Information transformations of science and education systems

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The system of education is yet largely behind the trends and processes of digitalization, and therefore more efforts are needed to take advantage of the tools and strengths of the new technologies, while addressing concerns regarding potential abuse, such as unauthorized cybernetic invasion and privacy issues.

In many countries, adults have inadequate complex digital information management skills, therefore, governments and employers must seriously address issues relating to not only the continuity of education, but also to its comprehensiveness.

Robotics and intelligent systems are rapidly evolving directly now, especially today, when it brings substantial benefit (and possibly – some dangers and damage), and now it significantly defines our being – and it will soon be even more essential to determine. The robots are becoming more and more like a human being, and a person learns to interact with them, constantly improving them not only externally, but also internally.

The place of the country in the modern world today is more determined by the quality of human capital, the state of education and the degree of use of science and technology in production.

In addition to certain realities of globalization, institutional transformations for the sustainable development of society in the context of the internationalization of higher education and science, there are also equally real trends in the world of regionalization, dissociation and even de-socialization.

Institutionalized civil society is a socio-cultural factor, which includes the attitude of the person to the means not only of material production, but also of one's self-production as a social, cultural being.

The decision on the degree of participation or limitation of AI in modern education should be theoretically grounded by researchers, technically prepared by programmers and other AI practitioners, but in addition, such a decision should be discussed and agreed upon with the participation of the common public. The risks of such a decision should be calculated by professionals, but the final decision can only be made on a democratic basis and taking into account liberal and social values.

It is necessary to investigate the transformational models of globalized world development and institutional transformations for sustainable development of society in the context of the internationalization of higher education and science.

Modern social designers should pay special attention to the latest technological trends in innovation and be able to predict the future. And for this, first of all, many scientists recommend to read science fiction, since this literature stimulates brain activity, develops imagination and thinking.

Fear of artificial intelligence (AI) was born in 1960-ies Irvin John Good, British mathematician and cryptographer, and cryptographer, who worked with Alan Turing on breaking the German cipher machine "Enigma"during the Second World War.

Good's reflections on the AI led him to the idea of a super-intelligent machine, which, through self-learning, were able to surpass the intellect of a person, no matter how smart he would be. When this machine begins to build machines similar to itself, an “intellectual explosion” will occur – this will be the last invention that a person needed to make [1].

But if supramental machine once understands that a human she did not need anymore and will behave like Terminator – to restrict the rights of people and possibly kill them?

Not surprisingly, Good's ideas are now back on track. Is it surprising that they were picked up by leading representatives of science and the IT industry.

Since the 1960s, when it began to develop as a branch of science and education, “engineering psychology and pedagogy” had explored the processes and means of information exchange between human and machine, as well as with technical means of automation and their form and between models of communication themselves.

Ideas and ethical conflicts in this area inspire, in particular, the directions for possible behavioral calculations of the android technology industry, innovations in robotics, in the field of artificial intelligence and digitalization of education.

The educational and sciences system and institutions should also take into account the fact that the need for digital literacy and critical thinking is growing not only among young students, but also among people of the older generations [2]. One of the frames for education development is the European strategy for sustainable development. This strategy is coherent with Resolution of the United Nations General Assembly “*Transforming our world: the 2030 Agenda for Sustainable Development*” that formulates Sustainable Development Goals (SDGs) that target key areas for implementing this global comprehensive multi-level strategy for social, governmental and institutional sustainable development.

Accordingly, the education system and educational institutions should be developed, transformed and improved as institutions that should create and strengthen a safe, non-violent, inclusive and effective learning environment for all members of society. Which, in the end, will help to achieve success in cooperation at all levels – both in education and science, and in society as a whole.

References

[1] Good, I.J. (1965) Speculations Concerning the First Ultraintelligent Machine. Retrieved from: https://purl.stanford.edu/gz727rg3869

[2] Zinchenko, V.V. (2020) Global institutional transformations and the prospects of sustainable development of society in the context of the internationalization of higher education. Perspectives of Science and Education. №44 (2). P. 10-18. DOI: 10.32744/pse2020.2.1.