

# The Role of Immersive Technologies in Improving Professional-Methodical Training of Biology Teachers.

Raxmatova Salima Togaymuradovna

Biology lecturer at Termez State Pedagogics University

## Abstract

The article describes the digitalization of the system of continuous professional development of public education workers, the introduction of effective digital technologies online and offline for organizing the activities of national centers for training teachers in new methods, the consistent development of professional and methodological training of teachers, competency-based qualities and creative abilities. The possibilities, components, principles in the system of professional development and retraining of teachers-biologists, the improvement of their professional and methodological training in the digital environment, have been clarified.

**Keywords:** Digital technologies, continuous professional activity, information and communication technologies, system of retraining and advanced training of public education workers, modern education, digital knowledge, continuous professional development.

Digital technologies (RT) are rapidly developing and becoming more widespread and innovative, giving way to digital materials and services. Educators have the opportunity to create, control and use their information spaces on the basis of mutual cooperation. Their opportunities to control themselves and each other, to increase their interest in learning, and to understand educational activities (for students) have increased. The traditional form and possibilities of organizing the educational process are narrowing. Directing the educational process individually, focusing on results, is one of the conditions for the effective use of pedagogical possibilities of RT and methodical decisions based on their use.

Transformational processes in the field of education are developing all over the world. They are also very necessary and important for our local education. The digital economy requires every student (not just the best students) to develop 21st century competencies (critical thinking, independent learning skills, and the ability to fully utilize digital tools, resources, and services in their daily activities) being able to use existing knowledge creatively in a rapidly developing digital environment requires [1,2]. Digital transformation of education should solve this problem. From this point of view, the organization of continuous professional-methodical development of biology teachers in a modern digital educational environment in accordance with the requirements of the new modern national program requires unique approaches. According to M. Isabaeva, "to modernize the preparation of biology students for professional-pedagogical activities based on the requirements of modern science and technology development and to improve the quality and efficiency of education while developing their methodical competencies recognized by advanced foreign experiences" [3, 4] is achieved.

In the content of the research, the State policy of the Republic of Uzbekistan in the field of education, responsibility and adaptability, information and communication technologies and media literacy, development of communicative skills, issues of introducing inclusive education, self-development, thoughts directed at the formation of new knowledge, skills, qualifications and competencies related to their continuous professional development have been reflected [5, 6,7,9,11].

The transition to a competent approach in biology education and teaching places special demands on the professional and methodical training of the biology teacher. It is necessary to modernize the preparation of biology teachers for professional-pedagogical activities based on the requirements of modern science and technology development and to develop methodological competencies known to advanced foreign experiences [5,8,9,10]. The National program, created on the basis of international foreign experiences, is based on a competent approach and sets the following tasks for the biology teacher:

to expand and systematize the biological knowledge of biology teachers in accordance with the requirements of the DTS, to continuously get acquainted with modern methods of teaching biology;

Overcoming the obstacles that arise in the pedagogical activity related to the implementation of the national program, helping to eliminate shortcomings;

getting acquainted with international experiences in mastering modern biology teaching methods, experiences of advanced biology teachers;

mastering modern digital technologies, methods, forms and tools related to the implementation of teaching in a digital educational environment;

to create a methodical system in order to prevent difficulties in solving problems and exercises from biology, to constantly get acquainted with the system of tasks given in the newsletters of the state test center, etc.

It is worth noting that the system of methods developed and used in practice in the national centers for training biology teachers in new methods is used in harmony with the general methods of teaching biology and modern methods of educational technologies. They are based on didactic and interactive methods. The passive, active and interactive methods used here can be widely promoted.

Methodical system of continuous professional development of a biology teacher is created after the formation of a contingent of students who need professional development and retraining. Therefore, the activity of the students is a mandatory component of the methodical system of continuous professional development of the biology teacher.

Since the system of continuous professional development of a biology teacher cannot be realized without a teacher, according to the goals of this course, the methodological, psychological-pedagogical and methodical foundations of teaching the methodology of teaching biology, the teacher who has comprehensive information, the teaching of adults will be able to use specific tools, methods and organizational forms and organize his own pedagogical-methodical activity. Therefore, educational activity is a necessary component of this system.

Undoubtedly, the ultimate goal of the system of improving the professional-methodical training of a biology teacher is the formation of professional competence for the implementation of pedagogical activities in each student during the teaching process, that is, to achieve a certain result in accordance with the intended purpose during the course completion. must have achieved. Thus, the mandatory and final component of the system is the result of the course of continuous professional development of the biology teacher.

## References:

1. O'zbekiston Respublikasi Prezidentining "2022–2026 yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida"gi farmoni // <https://lex.uz/docs/5841063>
2. O'zbekiston Respublikasi Prezidentining **2020 yil 12 avgustdagi** "Kimyo va biologiya yo'nalishlarida uzluksiz ta'lim sifatini va ilm–fan natijadorligini oshirish chora–tadbirlari to'g'risida"gi PQ–4805–conli qarori. [www.lex.uz](http://www.lex.uz).
3. Davlatovna, Xayitova Shaxlo. "Paxta genetik yig'ish liniyalarining bekkross duragaylarida iqtisodiy belgilarni ishlab chiqish". Evrosiyo tadqiqot byulleteni 15 (2022): 149-153.
4. Xaitova, Sh va boshqalar. "O'zaro kesishishda paxta belgilari orasidagi korrelyatsion aloqalar darajasining merosi". Ruminiya Hujayra Biologiyasi Jamiyatining yilnomalari (2021): 3219-3225.
5. Davlatovna, Hayitova Shahlo. "Donadagi urug'larning oziqlanishi fonida qiymatlar F1-F2 iqtisodiy xususiyatlarning korrelyatsiyasi". Ijtimoiy va gumanitar fanlar bo'yicha Osiyo tadqiqot jurnali 11.10 (2021): 334-336
6. Davlatovna, Hayitova Shahlo. "Values on the background of nutrition on seeds in grains F1-F2 correlation of economic characteristics." Journal of Universal Science Research 1.10 (2023): 230-233.
7. Davlatovna, Hayitova Shahlo. "Values on the background of nutrition on seeds in grains F1-F2 correlation of economic characteristics." Journal of Universal Science Research 1.10 (2023): 230-233.
8. Baxriddinova R. U., Musurmonovich F. S. Distance Learning System in Educational System Instead, and Significance //Texas Journal of Multidisciplinary Studies. – 2023. – T. 21. – C. 11-13.
9. Normuminovna Q. D., Musurmonovich F. S. Bioecological Properties of Salvia Officinalis L //Texas Journal of Multidisciplinary Studies. – 2022. – T. 6. – C. 249-252.
10. Baxriddinova R. U., Musurmonovich F. S. Soybean-as a source of valuable food //Texas Journal of Multidisciplinary Studies. – 2022. – T. 6. – C. 165-166.

11. Musurmonovich F. S., Komiljonovna X. S., Qudrat o'g'li S. A. Some Photosynthetic Indicators of Soybean Varieties //Texas Journal of Multidisciplinary Studies. – 2022. – Т. 5. – С. 255-257.
12. Ergashovich K. A., Musurmonovich F. S. Some Characteristics Of Transpiration Of Promising Soybean's Varieties //The American Journal of Agriculture and Biomedical Engineering. – 2021. – Т. 3. – №. 05. – С. 28-35.
13. Salima R. RESEARCH ISSUES IN PROVIDING METHODOICAL TRAINING OF BIOLOGY TEACHERS //International Journal of Philosophical Studies and Social Sciences. – 2021. – Т. 1. – №. 3. – С. 102-105.
14. Salima R. Educational-methodical Complex Of The Discipline AS A Means Of Developing Self-educational Activities Of Students //Academicia Globe. – 2021. – Т. 2. – №. 10. – С. 26-30.
15. Salima R. RESEARCH ISSUES IN PROVIDING METHODOICAL TRAINING OF BIOLOGY TEACHERS //International Journal of Philosophical Studies and Social Sciences. – 2021. – Т. 1. – №. 3. – С. 102-105.
16. Рахматова С. БИОЛОГИЯ ФАН ЎҚИТУВЧИЛАРНИНГ ИННОВАЦИОН ФАОЛИЯТГА МЕТОДИК ТАЙЁРГАРЛИГИНИ ТАЪМИНЛАШНИНГ АЙРИМ МАСАЛАЛАРИ //Academic research in educational sciences. – 2021. – Т. 2. – №. 11. – С. 648-654.
17. Буриев С. и др. БИОТЕХНОЛОГИЧЕСКИЕ ОСНОВЫ ОЧИСКИ СТОЧНЫХ ВОД ЖИВОТНОВОДЧЕСКИХ КОМПЛЕКСОВ //Проблемы рекультивации отходов быта, промышленного и сельскохозяйственного производства. – 2015. – С. 239-240.
18. Буриев С. Б., Хайитов Ё. К., Рашидов Н. Э. Биотехнологические методы очистки возвратно-сточных вод с целью использования в сельском хозяйстве //Проблемы рекультивации отходов быта, промышленного и сельскохозяйственного производства. – 2015. – С. 237-239.
19. Рашидов Н., Джумаев Л., Уракова М. Способы очистки коллекторно-дренажных вод с помощью микроводорослей и их использование в сельском хозяйстве //Проблемы рекультивации отходов быта, промышленного и сельскохозяйственного производства. – 2015. – С. 241-243.
20. Elmurodovich R. N., Shavkatovna I. S. Essential Oil Plants //European journal of business startups and open society. – 2022. – Т. 2. – №. 4. – С. 63-67.
21. Elmurodovich R. N., Noridinovich Y. Z. Biology and Importance of Glycoside Medicinal Plants //European journal of business startups and open society. – 2022. – Т. 2. – №. 4. – С. 71-73.
22. Elmurodovich R. N., Ilhomovna E. G. Heart Blood Diseases //European journal of business startups and open society. – 2022. – Т. 2. – №. 4. – С. 60-62.
23. Rashidov N. DENGIZKO'L KO'LIDAGI BALIQLAR AKVAKULTURASI //ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz). – 2020. – Т. 1. – №. 1.
24. Rashidov N., Amonova G. BUXORO VILOYATI DORIVOR OSIMLIKLARNING EKOFIZIOLOGIK XUSUSIYATLARI //Центральноазиатский журнал образования и инноваций. – 2023. – Т. 2. – №. 11 Part 2. – С. 130-132.
25. Rashidov N., Mangliyeva M. BUXORO VILOYATI MANZARALI OSIMLIKLARNING EKOFIZIOLOGIK XUSUSIYATLARI //Центральноазиатский журнал образования и инноваций. – 2023. – Т. 2. – №. 11 Part 2. – С. 128-129.
26. Rashidov N. Buxoro viloyati kollektorlarining algoforasi //ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz). – 2020. – Т. 1. – №. 1.
27. Фозилов Ш. М. Периодичность роста и формирования урожая у внутривидовых форм пшеницы //Интернаука. – 2019. – №. 45-1. – С. 18-20.