DIGITALIZATION OF ECO EDUCATION IN EDUCATIONAL SERVICES

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ABSTRACT

The article considers the emergence of a new modern trend of describing complex systems through images of natural formations, such as ecosystems, where the sustainability and sustainability of the system depends on the actions of each individual actor and joint actions (collaborations). Scientific and technological progress in the field of digital technologies, human existence and environmental challenges of the XXI century: the crisis of the spread of the COVID-19 virus and hostilities in Ukraine became the impetus for the consideration of social systems through the prism of natural ecosystems. It is noted that the combination of their factors negatively affect the development of personality. The importance of the functioning of the educational ecosystem and its interaction with other ecosystems within the general socio-cultural-ecological-natural-economic system of the global level is stated. It is noted that the process of digitization of the educational ecosystem in educational services has resulted in the widespread introduction of digital technologies, new forms, methods and tools of education, rethinking the role and place of teachers in new creative communications at the level of teacher-learner. It is specified that the educational ecosystem consists of three components: technical and technological (digital technologies, IT, cyber), human potential (teachers, methodologists, specialists in related fields of various sciences, support structures, students) and artificial intelligence and neural networks. It is established that the creation of a sustainable and sustainable educational ecosystem requires active interaction at the creative level on the basis of argumentative dialogue, a high level of responsibility. It is noted that the task of the educational ecosystem is to produce training of highly qualified, psychologically motivated, cultural, tolerant and responsible professionals of a new level who widely use the latest digital technologies and creative thinking during and performance of professional duties (teaching students) problems and tasks at work). It is noted that the basis of the educational ecosystem are digital technologies and distance education, which require a high level of motivation, self-control, ability to plan their time, and communication (discursive rhetoric in collaborations. Educational ecosystem is constantly transformed and complicated. Catalyst for intelligence.

Keywords: Educational Ecosystem, Environmental Challenges, Collaboration, Educational Institutions, Distance Education, Online Learning, Digital Technologies.

INTRODUCTION

Statement of the problem in general with the spread of the COVID-19 coronavirus epidemic with the introduction of quarantine, there is a growing need for unprecedented digitalization of educational processes in all countries. According to European research, more

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than one in five young people do not reach the basic level of digital skills in the EU; only 39% of teachers in the EU feel well prepared to use digital technologies in their daily work (Bakhmat, 2018).

Internet access varies considerably within the EU: 74% with the lowest incomes and up to 97% with the highest incomes. According to a survey conducted by the European Joint Center, 95% of respondents believe that the coronavirus crisis has changed attitudes towards the use of digital technologies in education; 62% of respondents believe that they have improved their digital skills during the crisis. More than 50% of respondents plan to further improve their digital skills (Lee & Hwang, 2018). That is why the EU countries have adopted a Digital Education Action Plan 2021-2027, which aims to:

1. Identifying, exchanging and building good practice.
2. Support to Member States and the education and training sector with tools, structures, guidance, technical expertise and research.
3. Promoting cooperation between all stakeholders by establishing a new Center for Digital Education.
4. Strengthening national and regional initiatives and digital education actors.
5. Support for cross-sectoral cooperation and new models of digital learning content exchange, addressing issues such as common standards, compatibility, and accessibility and quality assurance.
6. Strengthening cooperation and exchange in the digital field of education at the EU level, etc.

Modern development of digital technologies and technologies contributes to the widespread implementation of information programs and projects in everyday life, digitalization of information and communication processes, as well as access to the global data network and international electronic communications. Every year the possibilities for transmission, processing and storage of digital information of various formats, with which not only large corporations, but also ordinary citizens communicate, increase (in geometric progressions). Thus, social media and social networks are beginning to compete with the traditional physical space where the main modern communications take place (Director for Readiness and Training, 1999).

Today, a whole generation has grown up for whom digital technology is an everyday reality. The new digital reality is beginning to transform social spheres, change access to information and traditional communications and communication tools and forms, which ultimately affects the development of each person, society, life, human life in general, behavior, reflection and psychological state of modern man (European Commission, 2021). This changes the landscape and expands the educational space, while changing traditional education and attitudes towards education in general.

Researchers Walcutt and Schatz (2019) in a study on modernizing education note that "*at the highest level of the educational ecosystem of the future*" there is a "*transformation*" from episodic unrelated experiences to lifelong learning adapted to individual needs. different places, media and time periods", where the" *technological basis of this system "is a global data network, which" not only provides universal access to learning (Internet for Learning)", but also identifies new*" ways to optimize personality development and "*formation of new labor resources at an unprecedented pace*". Thus, "*one of the key aspects of reforming" traditional education is "the widespread use of modern educational technologies, the introduction of advanced forms and methods of teaching*", when "*developing technologies not only change formal education and training structure*" (traditional education), but "*also change access to information and the*

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relationship with it, which causes an inevitable change in the relationship between participants in the educational process".

Thus, in modern conditions there is a need to consider further development of the educational sphere in the context of digital society (digitalization, virtualization, use of artificial intelligence technologies, Internet of Things, database work, Internet surfing, etc). In view of this, a certain digital ecosystem of the educational space is being formed as an important component of the general social ecosystem of human existence.

Analysis of recent research and publications has shown that due to the widespread use of digital technologies, software and information projects, elements of artificial intelligence and the Internet of Things, many traditional "*non-digital*" economic and social spheres in the digital age are increasingly "*digitized*" and complex, which, in the opinion of modern researchers, is increasingly acquiring features of the ecosystem. Thus, Sinichi Akayama, Raymond Hori, Ben van der Schaaf in their reflections on the future of social ecosystems emphasize that the modern development of society consists of a combination of natural ecosystems and social ecosystems, when thinking in the ecosystem becomes increasingly central to our strategies. for the future, and there is a growing awareness that, ultimately, we cannot exist without each other.

Researchers Kolk et al. (2017) looking at the innovation ecosystem, note that the future of companies is to create a wide network of private and public organizations that work together seamlessly, using solutions current and future problems of "*hyper cooperation*", as breakthrough innovations are more likely when "*less obvious*" partners come together.

Researchers Scaringella and Radziwon (2018), focusing on "*innovation, entrepreneurship, knowledge and business ecosystems*" focused on open innovation, business models, and cooperation and alliances of regional ecosystems that can help they become more competitive.

Researchers Kolloch and Dellermann (2018), studying the evolution of innovative ecosystems in the energy sector, draw attention to the importance of involving non-human factors in management strategies and the role they inherit for the evolution of energy ecosystems in digital innovation. as virtual power plants.

Other researchers Stefano et al. (2021) considered the role of corporate sustainability in the functioning of the corporation's own ecosystem in the general ecosystem; consider the modern concept of sustainable development through its fundamental components such as: environment, economy and society.

Scientists considered educational institutions of Ukraine in the context of the national ecosystem of support for youth startups as part of an international ecosystem with international business incubators that promote innovative development and broad cooperation.

Studying the problems of creating an innovative ecosystem in Ukraine, Tymchenko (2020) emphasizes that the creation of sustainable innovation ecosystems and effective technology transfer depends on the level of training of specialists in domestic educational services that are in demand in the real sector of the economy. requirements of today.

Despite the rather wide range of research, the issue of forming a digital educational ecosystem in educational services is part of the general problem to which this article is devoted.

The aim of the article is to build a descriptive description of the formation of the educational ecosystem in educational services as a holistic system of education of a new type,

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which is implemented in the widespread introduction of digital technologies, new forms, methods and tools of education, new creative communications teacher's place.

The research methods used in the process of writing the article involve the use of general scientific and empirical techniques based on a systematic approach. General research methods such as generalization and comparison were also used in the process. The analysis identified the importance of forming an educational ecosystem, which in turn will be effectively integrated into the social ecosystem of human development.

LITERATURE REVIEW

The rapid development of information and communication, digital and communication technologies form a new digital (cyber, virtual) reality that affects not only educational processes but also all participants in the educational environment (scientists, teachers, methodologists and educators) educational space. The educational process is becoming increasingly complex, involving many other actors who are helping to provide a new modern level of education, namely programmers, cybersecurity and cyber hygiene specialists, neural network designers, robotics and artificial intelligence specialists, and psychologists. In addition to the technical and technological component, it requires an appropriate moral and psychological state and readiness to work in a new complex system of education for both teachers and students (Eurostat, 2019).

First, the future of education must be marked by a new learning-oriented model that increasingly characterizes the next generation of learning practices.

Second, the new model must be digital, given that digital technologies have become part of virtually all teaching and learning practices.

Third, the environment should be a holistic, dynamic system, characterized by sustainable development as a community of participants in the educational process, tools and educational content (Li & Garnsey 2014; Herasymenko, 2014)).

Thus, for the further functioning of the educational space there is a need to create a new functioning system that would ensure the effective functioning of the educational space on the example of a self-organized system called the ecosystem. Thus, Tymchenko (2020), studying the "problems of creating an innovative ecosystem in Ukraine" proposes to consider the "*ecosystem*" as a "*self-organized system consisting of entities connected by mass, energy and information exchange; awareness of the project as a complex network of actors - such as stakeholders, teams, suppliers and customers - illustrates the analogy between ecosystems and organized systems, such as projects or programs*" (Ievtushenko, 2019).

In the conditions of education reform, transition to multilevel training of professional staff to ensure the competitiveness of specialists in the labor market, the problem of professional training of students in the dual form of education becomes especially relevant. The partnership of stakeholders with the educational institution provides an opportunity to assess potential human resources and adjust teaching methods in the early stages of training to bridge the gap between theory and practice, improve the quality of training of future professionals taking into account the requirements of employers in new organizational forms.

In turn, J.J. Walcutt and Sae Schatz consider "*educational ecosystem of the future*" as a "*comprehensive, continuous, personalized paradigm*" of the educational environment, which serves as "*opposition to the model of industrial age, focused on time and universal nature of*

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learning". The complexity of the modern education system is confirmed by the fact that "contributions from various fields, such as information technology, data science, psychology and science of learning, form a repository of additional recommendations that together define the educational ecosystem of the future" and "*countless scientific and technological form a set necessary for the development of optimized learning solutions that increase efficiency, while ensuring the achievement of results*" (Kukk et al., 2015).

Thus, the educational ecosystem is becoming more complex and expanding due to new educational technologies that are being added in view of the rapid scientific and technological progress. At the same time, it should be borne in mind that the educational ecosystem, like all complex systems, must have a sufficient level of stability and sustainability. Given that the lion's share of new technologies, methods and tools are based on digital and virtual technologies using the physical and psychological capabilities of man, the educational ecosystem is relevant to cybersecurity and cyber hygiene. It is necessary to take into account the high level of influence on its sustainability by the so-called "*human factor*", as its subjects are teachers, methodologists, programmers, specialists and scientists, staff who ensure the functioning of the entire educational ecosystem and students.

Therefore, without a high level of digital, IT, cyber (cybersecurity and cyberhygiene), communicative competencies of the above actors, the issue of sustainable and sustainable functioning of this ecosystem will be in question.

Thus, Yarnall (2018) in the framework of practical skills development, researching "*programs of advanced technological education*", note that in order to "*cope with the flow of knowledge and accelerate their production, which contributes to new technologies*", there is an "increasing need for lifelong learning" when "*learning places and jobs are moving to more independent, learner-oriented and forms of education and development*" (Walcutt & Schatz, 2019). At the same time, as they note, "*potential support for lifelong learning is provided by improving artificial intelligence technologies that promote personalized learning and wide access to mobile and search technologies that provide universal access to information*".

It should also be noted that distance and/or online education allows training not only in the educational institution, but also in the workplace without interruption from work, when "*in the workplace instructors are increasingly using cloud software, augmented and virtual reality to prepare employees*", as well as "*for the implementation of various methods of cooperation*" and collaborations at the level of individual micro groups and large teams (teams) working to solve project tasks (problems and/or tasks) in front of them. Online learning (translated as "*dialogue learning*", and a large cohort of researchers equates this with "*distance learning*")-interactive learning, in which learning material should be publicly available in dialogue and ensure automatic feedback on the learning activities of the learner.

In modern conditions, educational services "*increasingly offer online learning options and provide" free open access to information resources and means of communication "to help" in conducting independent research and cooperation*" collaboration. In addition, educational services are ready to provide counseling, where teachers act as dildos and coaches in conducting such independent research by students regardless of learning (distance, online, courses, training, video and audio lessons) and types of training (basic education, lifelong learning).

Scientist J. Littlefield emphasizes the advantages of using online learning, such as:

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1. The student is studying at a private pace.
2. The student enjoys a flexible schedule.
3. In the educational process, the learner is removed from the distraction of peers, and therefore focuses on acquiring knowledge.
4. The vast majority of students understand learning as a way of their development.
5. The student is protected from adaptive dangers (no need to overcome psychological barriers, acclimatize to the team).
6. Individual feature of studying and mastering the amount of knowledge.

The peculiarity of today is not that the possibilities of distance education are being widely used, but that due to the latest technologies communication processes in distance education at the teacher-teacher level are significantly transformed and complicated along with the complexity of methods, mechanisms and tools of distance education. capabilities of artificial intelligence, orientation, figurative thinking, virtual images based on modern communication equipment. That is, with the complication of the education system we can talk about the formation of an appropriate digital ecosystem of educational space. For example, in the late 1990s, the US government began to consider Advanced Distributed Learning (ADL) as an effective means of ensuring rapid, cost-effective acquisition of knowledge at any location and at any time.

Thus, distance education forms a new paradigm aimed at providing access (using cost-effective communication tools) to high-quality education, adapted to the individual needs of the learner in time and place, which are determined according to needs that arise in a given period.

The global coronavirus epidemic has prompted education systems around the world to use distance learning not as an adjunct but as a primary means of communicating between subjects and learning curricula. Due to the urgent need to introduce this form of education, the lack of experience, the education system was psychologically unprepared for such a scenario. In line with this challenge, educational institutions need to develop their own vision of the transition to distance learning and mechanisms for its implementation (Talis, 2019). There are several concepts in this paradigm that allow us to reach a new quality of the educational process.

The first is the formation of psychological stability and motivation for distance learning in the subjects of the educational process. Students should be responsible for completing/not completing learning tasks. At the same time, during distance learning, their achievements in accordance with the requirements should not be formal (moderate & liberal), but decisive. Any reduction in the requirements for the work of students during distance learning leads to its depreciation and transformation into a formality. But for this it is necessary to constantly train all participants in the educational process to take an active part in distance learning.

The second-methodical, implementing which, the teacher must realize the importance of communication with students as a defining component of distance learning and the need to master the technology of tutor, coach, facilitator. This includes the development by teachers of the content of courses that implement the tasks of programs in academic disciplines.

The third is technical. Information and communication technologies do not give participants in the educational process equal opportunities to exercise the right to education. Lack of high-quality Internet connection, gadgets on the one hand, inability to work with software, inadequate level of information and digital competence - these are the issues that need to be reviewed at the level of the Ministry of Education and Science of Ukraine.

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The fourth is sanitary-hygienic and informational hygiene and safety. Sanitary and hygienic issues are not regulated at all by the current legal framework. These include the duration of the child's work with the device during online learning, breaks between classes, the technical characteristics of the device, the level of lighting in the workplace and more. Equally important is the information bullying of students during online video consultations or lessons. There are no criteria for protecting the network during online training, liability for non-compliance with the rules of communication on the Internet, etc.

Today, the basic characteristics presented above remain unchanged, while further work is underway to improve and implement new methods, techniques and tools of distance education, which is used in all spheres of society in close cooperation between the state and the private sector. The main feature is "*to use the capabilities of the Internet and other virtual or private global networks (WANs) to provide high-quality learning*", which "*brings together smart teachers, experts in distributed subjects, real-time in-depth management and a diverse set of support tools to provide a responsive high-quality learning-oriented system*".

Among the Internet services and online learning services are: e-mail, blogs, web-forums, mailing lists, wikis, file-sharing networks, FTP, webinars, chats, social networks, streaming multimedia, IP-telephony, Web 2.0. As a result of the total use of modern mobile devices, completely new forms of activity have emerged, especially mobile learning. Regarding the interpretation of the definition of "*mobile learning*" - is learning with the support of mobile tools, regardless of place and time, using special software based on pedagogical modular and interdisciplinary approaches.

These transformations require an integrated approach and an appropriate regulatory framework and state support, as such issues cannot be left at the level of educational services. An example of such an approach is the measures taken by the European Union.

Thus, "*one of the main tasks of the EU ERASMUS + KA2 project is*" modernization of pedagogical education using innovative teaching tools (Modernization of Pedagogical Higher Education by Innovative Teaching Instruments) *"(MoPED) as part of building a modern digital educational ecosystem so-called MoPED EcoSystem*", whose capabilities are aimed at "*supporting the operational efficiency of innovation classes (ICR)*", the creation of which in educational services will provide an effective partnership between higher education and secondary education, teachers associations "*and teachers, the public for dissemination of European best practices, teaching / learning experience in the field of STEAM education, formation of an innovative professional environment for the exchange of progressive teaching methods, etc*".

Thus, there is an expansion of the educational structure, which now covers the full range of formal, informal and empirical training in the context of professional... education and continuing professional development, "*when the system of professional training, which is built on modern technological and methodological basis*" and is a modern digital ecosystem of educational space.

Today, the leaders of the formation of such an ecosystem are innovative classes for the training of students, the purpose of which is to build and operate in educational services "*educational ecosystem MoPED to modernize the content of education in the context of improving training*" staff using innovative pedagogical technologies. Having obtained the appropriate level of digital, IT, cybersecurity and cyberhygiene competencies can continue to

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provide training at a high professional, communicative and digital levels. Thus, the main tasks for the modern digital ecosystem MoPED are: dissemination of the best European practices of teaching STEAM-subjects, experience in using innovative tools and methods of teaching and learning in educational services; development of digital competence of higher school teachers, students, teachers of general secondary education; providing interdisciplinary links in teaching and learning developed educational content; creation of a modern innovation class as a center for holding high-level educational seminars, webinars, online meetings, Internet conferences, etc. with the help of modern equipment; ensuring cooperation between the university and general secondary education institutions, professional development of teachers, associations of educators to promote STEAM-education and intensify innovative pedagogical activities in the region; expansion of cooperation with the partner universities of the project on conducting joint events, trainings, development of joint courses for modernization of the content of higher pedagogical education of Ukraine by means of pedagogical innovations (Liubarets, 2019).

Professional and moral and ethical values of a modern teacher are the basis for ensuring the quality of education. As part of the research of G. Mykhailyshyna and O. Kondur, a survey of students was conducted on the issue of qualities that a teacher should possess. Based on the results, a list of the following qualities was noted: "*subject competence of teachers; scientific rating of the teacher (which correlates well with the data of the national survey); clarity of the organization of the educational process (in particular, electronic schedule, informative web-pages of the faculty and the department, automation of document management processes), compliance of the educational program with the modern needs of the industry*" (Lubarets et al., 2020).

In addition, students consider important: "*strategic vision, teamwork, creative thinking, ability to search, process and analyze information (primarily due to the requirements of the current wave of globalization), readiness for self-education*". In our opinion, it is necessary to add communicativeness, tolerance, knowledge of foreign languages, ability to creatively (creatively) perform project tasks and solve problems on a practical (real) level, as well as be able to use creative digital technologies during classes.

Also today, in the framework of communicative ethics, argumentative ethics and ethics of responsibility, such skills are important as: to be able to communicate with the audience, express their point of view, conduct argumentative dialogue, have rhetorical discourse skills, and make responsible decisions. According to researchers Casares et al., (2010), in the modern conditions of civilizational development of society, educational services should take a comprehensive approach to providing vocational education, when along with professional values, students acquire moral, ethical and cultural values, given the multinational and multicultural global world.

Also in modern conditions, the demand for a highly moral and cultural professional is relevant, because today there is a wide range of professions and specialties, thanks to which a person (as a professional) can benefit society and can destroy it (Akiyama et al., 2021). In addition, the modern teacher in a new environment acquires a new state when he becomes a mentor, consultant, facilitator and coach, which also determines his not only professionalism, but also moral and ethical status, culture and more.

Thus, researcher note that in addition to academic integrity, modern educators must profess other values of the European educational space, including academic freedom, openness and partnership, democracy, environmental literacy (at the request of education for sustainable

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development). globalism and commitment to national and cultural identity (taking into account modern processes of globalization and glocalization), self-organization. In turn, teachers, participating in a survey conducted by researchers emphasize the need to "*use the latest teaching methods; formation by students of their educational trajectory, ie the implementation of the basic ideas of students of centered learning; the level of research work of teachers; academic mobility of teachers and in particular the possibility of involving in the lectures of leading experts from other institutions, including foreign*".

In general, we can talk about a certain identity of views of teachers and students on the list of basic competencies and skills that should be present in teachers and students. This is a positive signal, because they communicate on the same level and understand each other. Thus, collaborations between them will have a high level of efficiency.

The next important thesis of sustainable and sustainable functioning of the digital ecosystem of educational space is to ensure a high level of quality of educational services. Today the issue of checking/monitoring the levels of quality of providing/acquiring professional knowledge and skills is more or less settled, but an important problem in the process of vocational training and education (adults) is "*understanding how applied productivity is (real people who do real work) related to learning outcomes*"and understanding "*differences between competence, competences and learning outcomes*", where competence is a hidden property inherent in"*a person, team or organization*" and "*cannot be assessed directly*" when competences "*Are defined as*" a set of knowledge, skills, attitudes, properties and other characteristics that attempt to detail competence. "*Today, the list of competencies acquired by students at all levels of education is constantly expanding, and many of them are difficult to assess with traditional methods and tools*" (Bukovynska et al., 2022). In turn, J. Valerie Shute and C. Thille identify abilities that are difficult to directly assess, namely: "*persistence, creativity, self-confidence, openness, teamwork*", satisfaction from obtained/received. With this in mind, researchers. Thille suggests using indirect assessment methods, using their concept of "*hidden assessment*" during the game, using "*learning analytics and intellectual analysis of educational data*". in the framework of the use of targeting technologies and "*frequent A/B testing*". These assessment technologies, together with the capabilities for neural network analysis and artificial intelligence, provide a complete, accurate and detailed picture of the level of learning on the part of the learner, his strengths and weaknesses and what he needs to improve. That is, thanks to this it is possible to form individual curricula that will be one hundred percent acceptable. The question of psychological readiness for new types of learning (without coercion and memorization), persistence and presence of motivation remains open, because "*self-directed learners are metacognitive, motivational and behaviorally active in their own learning*", acquiring skills to manage their learning at different times and in different conditions, especially for the acquisition of thinking skills, writing and analytical skills is relevant and important in modern lifelong learning, as self-management strategies (time management, effort management and critical thinking) are positive affect the academic results of the student.

RESULTS

The topic of this study was formed before the start of hostilities in Ukraine. Therefore, in connection with the military actions of the aggressor, which are condemned by the whole world,

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this issue has become even more relevant. Environmental challenges in the socio-cultural environment, a combination of their factors, negatively affect the development of personality, namely:

1. Fragmentation and disintegration of the individual and society.
2. Conflict of networks, which creates misunderstandings, growing social.
3. Tensions and protest movements.
4. Increasing the likelihood of aggression, armed conflict and war.
5. Risks of turning the network of local conflicts into a global catastrophe.
6. Risks of loss of personal ability to understand the essence of social processes.
7. Increasing opportunities to manipulate people's consciousness, their behavior for useful and useless purposes.
8. Risks of losing the moral foundations of human ethics.
9. Replication of forms of deviant behavior.
10. The spread of legal nihilism, the risks of the collapse of the international law system and the violation of the legal basis for the functioning of nation-states.
11. Increasing risks of impoverishment and degradation of human feelings.
12. Marginalization of universal humanistic values.
13. Risks of cultural degradation.

Such environmental factors (Table 1) are: human safety due to the deterioration of the environment, sanitary and epidemiological situation; political and economic challenges related to socio-cultural challenges, including military action.

Table 1
MEASURES TO PREVENT ENVIRONMENTAL FACTORS

Factors	Events
Human safety due to environmental degradation	Efficient use of natural resources that are associated with the appropriate load on the environment; formation of the ability to preserve the ecosystem, environmental responsibility and socio-environmental competence to ensure the security, safety and quality of human life, improving the methodology of human ecology
Sanitary and epidemic condition	Building the health potential of the nation; systematic formation of a healthy lifestyle, harmony of physical, mental, spiritual and social health of the individual
Political and economic challenges	To clarify the concept of modernization of Ukrainian society, the priority of reforming the judiciary, law enforcement and taxation, demonstration of certainty, regulation and predictability of social change
Socio-cultural challenges	Transformation of modern society for the formation of socially mobile qualified personality, development of approaches in the organization of careers in the market of growing competition; to form an environment on the basis of mutual respect and understanding, friendliness, sincerity; produce internal psychological mechanisms necessary for successful communication in the professional activities of the individual.
Hostilities	Creation of rehabilitation centers for military support of children and women; organization of various programs of socio-cultural activities (art therapy, definition of cultural consciousness) the need for a number of economic programs to support and revive the financial security of the population

Civilizational needs to ensure the sustainable development of the new generation, namely: research, preservation and use of cultural and environmental heritage to raise the spiritual, aesthetic and recreational needs in the integrity of historical social development;

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strategies of social protection, safety and quality of human life, improvement of the methodology of ecology of human social health (Trotsko et al., 2019).

In our opinion, belonging to the "*eco*" can be attributed to the humanistic direction, which is formed on the values of man, both individuals and groups of people. For example, after the war on the territory of Ukraine, ordinary people will need to establish various spheres of their life in the ecological environment. For example: creation of rehabilitation centers for the military; support for children and women; organization of various programs of socio-cultural activities (art therapy, definition of cultural consciousness); the need for a number of economic programs to support and revive the financial security of the population.

Such issues can be addressed at different levels, both at the state and local levels by united territorial communities. In education, the creation of a sustainable and sustainable ecosystem requires active interaction at the creative level on the basis of reasoned dialogue, a high level of responsibility. Therefore, there is a need to manage and organize the digitalization of the educational environment.

Summarizing the results of constructing descriptive characteristics of the formation of the digital educational ecosystem in educational institutions as a holistic educational system of a new type, which is implemented in the widespread introduction of digital technologies, new forms, methods and tools of education, we rethink the role of teachers in new creative communications. -acquirer of education. Thus, the educational digital ecosystem is gaining more and more features of a complex system consisting of both technical and technological component, human potential (all communicators in the pedagogical and IT spheres, various sciences and support structures that together with students form the educational space) and cybernetic potential, where artificial intelligence and neural networks begin to communicate with humans (almost on an equal footing).

CONCLUSION

The main task of all participants in the educational environment is to create a sustainable and sustainable education system so that the educational digital ecosystem can function as a separate entity of the overall socio-cultural-ecological-natural-economic system of the global level. After all, today everything is so interconnected and interdependent that man is entering a new era of communication and responsibility to himself and humanity. This is why the educational ecosystem should provide training for highly qualified, psychologically motivated, cultural, tolerant and responsible professionals of a new level, who should creatively solve problems/tasks that have accumulated before humanity.

The constant complexity of all processes, including education, requires effective communication at all levels, and this requires all students with high qualifications, creative thinking and effective performance of tasks and problem solving. The main burden was borne by teachers and methodologists, because in addition to pedagogical knowledge, they must have a high level of digital, IT, cyber competence, skills and knowledge of programming, communication ethics, ethics of responsibility and argumentative ethics to communicate freely with the audience. their thoughts and conduct a substantive dialogue.

In turn, distance education (online education), as a basis for the educational ecosystem, requires from the student a high level of motivation, self-control, ability to plan their time, and

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communication (discursive rhetoric in collaboration). Today, the educational ecosystem is expanding (due to new subjects) and complicated by neural networks and artificial intelligence, and therefore the issue of high competence in cybersecurity and cyberhygiene among all students is only growing.

Given that scientific and technological progress is constantly transforming the field of education, the formation of a digital educational ecosystem in educational services will require further research.

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