



## Information-Educational Environment – as a Pedagogical Condition of Information-Methodical Support for Pedagogues

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**Abstract:** In this article, the information-educational environment and its principles, the pedagogical condition of information-methodological support for pedagogues, the technologies of creating and implementing an electronic information-educational environment, educational, methodical, scientific, informational, organizational, pedagogical, continuous professional development, psychological, technical conditions and a system of interrelated content, communicative, integrative and technological components, its content and essence are widely covered on the basis of relevant sources, and the author's views are stated. Also, the platforms of the information-educational environment operating in the international arena were studied and analyzed.

**Keywords:** information-educational environment, principles of information-educational environment design, virtual libraries, electronic databases, pedagogical design of information-educational environment, informatization, network and portal technologies.

In modern conditions, the needs for things like a person's worldview, level of knowledge, interaction with the outside world, assimilation and attitude change as a result of the quick flow of information and rapid obsolescence. In this process, the need for pedagogues as an active subject to continuously improve their professional skills, prioritize the skills of transparency to information and flexibility and to develop their competence in the effective use of information and communication technologies becomes one of the main issues. Because this necessity is an important condition for the development of the pedagogue.

It was noted that the expansion of the level of e-learning in the sphere of the education creates the basis for a change in the educational paradigm, i.e. a transition from an educational situation with limited use of information technologies to an educational environment with unlimited use. In the modern teacher's work, information technologies are a necessary tool not only for knowledge, but also for the organization of various information activities of students [5; P.77]. It is in this condition that the information competence of the participants of education is formed. Today, in the development of education, the acceleration of the environment of information influence, the development of traditions require meeting the demands and needs of teachers for information and software tools. It is strengthened a number of normative legal acts that satisfying these demands and needs is one of the priorities of the state and government [1; RP-4699; 2; DP-6079, 3; DP-60]. From this point of view, development of the information-educational environment, expanding the volume of information-methodical support and improving its quality in the continuous professional development of pedagogues is one of the urgent tasks.

The information-educational environment makes an incomparable contribution to increase the efficiency of continuous professional development of pedagogues and represents the integration of information and communication technologies into the educational system. The information-educational environment has been widely researched by a number of foreign and national



scientists and significant practical results have been achieved. Below we will touch on some of their approaches.

The researcher U.N. Taylakov who conducted research on “Technologies of formation and implementation of unified electronic information-educational environment of educational institutions” has been found out that “the unified information-educational environment of an educational institution refers to a person who is considered the main and active subject of educational activities, the level of the organizational, informational, teaching-methodical and pedagogical-psychological support system of the closely related educational process is understood” [4; P.10]. Sh.U. Eshonkulov in his dissertation on the theme of “Development of design competence of students in the electronic education environment” noted that the system of interactive content, communication, technological components. He concludes that this system provides organizational-stimulating, informative educational, diagnostic-editing and communicative management functions in the interaction of the subjects of the educational process for the mastering of educational programs by students” [6, P.11]. In research on the organization of electronic learning environment in the environment of higher education, N.A.Kayumova put forward that “it is a set of information, telecommunication technologies and tools designed to collect, systematize, store and use educational resources using electronic and distance learning technologies, which allows providing the teaching process with high-quality information and teaching-methodical support” [7; P.65]. Similarly, the research of B. M. Suropov aimed at creating an information-educational environment in the higher education system, “creates an information-educational environment with traditional and electronic mass media, computer and telecommunication technologies of interaction, including virtual libraries, electronic emphasizes that it is appropriate to understand that it is a single information-educational space that combines information about databases, teaching-methodical complexes and extended didactic apparatus” [8; P.4].

To prove our point, we turned to a number of other researches and found that the following approaches were studied. The scientists of our republic such as U.Sh. Begimkulov [9], Ye.Sh. Shoyardonov [10] that organizing, managing of the information and communication environment in educational organizations, its methodical justification, practical application, N.I. Taylakov,

M.H. Allambergenova [11], M.N. Soy [12], Ya.P. Mustapakulov [13] that creating the concept of unification of information space in organizations of the public education system, the electronic training manuals and interactive educational complexes, M.H. Lutfullayev [14] that achieving successful integration of electronic manual and virtual stands, developing effective conditions for harmonizing lectures and practical-laboratory training, G.N. Ibragimova [15] that on the basis of interactive educational methods and technologies, the formation of an information-methodical and interactive educational environment focused on the development of creativity of students have been conducted scientific-research works and achieved some practical positive results.

Foreign scientists such as M.V. Stupina [16], prospects of using cloud technologies in creating an information-educational environment in mixed educational conditions, A.V. Baraulina [17], providing positive motivation of the information-educational environment, teaching lessons at high emotional and aesthetic levels transfer, tabaqalashtirish, dars samaradorligini oshirishdagi oʻrni, V.I. Toktarova, S.N. Fedorovalar [18], focusing on the individual characteristics of learners in the organization of the educational process in the information-educational environment, achieving the development of abilities, opportunities, Y.N. Dronova [19], online educational materials in the information-educational environment presentation, the impact on the needs and interests of learners, A. V. Gaponenko [20], development of information-educational environment in higher education, formation of goals, design of systems, forecasting of prospects, A. Andreyeva



[21], impact of information technologies on formation of information-educational environment, different approaches essence, content, structure, effective working methods, D.S. Vasilina, G.Y. Nuriyeva, D.M. Yulanovalar [22], taking into account pedagogical and psychological factors in the design of the information-educational environment, the contribution of its possibilities to increase the quality and efficiency of the educational process, T.V. Vostrikova [23], pedagogical design in the information-educational environment, information, access to databases, conditions for development of relevant competence of educational participants representative researches have been conducted.

The above mentioned points make it possible to understand that creating an information-educational environment is not only a technical problem. It requires a systematic approach and it will be necessary to mobilize all the resources and pedagogical capabilities of the educational institution. It is appropriate and correct management solutions in the process are also important.

Scientists who conducted extensive research in this sphere, such as R. Khamdamov, U.Sh. Begimkulov, N.I. Taylakov, came to the conclusion that the information-educational environment is a set of information-technical, educational-methodical systems that provide a specific goal-oriented learning process and its distinguished the typological signs as follows:

1. The educational environment at any level is a complex structured object with a systemic nature.
2. The integrity of the educational environment is synonymous with the concept of achieving systematicity, it embodies the realization of educational and educational goals in the implementation of the personal and professional model of a graduate of an educational institution.
3. The educational environment is the main condition of education and training, as well as its important tool [24; P.51].

The information-educational environment of continuous professional development of pedagogues consists of normative legal acts related to the system, relevant educational resources, teaching-methodical materials and individual information. In the information-educational environment, the conditions for determining the professional needs of pedagogues, filling the gaps, taking into account their individual characteristics and capabilities, providing teaching and methodical materials online regardless of space and time boundaries and conducting the management and control of the qualification improvement process are optimal. The opportunity of virtual communication creates a convenient space for rapid data exchange, interactivity and targeted information-methodical support. In it, there is a tendency to combine educational and methodological support serving traditional and online education, to independently find suitable materials, to develop the skills of sorting, analyzing and using information, to design and implement an individual professional development trajectory.

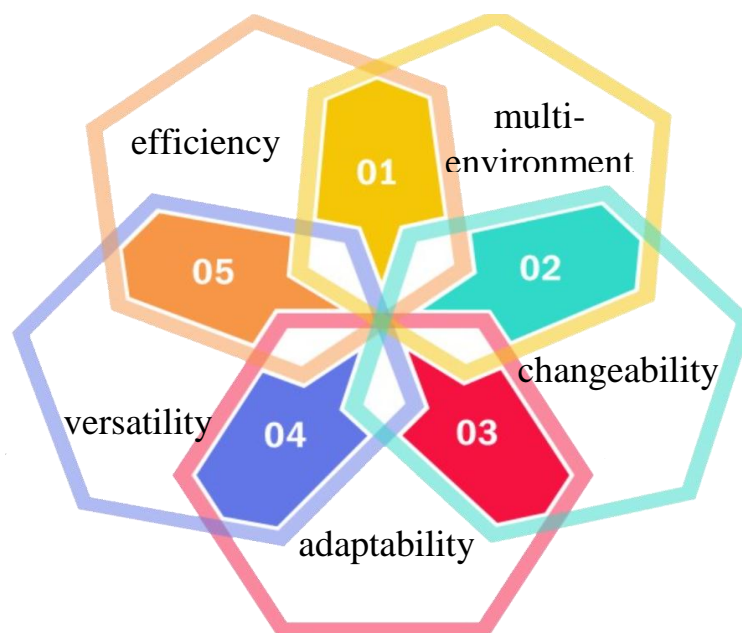
In developed countries, the attention to the creation of an information-educational environment of teaching is given priority as a modern trend and a result-oriented approach. As a result, many higher education institutions are offering (online) teaching opportunities through the information-educational environment. For instance, UK Open University ([open.ac.uk](http://open.ac.uk)), Germany's Hagen University of Technology ([fernuni-hagen.de](http://fernuni-hagen.de)), USA's University of Pennsylvania ([worldcampus.psu.edu](http://worldcampus.psu.edu)), Minnesota virtual universiteti ([careerwise.mnscu.edu](http://careerwise.mnscu.edu)), Kaliforniya virtual universiteti ([cvc.edu](http://cvc.edu)), Western Governors University ([umuc.edu](http://umuc.edu)), Swede's Baltika University, China's Netease Open Course Platform, Japan's Kyoto University ([kyoto-u.ac.jp/en](http://kyoto-u.ac.jp/en)), Tokyo Institute of Technology ([titech.ac.jp](http://titech.ac.jp)), Tokyo University ([u-tokyo.ac.jp](http://u-tokyo.ac.jp)), Nagoya University ([civil.nagoya-u.ac.jp](http://civil.nagoya-u.ac.jp)), Osaka University ([osaka-u.ac.jp](http://osaka-u.ac.jp)), Indira Gandhi National Open School of



India, Russian network runnet.ru, “Electronic School Information System” through large-scale works are being carried out to create a single electronic information-educational environment.

The creating an information-educational environment is important for pedagogues to develop electronic literature, teaching-methodical complexes, websites, portals and put them into practice. Pedagogues themselves need to develop electronic information and educational resources using various platforms and programs, maintain blogs on websites and social networks, and use them effectively in training sessions to become an integral part of their professional activities.

Of course, it is desirable that this process is built on a scientific basis and obeys certain principles. B. M. Suropov, a scientist who was involved in the creation of an information-educational environment, puts forward the following principles in his article “The possibilities of creating and using an information-educational environment in higher education” (Picture No.1):



**Picture No. 1. Principles of information-educational environment design**

multi-environment – preparing of texts, sound, video, graphic images and animations adapted to computer technologies for processing, storing, transmitting and displaying information;

changeability – creating an opportunity for students to independently choose the direction of education;

adaptability – delivering the information-educational materials necessary for preparing students for future professional activities and ensuring the compatibility of electronic information-educational resources with the specific characteristics of a specific subject;

versatility – providing students with access to the components of the information-educational environment from any place via the Internet and wide and open use of electronic information-educational resources;

efficiency – changing the technology that allows to reduce the time of search and transmission of environmental objects, to be ready to work at the level of modern information products without additional processing through the invariance of technologies, etc. [8; P.6].

The opinions, researches, analysis of efforts conducted by leading educational institutions, the creation of an information-educational environment, the improvement of the quality of advanced



education, bringing it to a new level, the competencies provided for in the state educational standard and the national curriculum, it is the basis for proving our opinion that it represents the pedagogical conditions that represent the software of mastering and implementing the professional standard of the pedagogue. That is, the information-educational environment is an area aimed at realizing the fundamental goals of the continuous professional development system, such as the personal and professional development of the pedagogue, understanding it as a value, developing pedagogical skills, and organizing independent research. It serves to increase the technological level of providing educational services and ensure usability and universality:

- developing the single database of educational resources;
- achieving the simultaneous use of these resources by many pedagogues;
- addressing resources from an arbitrary space, minimizing time, speed, and form restrictions;
- offering resources tailored to professional needs and enabling variety, individualization and differentiation;
- rapid exchanging the information and targeted delivery.

Informational and methodical support for continuous professional development of pedagogues requires effective use of modern technical solutions such as network, mobile and portal technologies. From this point of view, developing the competence of effective use of information and communication technologies among pedagogues, avoiding their use in their professional activities, and achieving the elimination of “phobia” will strengthen the guarantee of expected results.

The researcher I.A. Yuldoshev, thinking on the use of network technologies in the development of creative and communicative skills of future informatics teachers, he says that they can be introduced at different levels in the process:

1. The first level can be described as follows: the class pays little attention to network technologies, the traditional form of education prevails, computers are occasionally used to watch videos, create presentations and take tests.
2. The second level, the use of network technologies is fully implemented, the pedagogues and students communicate live as they feel in the information space, communicative issues are seen together, that is, computers play an important role in the educational process.
3. The third level offers the implementation of an educational process exclusively with the help of ICT, which is specific to distance or inclusive education. At this level, there may be no direct contact between the persons teaching and learning. Education is conducted online by e-mail or special sites. [25; P.5.]

It is concluded that from the point of view of the subject of our research, the educational, methodical, scientific, informational, organizational, pedagogical, psychological, technical conditions and interrelated content, communicative, integrative and can be understood as a system of technological components.

#### REFERENCE:

1. O‘zbekiston Respublikasi Prezidentining 2020 yil 28 apreldagi “Raqamli iqtisodiyot va elektron hukumatni keng joriy etish chora-tadbirlari to‘g‘risida”gi PQ-4699-sonli Qarori. – QHMMB, 07/20/4699/0520-son, 29.04.2020 y
2. O‘zbekiston Respublikasi Prezidentining 2020 yil 5 oktyabrdagi “Raqamli ‘O‘zbekiston - 2030” strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to‘g‘risida”gi PF-6079-son Farmoni. – QHMMB, 06/20/6079/1349-son, 06.10.2020 y.



3. O‘zbekiston Respublikasi Prezidentining 2022 yil 28 yanvardagi “2022–2026 yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi PF–60-son Farmoni. – QHMMB, 06/22/60/0082-son, 29.01.2022 y.
4. Taylakov U.N. Ta’lim muassasalarining yagona elektron axborot-ta’lim muhitini yaratish va joriy etish texnologiyalari: ped. fan... (PhD) diss. avtoref. – Toshkent, 2020. – 48 b
5. Ibragimov A.A. Xalq ta’limi xodimlari malakasini oshirish tizimini modernizatsiyalash parametrlari // Monografiya. – Toshkent: Navro‘z, 2019. – 180 b.
6. Eshonqulov Sh.U. Elektron ta’lim muhitida talabalarning loyihalash kompetentligini rivojlantirish: ped. fan... (PhD) diss. avtoref. – Toshkent, 2022. – 50 b.
7. Kayumova N.A. Oliy ta’limda elektron ta’lim muhitini tashkil etishda yangi texnologiyalar // Zamonaviy ta’lim. – Toshkent, 2021. – №2. – B. 64-73.
8. Suropov B.M. Oliy ta’limda axborot-ta’lim muhitini yaratish va undan foydalanishning imkoniyatlari // Zamonaviy ta’lim. – Toshkent, 2020. – №10. – B. 3-10.
9. Begimkulov U.Sh. Ta’lim muassasasining axborot muhitini boshqarish tizimi // Uzluksiz ta’lim. – Toshkent, 2007. – № 2. – B. 3-8.
10. Shoymardonov T. Zamonaviy axborot-kommunikasiya texnologiyalari muhitida pedagog kadrlarning kasbiy faoliyati mazmuni va uning monitoringi // Monografiya. – Toshkent: “Yangi kitob”, 2016. – 196 b.
11. Allamberganova M.X., Taylakov U.N. Interaktiv o‘quv majmua yaratish: nazariya va amaliyot // Monografiya. – Toshkent: “Fan va texnologiya”, 2013. – 164 b.
12. Soy M.N. Создание электронного учебно-методического комплекса: теория и практика // Monografiya. – Toshknet: Fan va texnologiya. 2013. – 212-c.
13. Taylakov N.I., Mustarakulov Ya. Концепция оснащения современной школы с учетом углубления интеграции образовательных учреждений в единое информационное пространство. // Fizika, matematika va informatika. – Tashkent, 2005. – №2. – S. 3-22.
14. Lutfillayev M.H. Oliy ta’lim o‘quv jarayonini takomillashtirishda axborot texnologiyalarini integratsiyalash nazariyasi va amaliyoti (Informatika va tabiiy fandar misolida): ped. fan. dok... diss. – Samarkand, 2005. – 212 b.
15. Ibragimova G.N. Interfaol o‘qitish metodlari va texnologiyalari asosida talabalarning kreativlik qobiliyatlarini rivojlantirish: ped. fan... (PhD) diss. avtoref. – Toshkent, 2017. – 39 b.
16. Stupina M.V. Облачные технологии как основа формирования информационно-образовательной среды вуза в контексте смешанного обучения [Elektron resurs]. – URL: <https://cyberleninka.ru/article/n/oblachnye-tehnologii-kak-osnova-formirovaniya-informatsionno-obrazovatelnoy-sredy-vuza-v-kontekste-smeshannogo-obucheniya/viewer> (murojaat vaqti 20.10.2020 y.).
17. Бараулина А.В. Использование ЭОР на уроках математики // «Актуальные проблемы преподавания физики и математики в школе». Материалы Региональной научно-практической конференции. – Нижний Тагил, 2015. С.19-22.
18. Toktarova V.I., Federova S.N. Информационно-образовательная среда вуза: интерпретационный и содержательный анализ [Elektron resurs] – URL: <https://cyberleninka.ru/article/n/informatsionno-obrazovatel'naya-sreda-vuza-interpretatsionnyu-i-soderzhatelnyu-analiz/viewer> (murojaat vaqti 20.10.2020 y.).



19. Dronova E.N. Электронные образовательные ресурсы по математике // Сборник докладов Международной Интернет-конференции «Информационно-технологическое обеспечение образовательного процесса государств-участников СНГ». – Минск, 2012. – С. 346-352.
20. Garonenko A.V. Особенности формирования образовательной среды современного университета [Elektron resurs] – URL: <http://naukarus.com/osobennosti-formirovaniya-obrazovatelnoysredy-sovremennogo-universiteta> (murojaat vaqti 10.11.2020 y.).
21. Andreeva A.A. Информационно-образовательная среда университета // Международный научно-исследовательский журнал. Технические науки. – Екатеринбург, 2018. – С. 34-41.
22. Vasilina D.S., Nuriyeva G.Yu., Yulanova D.M. Информационно-образовательная среда современного вуза [Elektron resurs] – URL: <https://cyberleninka.ru/article/n/informatsionnoobrazovatelnyaya-sreda-sovremennogo-vuza-2/viewer> (murojaat vaqti 14.11.2020 й.).
23. Vostrikova T.V. Педагогическое проектирование информационно-образовательной среды общеобразовательного учреждения: дисс. ... канд. пед. наук. – Ростов н/Д, 2006. – 219 с.
24. Ta'limda axborot texnologiyalari. Oliy ta'lim muassasalari uchun / R.Hamdammov, U.Begimkulov, N.Tayloqov. – T.: O'zME davlat ilmiy nashriyoti, 2010 y. – 120 b.
25. Yuldoshev I.A. Tarmoq texnologiyalari bo'lajak informatika o'qituvchilarining ijodiy va kommunikativ qobiliyatlarini rivojlantirish vositasi sifatida // Zamonaviy ta'lim. – Toshkent, 2017. – №2. – B. 4-9.