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Analysis of Trends in the Development of the Educational Environment: Education of the Future

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Abstract: As the experience of the world pandemic has shown, constraints are also a source of innovation. Education was able to cope with the challenges that confronted the world during the lockdown. Since then, education has developed in an environment full of uncertainty. The paper analyzes the problems of the development of the modern educational environment. The aim is to describe the main trends of changes in the educational environment, to identify the triggers of new trends in the perspective of modern educational reforms and global transformations. Theoretical methods were used: analysis of scientific-pedagogical research, synthesis of research results, and the main transformations of education in Poland. The empirical method of research in combination with the modern method of the survey online focus group, observation, and survey (closed questionnaire survey) was used. The closed questionnaire method of the study, observation, and survey of teachers of experimental and control institutions of higher education allowed to highlight the main issues of the study. The results of the study showed that new trends in the educational environment are influenced by external and internal factors and processes: global, geopolitical, technological, and socio-cultural. Among them: accessibility of education, changes in teaching methods, new learning skills, lifelong learning, the introduction of new educational start-ups, educational technology. Scientific novelty - the results of the work allowed to identify problematic points, the main trends of development, and to express a hypothesis about the presentation of the education of the future. The practical significance of the article is that further research into the trends of educational changes in order to identify the

problems and prospects of creating an effective educational environment will ensure the quality of education and the needs.

Keywords: educational environment, approaches to the development of the educational environment, technological and socio-cultural trends of educational change.

Introduction

Geopolitical shifts and technological developments have contributed to logical changes in the way education works. Unprecedented situations like the world pandemic and the economic crisis have only accelerated these phenomena. Indeed, the vocational training sector is directly affected by the dual effects of the medical and economic crisis. On the one hand, the limitation of the pandemic, which humanity has had to learn to live with, has made all traditional face-to-face learning processes more difficult. In addition, a particularly tense economic situation also has its effect on education. Acquiring new skills, learning new forms of learning, in short, lifelong learning: all this is becoming a basic trend of modern education (Xiao, 2018).

Certainly, face-to-face instruction is not completely gone, but other methods of instruction-electronic, distance learning, virtual classrooms, or virtual reality-enrich the learning base and allow educators to respond appropriately in critical situations (Robinson et al., 2020). From this perspective, Castro (2019) appeals to the fact that e-learning technologies, taken alone, are not in themselves a revolution in learning. On the contrary, technology has long been embedded in society and aims to support educators to control the content and goals of their courses.

Research Problem

According to Arora and Srinivasan (2020) for the conditions of education development and new trends in education the state economy should support not only the functioning of existing social and production relations, but also form models and ideals of future life and activity of people in the country, prepare specialists for high-tech industries. It is noteworthy that the educational system should correspond not only to the social-economic and political changes in the country, but also implement its activity on the basis of short- and long-term prognoses, considering educational tendencies and world social-cultural situation. The article highlights the main problems of the most important characteristics of the development of the education system, which, in turn, generate new trends and tendencies in pedagogy.

Research Focus

So, the main characteristics of the education system that would allow the development of the latest trends and the proper use of it in the first place is the democratization of the internal educational system. According to Motoi (2018) education requires the active participation of local and state authorities in the management of educational institutions. Teachers should be given the right to creativity, to demonstrate their own teaching experience. Due to the alternative and variability of democratic education, it is possible to move away from the classical educational system to various innovative methods that offer alternative ways of education (Naidu, 2019). There are also such trends in the development of the education system that contribute to its openness and accessibility. Let's join,

because thanks to openness now there is an emancipation, liberation of education from internal dogmas, its harmonious integration with culture, politics and society.

An equally important characteristic is the humanization of education. It consists in overcoming the main mistake of classical education - impersonality (Anderson, 2018). Modern trends in the development of education are aimed at respecting the child's personality, interacting with him/her in confidential conditions, taking into account his/her interests and requests. For example, Shih (2018) believes that humanization involves a serious revision of pedagogy and society's attitude towards the young generation with certain disabilities in physical and mental development. The main trends in the development of education are aimed at early identification of gifted and talented children, the construction of individual educational development trajectories for them (Koseoglu et al., 2020). Scientific and pedagogical employee performs the role of a mentor, helps applicants for education to overcome difficulties, to correct the path of self-development and self-improvement. Finally, the last, but not the least important characteristic is the differentiation of the educational process. Modern trends in the development of education involves the allocation of two fundamental tasks: ensuring the rights of children to choose a basic or profile education; individualization of the educational process on the basis of nature and personality-oriented approach. Among the features to be noted in the system of education are its continuity (Tsiplakides, 2018). Such key characteristics of education contribute to the multidimensional movement of personality in the learning activities of the future.

Research Aim and Research Questions

The purpose of this article is to identify and characterize key trends in the changing educational environment.

Article objectives:

- to investigate the scientific basis for the target issues of the work;
- to conduct a closed survey among educators and to highlight the main problems of the most important characteristics of the development of the education system;
- to describe new educational trends and educational trends.

Research Methodology

General Background

In the study of the analysis of trends and changes in the educational environment applied theoretical methods: analysis of scientific and pedagogical research, synthesis of research results and the main transformations of education in Poland.

The empirical method of research in combination with the modern method of interviewing online focus group, observation and survey (closed questionnaire survey) was used. Closed method of questionnaire research, observation and survey of teachers of experimental and control institutions of higher education revealed the research questions.

Sample / Participants / Group

All participants in the experiment (100 participants, including all teachers of different specialties) provided approval of their willingness to participate in the survey. The survey was conducted on the Internet in the author's own domain.

Instrument and Procedures

The online focus group method was used to obtain qualitative information. The respondents were the target audience of teachers of different higher groups who connected to an online form session. On their monitor screens, the moderator sent a google questionnaire form. The moderator chose google forms to make it easier for the online focus group, in case of poor computer typing skills. The google form offered was essentially a closed questionnaire. Teachers were asked basic questions about trends in education (Figure 1).

Figure 1

Questionnaire "Major Trends in Education Development"

1. Does unlimited access to technical resources open up new opportunities for education?
 - a) yes
 - b) no
2. Are you ready for dramatic changes in curriculum and syllabi?
 - a) yes
 - b) no
3. Do you agree that building new skills enables all subjects of learning to respond quickly in critical situations?
 - a) yes
 - b) no
4. Are you ready to constantly improve your skills to keep up with the technological process?
 - a) yes
 - b) no
5. Are you ready and able to record your lectures, courses, subjects on YouTube, Moodle, develop blogs, etc.?
 - a) yes
 - b) no
6. Do you think that the use of the latest educational technology is not a real revolution, but the norm of modernity?
 - a) yes
 - b) no

Source: authors' own development.

Research Results

The results of a closed survey of the research problem revealed six major trends in the development of the educational environment (Table 1):

Table 1*Trends in the Development of the Educational Environment*

Trends in education development	Faculty Responses	Students Responses
accessibility of education	89% of teachers	responded that unrestricted access to technical resources opens up new possibilities.
changes in teaching methods	78% of teachers	are ready for dramatic changes in curriculum and syllabi.
new skills for learning	80% of teachers	agree that the development of new skills enables all subjects of learning to respond quickly in critical situations.
continuous education	77% of teachers	are willing to continually upgrade their skills to keep up with technology.
introduction of new educational start-ups into education	85% of teachers	are ready and able to record their lectures, courses, subjects in YouTube, Moodle, develop blogs.
educational technology	95% of teachers	consider the use of the latest educational technology, not a real

Source: authors' own development.

Let us consider in detail the selected trends in the development of the educational environment

1. Accessibility of education

Today, global pedagogy is increasingly talking about the realization of the idea of “schools in the clouds,” where children could learn with simple resources and help each other. Making education accessible to all through technology is the main strategy of modern education. Many trends today indicate certain democratization of education. The most convincing example of this is the exponential growth in the number of educational online resources, open educational resources are becoming more and more widespread. These resources allow the distribution of educational content under an open license. In addition, online courses (MOOCs, etc.) have grown significantly with platforms like Coursera, Udemy, or even EdX. These platforms offer mostly free online courses to a large, geographically dispersed audience.

2. Changing teaching methods

The fast pace of life and the lack of time to devote to learning increasingly require learning tools that adapt to our lifestyles. More and more education companies are offering personalized learning materials. Like Gymglish, which sends daily personalized English or French classes to its customers via email. More iconic and international, Knewton, which offers courses tailored to students through real-time analysis of student performance. The new lifestyle is also linked to the rise of tablets and smartphones. Duolingo, for example, offers a language lesson format that is very short and optimized for mobile learning. The global market for mobile learning products reached \$5.3 billion in 2012 and

continues to grow (Naidu, 2019). This is a trend that involves using one's own phone, tablet, or computer at school or in the office. Finally, blended learning, which combines face-to-face classes and digital media, is becoming increasingly popular among educators.

3. New skills for learning

The structural changes our societies are going through require new skills: creative, managerial, organizational and communication abilities. But also, knowledge and fluency in at least one or two living languages, including mandatory English. Finally, although basic computer skills are necessary, teaching programming is becoming more and more democratic. In Estonia, computer programming is taught even in elementary school. So, learning tomorrow is about learning new skills (Sarv, 2020).

4. Continuous learning

In an era of dramatic change, the demand for continuing education has become massive. Teachers must constantly learn, retrain, and remain at the forefront of their fields. The Estonian education system is developing different offerings so that everyone can continue learning at any age and in increasingly specialized fields. A good example of this trend is the development of e-learning pedagogical platforms, from school leaders to ordinary trainees (Tirri et al., 2021). The development of a culture of learning is important for the economic growth of the state because it provides new career opportunities and correspondingly profits.

5. Introduction of new educational start-ups to education

In the education of the future, everyone can learn. Everyone can share their knowledge and skills through information technology. Society must learn through personal, academic or professional experiences. Such experiences, for example, can be the formation of new educational startups (Aru-Chabilan, 2020). Writing blogs, posting material to a YouTube channel, or publishing e-textbooks to share their knowledge with audiences around the world. One of the trends in this perspective is the democratization of online course creation on certain platforms outside of class time.

6. Educational technology

As we can see, technology is everywhere. As a true pillar of the democratization of education and the development of new ways of learning, its importance as a tool in the service of education is only growing (Jesmin & Ley, 2020). Future technological innovations include.

Digital technology in the classroom: digital tools are increasingly used in classrooms, thanks to the sharing of educational resources on audiovisual media, digital workspaces, and the growing trend of BYOD.

Gamification of education: making learning more fun with games, level systems, and apps for cell phones and tablets.

Internet and virtual reality: multiple applications in education.

Disintegration of education: the student-teacher relationship is not a prerequisite for successful learning. Other ways of learning are emerging: student-to-student learning and assessment, mobile apps, etc.

Discussion

The global pandemic has forced the education system to fundamentally rethink the added value of teachers and how best to benefit students and justify the value and effectiveness of online learning and the use of emerging technologies (Hodges et al., 2020). According to (Marcinkowski & Reid, 2019), a major trend in education should be to optimize teaching and learning by better combining online and face-to-face teaching approaches, with an emphasis on active technical learning. This is necessary because trends in the use of immersive technology will be more present in the educational landscape. And the use of such technologies, which include augmented reality (AR), virtual reality (VR), and augmented reality (XR), requires technical competence. An equally important nuance in education, according to Fensham-Smith (2019), is the democratization of education. One fact that becomes clear after examining the impact of the pandemic on our society is that it has affected individuals and communities at different levels and to different degrees. Physical distancing, self-isolation, and school closures have weakened the support systems many students need. While creating a sense of community in an online environment is challenging, it is more important than ever. Similarly, (Bozkurt & Zawacki-Richter, 2021) believe that one aspect that has sometimes been overlooked in the rush to online formats is creating accessible solutions. It is about the availability and accessibility of affordable assistive devices and software, which has become a big problem for many countries.

As a result of the pandemic, social problems, whether racial discrimination, gender inequality or sexual violence, have become another issue that should be addressed in the coming years, not in the form of curricula, but as mandatory training for all staff and students (Partelow et. al., 2018). The authors insist on introducing a course regarding sexual violence awareness and prevention. After all, lockdown has shown high rates of domestic violence among students.

According to Zawacki-Richter et. al. (2020) the education of the future is primarily about the mobility of educators and their willingness to keep up with the times. For example, Open Educational Resources (OER) will increase in popularity, with more and more resources becoming available for free. Materials for teaching, learning, and research in any medium - digital or otherwise - are in the public domain, allowing free access, use, and adaptation. The only problem is knowing how to use them (Zawacki-Richter & Latchem, 2018).

Yang et al. (2020) choose gamification elements among new trends in education. According to scientists, they are becoming increasingly popular among educators, especially given the need to engage students in the online learning environment. Video tutorials are another trend. With the rapid development of online learning, it is expected that video tutorials, both synchronous and asynchronous, will replace compulsory literature, often quite difficult to give to students (Arici et al., 2019). In this context, Yadegaridehkordi et al. (2019) note that written content will be less and less present in online learning, and that the trend toward videotutorials will continue to move toward video interaction and experience. This is likely to happen because of the digital consumption habits of today's students and the impact of these habits on their level of concentration.

Most of the trends described above are logical extensions of societal development and the efforts of educators. The education system is a reflection of all geopolitical processes. The attention of the educational system must be directed toward the implementation of strategies that will change traditional learning, adapting to new elements that enter confidently into public everyday life.

Conclusions and Implications

A general review of the scientific literature on the topic of work showed that authors tend to address very general topics, such as paradigm shifts, the emergence of revolutionary technologies, etc. However, over the past three years trends in higher education have changed dramatically. The main factor that can be considered really disruptive lately is the COVID-19 pandemic. This situation had - and unfortunately still has - a significant impact on many sectors and even more on our daily lives. The need for a rapid transition to digital technology has created many obstacles to providing a seamless alternative to traditional offline learning. Education has turned to the use of technology that a large number of educators and students were not comfortable working with. The catalyst for change in education was the need to invent solutions to deploy the pitfalls of distance education. Sometimes, however, the crisis brings with it many opportunities that require society to adapt to new situations and reconsider traditional ways of working. Challenges mostly related to the integration of new ways of teaching are overcome by pedagogical flexibility. Pedagogical flexibility is not only a temporary solution during a pandemic, but also a long-term strategy. Studies in the economics and management of crisis education have shown that the pandemic has led to numerous cuts in education budgets around the world. Two-thirds of low- and lower-middle-income countries have cut their public education budgets since the COVID-19 pandemic began. In addition to the lack of funding needed to provide adequate education, the shift to distance/online learning, though being implemented worldwide, has been very uneven in quality with a more noticeable negative impact on the most marginalized students. The technologies that are likely to drive the near future in the world of education will continue to revolve around online teaching. We believe that one of the problems the education system must address is the distant monitoring of exams, the effectiveness and cost of the very different solutions offered. Indeed, even with the hope that the pandemic will soon be behind us, it is likely that online solutions will evolve and become increasingly integrated into higher education programs, but with no advantage over traditional offline instruction. In other words, the near future of education looks ambiguous, combining face-to-face and online teaching, giving the education system enough flexibility to respond to any disruptions and even more to provide students with a coherent education in combination with technological habits.

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