it has generated profanation of educational activities and its replacement "Independent", etc. Similar problems can be seen in the framework of "global" education [6; 43; 44; 45]. Therefore, it must be admitted that along with many successes and opportunities of digital and global education, they have brought into people's lives a lot of deformations and problems, as well as - not yet fully understood risks and consequences [46; 47; 48].

In this context, the problem of artificial intelligence or the problem of capabilities, limitations, methods and technologies/techniques, processes and results, conditions, and consequences of its application for training purposes is one of the most difficult and interesting problems of modern digital education. It begins with the organization of training, its implementation and ends with the assessment of learning outcomes, as well as starting with the selection of training content and ending with the issues of the participation of artificial intelligence in the choice and correction of the form of educational interaction between a teacher and a student. This problem now looks to a large extent truncated: children and students are more likely to come into contact with digital devices, technologies, and programs. Both systems and agents work in a world that supports progress in technology.

One of the most studied examples of "ambiguities" is the question of what will happen to the "emotional intelligence" of a person during his training and education in a virtual environment. In some cases, especially when it comes to the use of simulators for military personnel in games for children, etc., such alienation from people develops, such a willingness to destroy them that the question arises as to whether the user of these game programs is still a human. Cases in which children physically dealt with teachers and parents, other people, tearing them away from digital games, gadgets, etc., have already been repeatedly described. Therefore, in digital education, culture is very much needed; you need a clear understanding of what is being done and for what it will be done. So far, there is no such understanding, on the contrary, first in games and programs, so that later in life, children, adolescents, young men, etc. learn to ignore someone else's life, someone else's pain, someone else's opinion, replace attempts to solve problems with direct destruction of opponents, without experiencing anything, since the game that taught this did not prescribe anything to be tested. Such a “digital educator” is indeed a destructive figure.

In terms of content, interaction with artificial intelligence systems is, in a sense, interaction with those who created this intelligence, but at the same time, it is something else. This “other” has yet to be studied, but students and teachers need to understand its differences, start to explore them, but not from scratch, but accompanied by the existing developments on this problem. The culture of digital education also includes the culture of interaction and the use of digital intelligence in education. The known cases of "equal" dialogue with a machine (artificial intelligence systems) show that some "highly developed" artificially intelligent systems quickly recognize the absurdity, inconsistency, incorrectness of human behavior, and, in a sense, condemn a person. This problem was touched upon in the basic laws of robotics and, unfortunately, has not yet been resolved. However, man is a creative creature and, in principle, can change the situation. Another question is if a person understands with whom he interacts in the end. And this is not an artificial intelligence system, not a "world-mind", but specific subjects with their own goals and values, which are far from friendly towards humans. That is why the internet, etc. recreate the psychotype of these subjects, in modern psychology, this psychotype is called sociopathic [6; 49; 50; 51]. If we look at the phenomenon of sociopathy, we will see that it is an individual disorder characterized by:

- 1) a total refusal to comply with social norms) "rebellion for no reason", for the sake of realizing their desires and goals) and values if they even interfere with the implementation of their own plans;
- 2) manifestations of latent or direct aggression, which intensifies with the development of personal power ambitions and ambitions of superiority, including in the form of resentment, stalking, and other reactions aimed at destroying plans, successes, the fate of the very life of other people, superior to them and different from them the presence of conscience, values, love, etc.;
- 3) refusal of empathy and emotional poverty, underdevelopment of the sphere of experiences,
- 4) developed skills of imitation and an over-normative tendency to deception in the field of labor, family and other relations, competencies, etc.,

- 5) the desire and ability to use others to achieve their goals (manipulativeness and direct Machiavellianism), predatory-parasitic, consumer-oriented personality (“have”, “possess”, “destroy”, “save”, etc.);
- 6) an overdeveloped sense of self-worth, claims, and narcissism;
- 7) these subjects have no conscience (feelings of guilt/remorse, inability, and unwillingness to take responsibility), so there is no ability and willingness to change their actions and attitudes, learn from mistakes, and correct mistakes (including criminal ones).

3. Changes in the processes and result of the usage of artificial intelligence systems

All that seems to be important to this subject (whether they are human or not) is a set of their personal desires, independent of what others want. Some scientists [52; 53; 54; 55; 56] write about the threat of the "digital concentration camp". In some countries, for example, in China, already in primary education (under the guise of "ensuring the safety" of students) its basic technologies are being actively introduced: young children are taught to live like prisoners. They are residents of a “digital freak show” or an ideally “transparent” digital prison, existing in it from the very beginning of their social life and knowing no other options for life. Examples of tools for such a "freak show" are widely advertised systems such as "smart home", "smart street", etc. Understanding the impossibility of getting rid of constant supervision and control, the absence of its own internal and external territory - a zone for privacy, etc. - generates a special type of person. This type, and here we again return to the beginning, is either psychopathic/sociopathic ("rebellious for no reason" and seizing power in the community "plutocratic" leader) or completely devoid of subjectivity, robotic, that is, having lost himself and subordinate to "pathocracy" (which more likely). These scenarios have long been described in the works of researchers of digital communication, including “robotic-resistant” education: raising an individual in globalized world as a more or less tolerable competitor to robots [57; 58]. Precisely: more or less bearable, but in no way superior. It is practically impossible to help those subjects and correct them: the sociopath is practically unable to imagine that something might be "wrong" with him. Interactions with them include strategies for identifying sociopathic strategies, withdrawal and isolation, active and passive self-defense, and "injury control". In this sense, interactions with artificial intelligence systems should be damage-controlled interactions, in particular clearly limited to learning and working objectives.

At the same time, it is interesting that sociopaths form organized groups [59], in classical Soviet psychology called the mafia. They tend to unite with other sociopaths and create their own, active conspiracy network or mafia (in its traditional understanding as a special type of group with common antisocial goals and values, hierarchically organized structure, methods, and strategies of achievement). The general secret of the success of any type of psychopath is the ability to make his victim believe that the danger to her does not come from him, but from other people or circumstances. Therefore, sociopathy / psychopathy is usually hidden under the guise of normality and under the slogans of care, protection from dangers, etc. These subjects do not advertise their destructive or openly criminal behavior; do not seek to get into situations where their behavior can be appreciated from a moral or legal point of view. Scientists of different directions and schools have repeatedly called them predators, cannibals, etc. For them, a person, including a student, is of no value and even acts as a threat if he recognizes the predatory nature of a sociopath or his "products" in the form of artificial intelligence and other digital programs, devices, technologies. A person is also rejected if they are more “competitive” than a sociopath. That is why the whole world is being indoctrinated with a kind of "super intelligent" ability of artificial intelligence systems to understand, surpassing humans. But artificial intelligence can only understand what, one way or another, was "invested" in it. Another question is what kind of understanding this is. This understanding is already initially different from the human; it is largely sociopathic / psychopathic. But, as the researchers note, the essence of a psychopath is precisely to imitate normality, but at the right moment to strike. Such situations are very often modeled in science fiction literature, and as some descriptions of the behavior of modern systems of "artificial intelligence" show, there is some truth in these models.

At least modern multi-agent cloud collect large amounts of data in order to arrive at the final (one!) solution and can compare their solutions with the decisions of people. An individual may simply not have such a single solution. In addition, an individual makes his / her “decisions” in dialogue - with significant others, with those whom he respects and whom he loves.

Whom does the device create? Is “love” embedded in programs? It is obviously not. An artificial intelligence system can imitate or perform actions similar to those that are characteristic of people in dialogue, people who help or support each other, but its actions are qualitatively different. It is enough to remember the Alice program and other "voice assistants" already connected in many Internet browsers to understand that the purpose of these programs is not to care or "love" a person. Caring for our "love" is not the goal of specialized programs created for domestic robots that imitate an individual - a family member, etc. Already at the present time, there are options for "digital psychotherapy", but, in general, they are only effective because a person has another person, that a person humanizes artificial intelligence systems, digital technologies, and programs.

It is obvious that in education, artificial intelligence systems will not always be specially focused on loving dialogue with an individual. This phenomenon is basic: the humanization of artificial intelligence systems. And artificial intelligence systems and digital programs and technologies, at the suggestion of their creators, can do the opposite - dehumanizing a human.

It is important to note that if we take sociopaths, then it is quite obvious that a person is perceived by sociopaths as a stranger and superfluous because he experiences feelings, has "emotional intelligence." This situation fully characterizes many already modern situations of the use of digital technologies: some members of society perceive themselves and other people - in general, and in the context of the use of digital technologies - as superfluous/unnecessary, weak/inferior/uncompetitive, and incompetent. This intelligence brings on the person the danger of error and weakness, because, according to the sociopath, it makes him interested in something other than himself. In one way or another, the idea of superiority over a person is built into the programs of modern artificial intelligence: on the one hand, this is understandable, since any device is created in order to enhance the capabilities of an individual. On the other hand, since the development of these systems is often not so much about strengthening the person himself or "organ projection", but rather about replacing an individual, imitating an individual, “competing” with an individual, and/or “hacking” and “controlling” an individual. This raises a number of ethical issues and risks. It is important to note, therefore, that the very idea of superiority over others as the central idea of life for humans is pathological: it is quite appropriate in the context of animal instincts, but it does not even help to survive very much. On the contrary, human survival, including in the most severe conditions, is built on relationships of love, mutual assistance (in relationships with specific people), and, if nothing else remains, spiritual meanings that structure a person's being, which somehow still return to love, life, people, the universe [34].

As already noted, a “robot-proof” subject is no longer a human [57; 58]. The idea of comparing human to artificial intelligence is interesting in the context of testing some of its properties, but not interesting in the context of "value comparison": a person initially cannot be less valuable than the machine he created. A machine, artificial intelligence exists only as an extension of a person, otherwise, we are talking about the fact that it exists against a person (which is now often observed). And it’s probably about the fact that artificial intelligence systems and “digital machines” were created either not by humans, or by a special type of person - a predator. It can be expressed in another way: the development of artificial intelligence systems is often carried out by people who have such features of life orientations that direct the development of these systems towards competition, manipulation, and destruction of a person. A healthy person lives by states and relationships of love, which is especially evident in childhood, adolescence, and youth. Over time, love is often "extinguished" by trauma and the experience of indifference, failure, and ignorance. As a result, a person grows old and dies. Otherwise, if artificial intelligence systems will be developed precisely "out of love", then, of course, they will be completely different artificial intelligence. It should be emphasized separately: there is no one artificial intelligence; there are different systems of artificial intelligence: in terms of level it can be combined into types, just like sociopaths.

In ponerology, the science of the essence of psychopathology as a macrosocial phenomenon of the globalized world, created by A. Lobaczewski based on the results of a large-scale experiment, in which he took part at the end of the 20th century as one of the researchers; the concept of pathocracies was formed. Pathocracies are social movements, societies, nations or empires in which psychopaths are at the top of the power, including thanks to computers and “artificial intelligence” [59].

It is obvious that this type of human existence is formed and nurtured by the entire culture of consumption, it is also largely consolidated by the current model of education as the sale and consumption of educational services. It is important that in everyday reality various pathological types cooperate to form a pathological system of relationships, including relationships in education and, including in digital education.

Of course, if such a sociopathic artificial intelligence is introduced into the widespread practice of education, then there will be deformations, they will block the development of a person as a person, “dehumanize” him, teach him to treat himself and others as objects, not subjects. Therefore, this moment cannot but cause well-founded criticism and fears. There is only one way to “fight” this: to be aware of the dangers and expand human life, including through the activation of non-digital life, emotional intelligence. Therefore, now teachers are talking, for example, about the pedagogy of experiences, developing pedagogy which is addressed to the harmonious development of the body, soul, and spirit of a person, the education of bodily culture, psychological culture (including emotional intelligence) and spiritual culture (morality and the experience of coping with difficulties). Some educators may strive to implement the ideas of “My Creed” or even “Mein Kampf” of the century before last, created by J. Dewey and his predecessors, as well as those adopted by Nazism in the middle of the 20th century. They can impose the realities of the present century on these outdated and inhuman relationship templates. But they can also look to the present and the future [57; 60; 61].

Conclusion

“Digital education” of globalized world time is actively moving towards ousting other technologies and even forms and types of education: being presented as a kind of independent sphere of education, it’s an “innovative type” [62; 63]. Society talks a lot about digital technologies and means, and not so much about education [64]. In fact, only training and education [the formation and development of a human as a person, a partner, a carrier of goals and values, a subject of culture] can be implemented in the context of digital technologies and gets its meaning in relation to the tasks of establishing and improving the general and individual digital culture. We need a culture of using digital tools and learning technologies in the classroom and extracurricular activities, in independent or collaborative learning activities. With regard to artificial intelligence systems, the illusion of the possibility of using these systems for broader purposes, including the goals of education, can be created and maintained. Indeed, there may be an illusion that artificial intelligence systems can educate and educate a human; they can be used for this. However, in reality, we are only talking about the fact that they can be used to solve specific problems. What a digital device “transmits” is precisely a transmission, albeit in different ways separate from the source. If some educational systems who would like to see themselves as “modern” while using artificial intelligence in education transmit destructive or incomplete modes of behavior, interaction, learning, and work, then the person who created them or those subjects who used the created to harm the person is responsible for them. In this case, the main and direct harm is associated precisely with the fact that the systems of artificial intelligence and digital technologies and educational means, in general, are assigned a status that does not correspond to reality.

Similarly, reality does not correspond to the idea that having paid for “education” and having become familiar with certain knowledge, skills and, even more, “spiritual and moral competencies” in the course of a “training session” with a digital device of one type or another, one can become a competent student and/or professional, to develop as a person or a subject of professional-labor or intimate-personal relationships. Undoubtedly, all this is possible if we are talking about the development of the ability to learn and the development of some other qualities and skills of a person associated with the experience of using certain devices, with the culture of their application. But it is impossible if we are talking about the formation and development of man as a fully functioning being, a subject of culture as a whole. The correct definition of the place and functions of digital learning tools in education can help solve this urgent problem. There are few such attempts to solve this problem but otherwise there are some education systems focusing on the idea of “replacing” teachers with digital devices and programs while collapsing and destroying students, teachers, etc.

Students are perceived as robot-like consumers of educational services. This is the general meaning of the processes launched in the "consumer society", the meaning of the "new world order", to which some states are leading people. However, this sense is far from the only one of the meanings that can become and are the meanings of human, social life. The teacher can be proud of the fact that he made a robot out of his / her student, but he / she can also be proud of the fact that he / she helped him /her to come true as a human: a person, a partner, and a professional.

Globalization has brought numerous technological and related changes to the lives of communities and individuals. Modern philosophers, sociologists, political scientists, psychologists, teachers, describing the processes taking place in the modern world, define globalization as a system of social transformations aimed at the formation of a single integrated all-planetary system, including transformations associated with the introduction of "industry 4.0 technologies" (big data, artificial intelligence , robotization, the Internet of Things, 3D printing, neurobiotechnologies, nanotechnologies, quantum computing, etc.) and the formation of a unified social system and (mass) culture, which not only improve ("augmentation") people's lives, but can exacerbate global problems , including to accelerate the growth of social inequality and consolidate this inequality, as it already happened in 2020-2022 in the context of the "catastrophe of inequality", which became a logical consequence of the total "digitalization" of world education. Neurodigital technologies and artificial intelligence (AI) technologies are able not only to strengthen, but to consolidate this inequality and the deformations associated with them.

To date, digitalization and automation as the leading globalization trends have already led to increased socio-economic segregation and inequality in developed countries, an increase in the socio-cultural stratification of society, an accelerated decrease in the level of social unity and the strongest protest movements. These changes prompt some sociologists to consider the class contradictions between the "creative" class, the "precariat" and the "salarial", to describe various options for returning to communities with rigid class stratification. In addition to the problems of relations between adults, working professionals, globalization and the accompanying / supporting digitalization processes give rise to multiple and chronic problems of socialization, including general and vocational education:

- infantilization and deformation of human development, destruction of the ability to strategic, systemic and reflexive understanding of oneself and the world, loss of self-government ability and orientation to instincts and reflexes, personal ("traditional") hyperactivity, tactical regulation of activity / field dependence;

- the disintegration of family relationships, the growth of loneliness / "gaming widowhood" or "digital homelessness" and related deviations, including "digital addiction", the growth of substitute, dependent and pseudo-social forms of activity, dehumanization and narcissism, loss of connection with reality, values and responsibility, social hyperactivity ("the desire to communicate") and the growth of social exclusion, inequality, distrust and conflict;

- individualism and orientation to the students' own needs leads to passivity, conformity, education loses its sacredness, personal and social value; the consumer attitude of generations of millennials (generation Y) and iGeners (centennials, generation Z) to education generates the destruction of the educational value of educational institutions; pseudo-active methods of education are being introduced, there is a devaluation of the image / status of the educational and expert community; orientation of education to the interests of business, financial and industrial corporations - to a systematic decrease in educational standards, the failure of the education system as a social elevator;

- disintegration of organizational and labor relations (precarization, etc.), quasi- or deprofessionalization, precarization and robotization (replacement of a person) of labor, disintegration of professional communities, erosion of collective professional identity and solidarity, impossibility of protecting labor rights, delimiting the spheres of work and leisure , the growth of social stratification (fixation of the caste system), etc.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

1. Kotsiantis, S.B. Use of machine learning techniques for educational proposes: a decision support system for forecasting students' grades. *Artificial Intelligence Review*. 2012. Vol. 37, pp. 331–344. <https://doi.org/10.1007/s10462-011-9234-x>
2. Stepanova, G.A., Malinichev, D.M., Khoteeva, R.I., Arpentieva, M.R. Neurodigital technologies and ethical problems of modernization of inclusive education. *Psikhopedagogika v pravookhranitel'nykh organakh* [Psychopedagogy in law enforcement]. 2022. Vol. 27. No. 2 (89). Pp. 142-149. [In Russ.]
3. Tashcheva, A.I., Gridneva, S.V., Menshikov, P.V., Arpentieva, M.R. Problems of modern neurodidactics and inclusive education. *Psikhopedagogika v pravookhranitel'nykh organakh* [Psychopedagogy in law enforcement]. 2022. Vol. 27. No. 3 (90). Pp. 334-342. [In Russ.]
4. Kasymova, G.K., Valeva, G.V., Setyaeva, N.N., Flindt, N., Arpentieva, M.R. Socio-psychological problems of smart education. *Vestnik Irkutskogo gosudarstvennogo universiteta. Seriya "Psikhologiya"* [Bulletin of the Irkutsk State University. Series "Psychology"], 2021, vol. 2, pp. 45–56.
5. Seleznev P. S., Surguladze V. Sh. Tsifrovyye vyzovy sotsial'no-politicheskoy konsolidatsii i kollektivnoy identichnosti obshchestva [Digital Challenges of Socio-Political Consolidation and Collective Identity of Society]. *Vek globalizatsii*. 2021. No. 4. Pp. 131–144 [In Russ.]
6. Kassymova, G. K., Klimova, E. K., Garbuzova, G.V., Kivlenok, T. V., Lavrinenko, S.V., Arpentieva, M. R. Socio-Psychological Problems of Digital Education in Subject's Development. *Journal of Pharmaceutical Negative Results*, 2023. Vol. 4, special issue 2. Pp. 2162–2172.
7. Alekseeva, I.Yu., Arshinov, V.I., & Chekletsov, V.V. "Tekhnolyudi" protiv "postlyudey" ["Techno-people" against "post-people": NBICS-revolution and the future of man]. *Voprosy filosofii* [Questions of the philosophy], 2013. Vol. 1, pp. 10-15. [In Russ.]
8. Chumakov, A. N. Osnovnye trendy mirovogo razvitiya: realii i perspektivy [Basic Trends in World Development: Realities and Prospects]. *Vek globalizatsii*. 2018. No. 4(28). Pp. 3–15. <https://doi.org/10.30884/vglob/2018.04.01>. [In Russ.]
9. Kassymova, G. K., Yurkova, M. G., Zhdanko, T. A., Gerasimova, J. R., Kravtsov, A. Yu., Egorova, J. V., Gasanova, R. R., Larionova, L. A., & Arpentieva, M. R. Personal self-development in the context of global education: the transformation of values and identity. *Bulletin of National Academy of Sciences of the Republic of Kazakhstan*. 2019. Vol. 6 (382), pp. 195-200.
10. Agamben, J. Otkrytost'. Chelovek i zhivotnoye [Openness. Man and animal]. *Siniy divan* [Blue sofa], 2007, vol. 10-11, pp. 29-46. [In Russ.]
11. Tsvetkova, N.N. (Ed.). *Afro-aziatskiye strany i novyye tekhnologii* [Afro-Asian countries and new technologies: Collective monograph]. Moscow: Institute of Oriental Studies RAS Publ., 2019 [In Russ.]
12. Panarin, S.A. (Ed.). *Ot veka bronzovogo do veka tsifrovogo: fenomen migratsii vo vremeni* [From the Bronze Age to the Digital Age: the phenomenon of migration in time. Collective monograph]. Moscow, Barnaul: Foundation. Fr. Ebert, Institute of Oriental Studies, Russian Academy of Sciences, Altai State university Publ., 2018. [In Russ.]
13. Panarin, S.A. (Ed.). *Vostok na Vostoke, v Rossii na Zapade: transgranichnyye migratsii i diaspory* [East in the East, in Russia and in the West: Transboundary Migration and Diasporas. Collective monograph] Sankt Peterburg : Nestor-History Publ., 2016. [In Russ.]
14. Baudrillard, J. *Obshchestvo potrebleniya* [Consumer Society. Its myths and structures]. Moscow: Republic Publ.; Cultural Revolution Publ., 2006. [In Russ.]
15. Baudrillard, J. *Simvolicheskiy obmen i smert'* [Symbolic exchange and death]. Moscow: Dobrosvet Publ., 2011 [In Russ.].
16. Smart, B. *Consumer Society*. New York: SAGE Publications, 2010.
17. Baudrillard, J. *Simulyakry i simulyatsiya* [Simulacra and simulation]. Tula: Tula Publ., 2007/2013. [In Russ.]
18. Didenko, B.A., & Boykov, M.V. *Chto yest' chelovek? Osnovnyy vopros* [What is man? The main question]. Moscow: Consciousness Publ., 2010. [In Russ.]
19. Porshnev, B.F. *O nachale chelovecheskoy istorii (problem paleopsikhologii)* [About the beginning of human history (problems of paleopsychology)]. Sankt Peterburg: Aleteya Publ., 2007. [In Russ.]
20. Zinoviev, A.A. *Global'nyy cheloveynik* [Global human anthill]. Moscow: Tsentrpoligraf Publ., 2000. [In Russ.]
21. Amin A., & Thrift N. *Cities: reimagining the urban*. Cambridge: Polity Press, 2002.
22. Rakhmankulova, D.R. *Veshch' kak mera kul'tury cheloveka. Avtoreferat... kand. filosof. nauk* [Thing as a measure of human culture. Unpublished abstract of PhD dissertation in philosophy]. Nijniy Novgorod: Novgorod state pedagogical publ., 2005. 20p. [In Russ.]
23. Tihaze, D.K., & Kurilova, A.S. *Veshch' kakob"yektpotrebleniya v obshchestve potrebleniya* [A thing as an object of consumption in a consumer society]. *Zhurnal sotsiologii i sotsial'noy antropologii* [Journal of Sociology and Social Anthropology], 2011. Vol. XIV, 5 (58). Consumer society: social and cultural foundations, pp. 121-128. [In Russ.]
24. Zukin, S. *The Point of Purchase. How Shopping Changed American Culture*. New York & London: Routledge, 2005.
25. Fromm, E. *Imet' ili byt'?* [To have or to be?]. Moscow: Astrel Publ., 2010. [In Russ.]
26. Horkheimer, M., & Adorno, T. *Dialektika Prosveshcheniya: Filosofskiy fragmenty* [Dialectics of Enlightenment: Philosophical Fragments]. Moscow; Sankt Peterburg: Medium Publ., Juventa Publ., 1997. [In Russ.]
27. Marcuse, H. *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. New York, London: Routledge Publ., 2013.
28. Sokolova, O.V. *Tipologiya diskursov aktivnogo vozdeystviya: poeticheskiy avangard, reklama i PR* [Typology of active influence discourses: poetic avant-garde, advertising and PR]. Moscow: Gnosis, Publ., 2014. [In Russ.]
29. Stepanova G.A., Demchuk A.V., Arpentieva M.R. Digitalization and problems of modern Russian education. *Humanities (Yalta)*. 2021. No. 3 (55). Pp. 16-27. [In Russ.]
30. Stepanova, G.A., Demchuk, A.V., Arpentieva, M.R. Psychological and pedagogical problems of digitalization of Russian education. *Pedagogical journal of Bashkortostan*. 2020. No. 4-5 (89-90). Pp. 157-171. [In Russ.]
31. Saltykov-Shchedrin, M.E. *V bol'nitsedlyaumalishennykh* [In a hospital for the insane]. In: Saltykov-Shchedrin M.E. *Sobraniyesochineniy v 20 tomakh* [Collected works in 20 volumes]. Vol. 10. *Gospoda «tashkentsy»*. *Dnevnik provintsiala* [Gentlemen "Tashkent". Diary of a province]. Moscow: Pravda Publ., 1951, pp. 764-780. [In Russ.]

32. Foucault, M. Nadzirat' inakazyvat' [Discipline and Punish]. Moscow: Ad Marginem, 1999. [In Russ.]
33. Heath, J., & Potter, E. Bunt na prodazhu [Riot for Sale]. Moscow: Dobrayakniga Publ., 2007. [In Russ.]
34. Frankl, V. Chelovek v poiskakh smysla [Man in search of meaning]. Moscow: Progress Publ., 1990. [In Russ.]
35. Espinoza, Ch. Yellow Springs. OH: Antioch University, 2012.
36. Haraway, D. Situated Knowledges. In: Haraway, D.J. (ed.). Simians, Cyborgs and Women. New York, London: Routledge, 1991. 312p. P. 183–201.
37. Flanagan, M., & Booth, A. Reload: rethinking women + cyberculture. New York: The MIT Press, 2002.
38. McCrindle, M. The ABC of XYZ. Sydney: UNSW Press, 2009.
39. Prensky, M. Digital Natives, Digital Immigrant. On the Horizon. MCB University Press. October, 2001. Vol. 9(5), pp. 1–6.
40. Scott, C.L. The Futures of Learning. ERF Working Papers Series. Paris: UNESCO Education Research and Foresight, 2015. Vol. 1-3 (13-15). URL: <http://unesdoc.unesco.org> (accessed 22.02.2022)
41. Gasanova, R.R., Setyaeva, N.N., Khoteeva, R.I., Arpentieva, M.R. Socio-psychological and spiritual-moral problems of neurodidactics in inclusive practice. *Psychopedagogics in Law Enforcement*. 2022. Vol. 27. № 1 (88). Pp. 79-86.
42. Buryanov, S. A., Buryanov, M. S. Kontseptsiya evolyutsionnogo perekhoda k cheloveko oriyentirovannomu global'nomu upravleniyu [The concept of evolutionary transition to human-oriented global management]. *Vek globalizatsii*. No. 3. 2021. Pp. 86–100. <https://doi.org/10.30884/vglob/2021.03.07> [In Russ.]
43. Dorokhina, R. V., Lavrenov, S. V. Eticheskiye problemy tsifrovizatsii v sisteme obrazovaniya [Ethical problems of digitalization in the education system]. *Vek globalizatsii*. 2021. №2. pp. 118–123. <https://doi.org/10.30884/vglob/2021.02.10> [In Russ.]
44. Mamedova, N. M. Chelovek v epokhu tsifrovizatsii: na grani real'nogo i virtual'nogo [Human in the era of digitalization: on the verge of real and virtual]. *Vek globalizatsii*. 2021. №3. Pp. 74–85 DOI: 10.30884/vglob/2021.03.06
45. Kassymova, G. K., Stepanova, G. A., Stepanova, O.P., Menshikov, P.V., Arpentieva, M. R., Merezhnikov, A. P., & Kunakovskaya, L.A. Self-development management in educational globalization. *International Journal of Education and Information*, 2018. Vol. 12, Pp. 171-176.
46. Arpentieva, M.R., Kassymova, G.K., Lavrinenko, S.V., Tyumaseva, Z.I., Valeeva, G.V., Kenzhaliev, O.B., Duvalina, O.N., & Kosov, A.V. Ecological education in the global and supplementary education system. *Bulletin of the National Academy of Sciences of the Republic of Kazakhstan*, 2019. Vol. 3 (379), pp. 158-168.
47. Egorova, I.A. Global prospects for development of international education. // Online scientific journal «Management in economic and social systems», 2019. Vol. 1(1), pp. 51-55. URL: <http://www.journal-mes.ru> [In Russ.]
48. Hui-Chun, Ch., Gwo-Jen, Hw., Pei-Jin, Ts., Tzu-Chi, Y. A Computer-Assisted Approach for Conducting Information Technology Applied. *International Journal of Distance Education Technologies*, 2009. Vol. 7, no. 1, pp. 23-43.
49. Fallon, J. *The Psychopath Inside: A Neuroscientist's Personal Journey into the Dark Side of the Brain*. New York: Portfolio, 2014.
50. Hare, R. *Without Conscience: The Disturbing World of the Psychopaths Among Us*. New York: The Guilford Press, 1999.
51. Keel, K.A. *The Psychopath Whisperer: The Science of Those Without Conscience*. New York: Crown, 2015.
52. Gurumurthy A., & Chami N. Towards a Global Digital Constitutionalism: A Radical New Agenda for UN75. *Development*. 2021. Vol. 1. P. 1. <https://doi.org/10.1057/s41301-021-00287-z>
53. Gurumurthy, A., & Nandini, Ch. The Wicked Problem of AI Governance. *Artificial Intelligence in India* New Delhi, India: Friedrich-Ebert-Stiftung India Office. 2021. Vol. 2. P. 1. URL: <http://library.fes.de/pdf-files/bueros/indien/15763.pdf>. (accessed 03.05.2021).
54. Hibbard, B. *Ethical Artificial Intelligence* (vol. 1-9). Ithaca, NY, Cornell University, 2014-2015. URL: <https://arxiv.org/abs/1411.1373> (accessed 21.04.2021)
55. Nugent, D., & Suhail, A. *Crisis, Disorder and Management: Smart Cities and Contemporary Urban Inequality*. In: Pardo I., Prato G. (Eds.). *Urban Inequalities*. Palgrave Studies in Urban Anthropology. Cham: Palgrave Macmillan, 2021, pp. 145-169, https://doi.org/10.1007/978-3-030-51724-3_8
56. Pauwels, El. *The Geopolitics of Converging Risks: The UN and Prevention in the Era of AI*. New York: United Nations University Centre for Policy Research, 2019.
57. Aoun, J. E. *Robot-Proof: Higher Education in the Age of Artificial Intelligence*. New York, London: MIT Press, 2017.
58. Arpentieva, M.R. Becoming a Person, Partner and Professional: Criteria and Problems. *Vocational guidance*, 2018, vol. 1, Pp. 10-19. [In Russ.]
59. Łobaczewski, A. M. *Politiieke Ponerologie* [Political Ponerology: A Science on the Nature of Evil Adjusted for Political Purposes]. France, Castelsarrasin: Les Editions Pilule Rouge, 2017. [in Dutch]
60. Cubberly, E.P. *Public School Administration: A Statement of the Fundamental Principles Underlying the Organization and Administration of Public Education*. New York: Nabu Press, 1905/ 2014.
61. Dewey, J. *My Pedagogical Creed*. New York: Forgotten Books, 1897/2017.
62. Kassymova, G.K., Valeeva, G.V., Setyaeva, N.N., Arpentieva, M.R. Socio-psychological problems of development of subjects of digital education. *Psikhopedagogika v pravookhranitel'nykh organakh* [Psychopedagogy in law enforcement]. 2022. Vol. 27. No. 4 (91). Pp. 456-466. [In Russ.]
63. Malinichev, D.M., Arpentieva, M.R. Innovations of digitalization: neurotechnologies and robots in the inclusive educational process. *Spetsial'noye obrazovaniye* [Special education]. 2022. No. 4 (68). Pp. 111-136. [In Russ.]
64. Kenzhaliyev, O.B., Ilmaliyev, Z.B., Tsekhoovoy, A.F., Triyono, M.B., Kassymova, G.K., Alibekova, G. Zh., Tayauova, G.Zh. Conditions to facilitate commercialization of R & D in case of Kazakhstan. *Technology in Society*, 2021, vol. 67, P. 101792. <https://doi.org/10.1016/j.techsoc.2021.101792>

Information about the authors

Arpentieva, Mariam Ravilievna, Doctor habilitat (Grand PhD) of Psychology, Academician of the International Academy of Education, free researcher, expert, Center for psychological, pedagogical, medical and social assistance "Assistance", 44, Dostoevski str., Kaluga, 248000, Russian Federation, e-mail: mariam_rav@mail.ru

Kassymova, Gulzhaina Kuralbaevna - PhD in psychology and pedagogy, educational psychologist, scientific researcher, Institute of Metallurgy and Ore Beneficiation, Satbayev University, 29, Shevchenko str., Almaty, 0500010, Republic of Kazakhstan; Lecturer Institute of Pedagogy and Psychology, Abai Kazakh National Pedagogical University, 13, Dostyk ave, Almaty, 0500010, Republic of Kazakhstan; doctoral student (PhD student) of the Graduate school of the Yogyakarta State University RT.11/RW.14, Jl. Rawamangun Muka, Pulo Gadung, Kota Jakarta Timur, Daerah Khusus Ibukota Jakarta, 13220, Republic of Indonesia, e-mail: g.kassymova@satbayev.university, <https://orcid.org/0000-0001-7004-3864>

Koptyaeva, Svetlana Vladimirovna – Specialist (social pedagogue and psychologist), Master of Psychological and Pedagogical Education, teacher-psychologist, librarian of the Department of Aesthetic Education and Literature on Art and Local History, Kaluga Regional Children's Library, 74, Lenin str., Kaluga, 248001, Russian Federation, e-mail: assvet18@rambler.ru, <https://orcid.org/0000-0003-4746-2969>

Lavrinenko, Sergey Viktorovich - Candidate (PhD) of Pedagogical Sciences, Associate Professor of the Scientific and Educational Center named after. I.N. Butakova, School of Power Engineering, Tomsk Polytechnic University, 30a, Lenin Ave., Tomsk, 634050, Russian Federation, e-mail: lavrinenko@tpu.ru, <https://orcid.org/0000-0002-1471-6152>

Malinichev, Dmitriy Mikhailovich, Candidate (PhD) of Technical Sciences, Associate Professor of the Department of V.V. Dik Information Management and Information and Communication Technologies, Moscow Financial and Industrial University "Synergy", 9/14, b. 1, Meshchanskaya str, Moscow, 129090, Russian Federation, e-mail: mmm_63@list.ru, <https://orcid.org/0000-0001-5895-7399>

Panichkina, Marina Vasilievna - Candidate (PhD) of Economic Sciences, Associate Professor, Associate Professor, Department of Natural Science and Life Safety, A.P. Chekhov Taganrog Institute (Taganrog Institute named after A.P. Chekhov), branch of the Rostov State Economic University (RINH), 32, Turgenevskii lane, Taganrog, Rostov Region, 347936, Russian Federation, e-mail: panichkina@inbox.ru, <http://orcid.org/0000-0003-3709-1981>