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SCIENTIFIC AND METHODOLOGICAL RECOMMENDATIONS FOR DESIGNING A HYBRID EDUCATIONAL ENVIRONMENT IN HIGHER EDUCATION INSTITUTIONS

Abstract

The article presents scientific and methodological recommendations for modeling a hybrid form of education at a fundamentally new qualitative level, with a rethinking of the positions of both the teacher of a higher educational institution and the personality of the future teacher.

The scientific and methodological system of designing a hybrid educational learning environment consists of four interrelated components: target, content, methodological (instrumental), and performance-evaluation. The basis of hybrid modeling is: seamless, subjectivity and manufacturability.

Within the framework of scientific and methodological recommendations, hybrid training of future teachers is considered both from the standpoint of its basic principles, technologies, tools, and from the standpoint of providing psychological and pedagogical conditions for professional training in a digital environment.

Scientific and methodological recommendations for designing a hybrid educational environment for modern students involve the formation of essential attitudes, attitudes, professionalism, personality traits and qualities that enable future teachers to actively, consciously and responsibly, creatively perform their professional functions and duties.

Keywords: professional training, hybrid educational environment, hybrid learning, personalized trajectory, digital environment, students.

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ЖОҒАРҒЫ ОҚУ ОРЫНДАРЫНДА ГИБРИДТІ БІЛІМ БЕРУ ОРТАСЫН ҚҰРУДЫҢ ҒЫЛЫМИ-ӘДІСТЕМЕЛІК ҰСЫНЫСТАРЫ

Андатпа

Бұл мақалада жоғары оқу орны мұғалімінің де, болашақ мұғалім тұлғасындағы ұстанымдарын қайта қарастыра отырып, оқытудың гибриді формасын түбегейлі, жаңа сапалы деңгейде модельдеудің ғылыми-әдістемелік ұсыныстары келтірілген.

Гибридті білім беру ортасын құрудың ғылыми-әдістемелік жүйесі өзара байланысты төрт компоненттен тұрады: мақсатты, мазмұнды, әдістемелік (құралдар), нәтижелі-бағалау. Гибридті модельдеудің негізі ретінде жіксіз, субъективті және технологиялық.

Ғылыми-әдістемелік ұсынымдар шеңберінде болашақ педагогтарды гибридті оқыту оның базалық қағидағдары, технологиялары, құралдары тұрғысынан да, цифрлық ортада кәсіптік даярлаудың психологиялық-педагогикалық жағдайларын қамтамасыз ету тұрғысынан да қарастырылады.

Қазіргі студенттерді оқытудың гибридті білім беру ортасын жобалаудың ғылыми-әдістемелік ұсыныстары болашақ мұғалімге өзінің кәсіби қызметтері мен міндеттерін белсенді, саналы және жауапкершілікпен, шығармашылықпен орындауға мүмкіндік беретін маңызды көзқарастарды, қарым-қатынастарды, кәсібилікті, жеке қасиеттер мен қасиеттерді қалыптастыруды көздейді.

Түйін сөздер: кәсіби дайындық, гибридті білім беру ортасы, жеке траектория, сандық орта, студенттер.

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НАУЧНО-МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ КОНСТРУИРОВАНИЯ ГИБРИДНОЙ ОБРАЗОВАТЕЛЬНОЙ СРЕДЫ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

Аннотация

В статье представлены научно-методические рекомендации моделирования гибридной формы обучения на принципиально новом качественном уровне, с переосмыслением позиций как педагога высшего учебного заведения, так и личности будущего педагога.

Научно-методическая система конструирования гибридной образовательной среды обучения состоит из четырех взаимосвязанных компонентов: целевого, содержательного, методического (инструментального), результативно-оценочного. Основанием моделирования гибридной являются: бесшовность, субъектность и технологичность.

В рамках научно-методических рекомендаций, гибридное обучение будущих педагогов рассматривается как с позиции его базовых принципов, технологий, инструментов, так и с позиции обеспечения психолого-педагогических условий профессиональной подготовки в цифровой среде.

Научно-методические рекомендации проектирования гибридной образовательной среды обучения современных студентов предполагают формирование существенных установок, отношений, профессионализма, свойств и качеств личности, которые обеспечивают возможность будущему педагогу активно, сознательно и ответственно, творчески выполнять свои профессиональные функции и обязанности.

Ключевые слова: профессиональная подготовка, гибридная образовательная среда, гибридное обучение, персонализированная траектория, цифровая среда, студенты.

Main provisions. The term "hybrid learning" in the works of M.N.Morozov, A.Yu.Uvarov, A.V.Fedorov, V.E.Steinberg is mainly associated with the construction of educational resources; as the design of a system of relations between a person and a means of activity (D.Norman, D.Perkins, B.Fuller, Sh.Turklye); communication between participants in joint educational activities within Moodle learning systems (A.Halaseh); identify factors for the successful implementation of hybrid learning: personalization; mastery-based learning; an environment of high expectations (Andreeva N.V., Rozhdestvenskaya L.V., Yarmakhov B.B.).

The interest in studying the scientific and theoretical foundations of hybrid learning has been reflected in numerous studies by Russian and foreign authors: assessment of the state of the pedagogical environment of an educational institution according to the parameters of "tradition" and "innovation" (Marei A.); the basics of creating ergonomic, pedagogically sound learning conditions that stimulate the development of cognitive, motivational spheres of the student receive answers in the interdisciplinary scientific branch that is being formed at the present stage – "Pedagogical modeling of hybrid learning" (Baklashkina O.N. et al., 2016, Tomlinson B. et al., 2020); education in the digital age (Kizilova A.S. et al., 2018, Nikulina T.V. 2018, Loginova S.L. 2019, Klepikova A.G. 2009, Ignatova N. Y. 2017); development of a "collection of digital educational resources" in hybrid learning (About Dubrovina.O.A. 2018).

The analysis of the research of the above-mentioned authors showed that an active transition to a hybrid form of education is possible under the condition of a high level of implementation of "digital and educational technologies used as dominant in educational technologies and contributing to the achievement of the planned learning goals."

There is no doubt that hybrid learning will be increasingly implemented in the educational system every year. At the same time, various educational technologies will be actively introduced. This will increase the level of personalization, motivation and other factors of the effectiveness of the hybrid process.

Improving pedagogical skills in the university training of a future teacher means: multilevel updating of educational results, the content of hybrid learning; technologies of the educational process; academic self-assessment and evaluation of the results achieved in an actively developing digital environment for cardinal improvement of educational results (About Dubrovina.A. 2018).

Academic self-assessment is one of the main characteristics of improving pedagogical skills, as it contains a cognitive representation of the perceived abilities of a teacher and a student in a situation of academic achievements.

U.M. Abdigapbarova and N.B. Zhiembayeva substantiate the fact that internal motivation is important for learning outcomes, related to the perceived competence of the future teacher and which can be supported by complex tasks of the influence of the academic Self-concept on internal motivation (Abdigapbarova U.M. et al., 2019, Zhiembayeva N. et al., 2021).

Revealing the essence of the pedagogical paradigm of hybrid learning, it should be noted that it is based on the subjectivity of the student. Therefore, the didactic potential of a hybrid educational space is to expand opportunities for its self-realization and self-development. In this regard, the educational process is built from the position of providing a choice, using which the student can build an individual educational track in accordance with their capabilities and needs (Tomlinson B. et al., 2020).

The expediency of a hybrid educational space as a pedagogical paradigm of a new innovative level is also confirmed by the fact that it provides:

- effective implementation of educational programs by integrating the advantages of traditional education and new digital educational technologies in online and offline education formats;
- readiness of the future teacher of a new format in the style of "liberal arts";
- the unity of cognitive, personal, activity aspects of the content of the goals of hybrid learning;
- clear structuring of the learning content, while presenting it in the form of "free development space, free time and space based on the HyFlex model".

The HyFlex format erases the spatial and temporal boundaries for students, puts forward new technical and methodological requirements for the organization of the learning process, assumes a different marketing strategy for recruiting students for educational programs implemented in a hybrid format, changes the idea of academic mobility of students; variability of learning, adaptation of the learning process to individual opportunities and needs of students (Klepikova A.G. 2009).

Introduction. At the session of the UN General Assembly, President of the Republic of Kazakhstan Kassym-Jomart Tokayev outlined the important mission of humanity "It is necessary to prevent the transformation of the largest failure of education systems in modern history into a "generation catastrophe" (Report of the President of the Republic of Kazakhstan K.K. Tokayev. 2020).

The evidence that innovative processes and trends have a significant impact on the Kazakh education system is undeniable. In this regard, there is an urgent need to create a comfortable educational environment for a new generation.

Digitalization is called a basic element and a key tool for achieving such an environment in the address of the head of Kazakhstan "Kazakhstan in a new reality: a time for action". Based on this postulate, the question on the agenda of higher educational institutions is natural: "What does the multitude of innovative developing digital platforms mean in essence and content?", "What are the fundamental differences between the tasks of a teacher and a student in traditional and hybrid learning?"

In our opinion, the main difference between pedagogical tasks in traditional and hybrid teaching is the role positions that the teacher occupies. The competence of the teacher is expressed in the ability to vary the designated formats of classes to achieve learning goals related to the organization of feedback, the use of neuroscience techniques.

Materials and methods. The process of meaningful construction of hybrid learning of modern students in the educational digital environment of the university is the concept of modeling hybrid learning in the context of innovative, pedagogical and digital technologies; integration of electronic multimedia educational materials, simulators and digital control and measuring materials; use of educational technological resources; introduction of changes in the field of digital technologies and the educational process, types of digital educational and methodological materials, forms of digital assessment.

The optimal implementation process is presented by us as scientific and methodological recommendations for modeling hybrid learning in the educational environment of a modern university.

An attempt to formulate our own research position involves explaining the principles of choosing the concept of hybrid learning Baizarova A.E., Alkanova O.N., Barannikova K.A. (Barannikov K.A. et al., 2023). Under their leadership, a joint research group (GSOM of St. Petersburg State University, MSPU and VTB Bank) studied the features of the deployment and implementation of a hybrid learning format, teaching methodology, technological solutions for a hybrid learning format.

Results and discussion. The results of the work are the white paper of hybrid learning. It seems to us that conceptualization and conclusions about the hybrid learning model, its possibilities and development options, features and requirements for technological equipment for the implementation of hybrid learning are clearly manifested in it.

The basis for modeling the hybrid form, according to the authors of the work "The White Book of Hybrid Learning" are: seamless, subjectivity and manufacturability (Fig.1). The "docking" of online and offline classes is provided by the "seamless" content of the discipline (its thoughtful design taking into account the capabilities, technologies used, the experience of the teacher and students) (Barannikov K.A. et al., 2023).

We believe that the technological effectiveness of the implementation of hybrid learning is associated with both the intensive development of modern technologies and their constant updating. Subjectivity is certainly considered in the organization of feedback, neuroimaging.

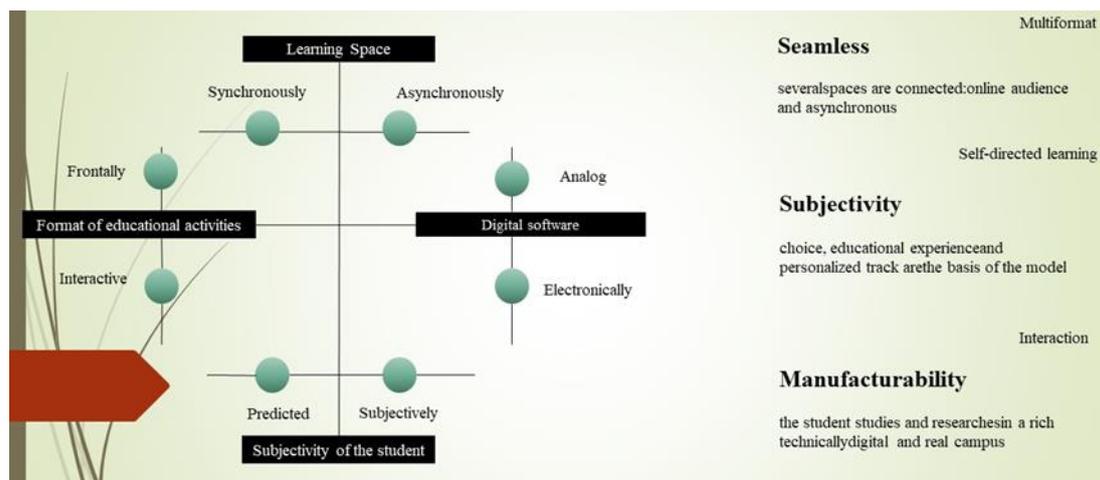


Figure 1. Features of hybrid learning (authors: Baizarov A.E., Alkanova O.N., Barannikov K.A.)

Within the framework of our project, the basis for modeling a hybrid educational environment for university students should be four interrelated components: cognitive-procedural, value-motivational, reflexive-activity, personality-developing with characteristic performance indicators:

1. cognitive-procedural (awareness of the directions of digitalization of various spheres of life, about innovative and communication technologies used in future professional activity; the presence of ideas about the principles of interaction of the future teacher with the digital environment; competence in the search and transformation of the professional digital environment; possession of technologies of optimal orientation and productive communication in educational and professionally-oriented hybrid environment);

2. value-motivational (acceptance of the values of scientific and technological knowledge in the field of digitalization, understanding their focus on the development of man, society and the state; consideration of the digital environment as an element of future professional activity; awareness of the importance of owning digital culture as a competitive advantage of a specialist; interest in the use of communication technologies for the creative transformation of objects of future work);

3. reflexive-activity (awareness of the need for a critical attitude to the data presented on the Internet; the ability to independently comprehend the importance of elements of a hybrid environment for future professional activity; compliance with cybersecurity rules in working with electronic information sources and digital communication; adequate representation of virtual identity in digital communication and constructive behaviors in hybrid environment; reflection on the success of the use of digital tools in educational and professional activities);

4. personal development (awareness of digital culture as a professionographic characteristic of a person; mastering and implementing principles and constructive behaviors in a digital environment in accordance with moral and ethical norms; focus on the creative use of electronic means in the development of a hybrid environment; manifestation of initiative and activity in the use of digital resources for the development of professional competencies and personal development; activity in an educational and professionally-oriented hybrid environment).

Expedient and effective in designing a hybrid educational environment for university students, we assume will be the use of the didactic designer I.N. Semenova, A.V. Slepukhin.

The didactic constructor is defined by the above authors as an artificially created conditional sample of a pedagogical phenomenon (process) in the form of a set of structural components, descriptions of these components and the connections between them:

- target orientation – the level of target categories and the formation of competencies and competencies;
- didactic significance, cognitive conformity, by target categories and cognitive processes;

– form of education, content and types of educational activities, types of communication, synchronicity, frequency of interaction, degree of individualization, independence, adaptation (Semenova I. N. 2013);

To model a hybrid educational environment for university students:

– it is important that teachers learn to discuss and identify ways to solve problems in teaching and learning, themselves undergoing training based on a hybrid approach;

– creation of educational communities: the division of new students into groups that meet regularly in classes conducted by a certain group of teachers; shorter and more visible feedback lines and discussion of ways to review information; creating conditions for teachers and students for a "dialogic field";

– permanent acquaintance of students with the theoretical ideas underlying hybrid learning, for a better understanding of the significance of this approach;

– a variety of interactions in hybrid learning: synchronicity of interaction – the possibility of combined learning directly or indirectly – by means of communication (technology);

– the use of multimedia tools to create a more developing learning environment that provides reliable assessment and individualizes practice, helps to provide feedback and forms critical thinking;

– transition to new forms of assessment: adoption of innovative forms of assessment, which means the transition from simple written tests to stimulating forms, such as portfolios, mutual and self-assessment of group activity skills;

– development and improvement of program quality monitoring processes: within these processes, the assessment of future teachers is one of the key components of the program;

– professional development of the teaching staff should be an integral part of teaching activities and occur through the same proactive application of hybrid learning.

Speaking about the serious pedagogical efforts required of university teachers applying hybrid learning, it is important to see the development of pedagogical qualifications of teachers interacting with self-directed hybrid learning of students.

Conclusion. There is no doubt that hybrid learning will be increasingly implemented in the educational system every year. At the same time, various educational technologies will be actively developed and implemented. This will increase the level of personalization, motivation and other factors of the effectiveness of the educational process.

Therefore, the relevance and relevance of the introduction of hybrid learning, its institutional and humanitarian significance is acute. A modern university needs to strengthen "cognitive mobility" – the processes of moving intellectual potential in digital forms of knowledge production, concentration of thinking, ideas and pedagogical skills in the development and implementation of strategies for seamless educational experience for online and offline students.

A significant methodological basis for distinguishing hybrid learning into an independent category is the availability of opportunities for the subjectivity of the student. Subjectivity means the active role of students in building their own learning format and adapting the content and technologies of learning to this format.

Today, the flexible hybrid model (HyFlex) is positioned as a progressive model of hybrid learning, providing students with complete freedom in choosing the format, time and speed of mastering the educational program. As a result, personalized and interactive learning environments are formed.

Thus, the basis for modeling a hybrid educational environment for university students should be four interrelated components: cognitive-procedural, value-motivational, reflexive-activity, personality-developing, which, in turn, provide an educational process for the formation of cognitive and special competencies of students, focused on the creation of their own educational products.

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