



METHODOLOGY OF USING WEB-QUEST TECHNOLOGY TO IMPROVE THE CREATIVE ACTIVITY OF FUTURE BIOLOGY TEACHERS

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Annotation. *This article covers the methodology of using Web-quest technology in improving the creative activity of biology teachers in secondary schools.*

Keywords. *Information competence, interactive, protein engineering, biological material, interactive, biological research, experimental, biotechnology, ecosystems.*

The spread of globalism and active use of modern communications effectively implement the processes of informatization in education, study of ways of modern introduction information and communication technologies, the activity of justification of new forms, methods and means of education, in particular in the field of biological education. Improvement of the composition and content of training of priority personnel in the conditions of the state sovereignty of the Republic of Uzbekistan, the program of training of personnel in accordance with the provisions of the national legislation of the Republic of Uzbekistan.

One of the most important tasks in the preparation of a future biology teacher is its readiness to use interactive programs as one of the main powers of information competence, which makes it necessary to correct the existing methods of teaching biology, both the subject and the professional cycle.

Proceeding from the above, the training of pedagogical personnel in the system of higher pedagogical education is largely due to the use of new information technologies, the expansion of their capabilities, the informatization of the entire educational system due to intensive opportunities, and therefore the need to create a system of future education teachers, this is primarily concerned with the formation of their act. compensation. Consequently, the issue of improving the system of higher education with interactive software means, including the development of educational electronic publications and resources, educational programs, automated means of managing students' knowledge, computer textbooks and simulators, in particular urgency. The transition from theory to practice in the conditions of modernization of Education requires that future teachers not only have theoretical basis, in particular their competence in the field of biology opens wide opportunities for the development of health care and agriculture, but also new industries industry, new perspectives of technology, determines the need to improve biological education. At the same time, the cognitive activity of students in the process of using interactive software tools that enable them to activate education, and working with an electronic learning resource, provides the opportunity to receive interactive educational communication, various feedback (program to user actions in the form of response comments, tips, elements of systematization of objects, etc.); monitor vastudent'sactions program settings; ensure that recommendations; provide permanent access to information and explanatory information, etc.), engage in various educational activities (modeling, research, etc.), independently determine the time, speed, volume of work, complexity and sequence using the training



data on the screen, etc. In teaching on the basis of Interactive Software, biology plays an important role for teacher "assistant" role, organization, orientation and correction of students ' cognitive activities are based on the pedagogical use of interactive software tools. The system of training the future teacher of Biology in a higher educational institution. The foregoing became an object and factor for carrying out this study it was made to solve the above problems of modern pedagogy.

It is known that research in the field of development of teaching and improvement technologies of teachers prepare future biology teachers for the use of interactive teaching programs recognized research centers and universities: Oxford University (England), Harvard University (USA),

Norgenta north German Life Sciences Agency (Germany), University of Tokyo (Japan), Scientific Center Biological Studies (Russia).

In particular, the results of research on the development and implementation of multidisciplinary (an approach that allows to train not only scientists but also employees in the field of bioinformatics (Harvard) University), allow to study the skills of Biotechnology, DNA, protein engineering and bioinformatics

(University of Tokyo), the implementation of experimental biotechnology based on molecular cloning (nordenta north Germany life sciences agency), specializing in such important areas as biotechnological cell regulation in a computer microscope that allows retrospectiv monitoring of ecosystems and ecological Parasitology, genetic monitoring of natural populations of plants and animals, molecular mexanizms of stability and to contribute to the successful study of genome variability (Oxford University), research in the field of scientific nanotechnology, biological diversity of plants in the conditions of anti-dependence environmental loads and animals in droughts and water ecosystems (Scientific Center for Biological Research).

The study and analysis of scientific research in the Republic showed that the preparation for the future teacher for the effective use of educational biological materials using Interactive Software in many ways, carried out scientific research that reveals the issues of activation and introduction of developed personnel training pedagogical and information technologies in higher educational institutions, creation and introduction management models for the educational institutions of the Republic in the field of theory and methodology informatization of education; pedagogy of mutual relations, in which the conceptual foundations of pedagogy interact in the modern educational process (A.Abduqodirov [4], N.Azizxo'jaeva [5], U.Sh. Begimkulov [6], U. Tolipov [7], Sh.E. Qurbonov, E. A. Seytkhalilov, U. I. Inoyatov, Sh.S. Sharipov ,E.R.Yuzlikaeva [8]).Familiarization with the information of literature and the practical situation of the issue allows us to note the following scientific research, which reveals the issues of the activation and introduction of the preparation of an assessment of the professional training of a biologist pedagogical and Information Technology in higher educational institutions, All this made it possible to formulate the purpose of the study: to develop the need and scientific justification for the improvement of the teaching methods of the future biology teacher and the implementation of interactive programming.

For this purpose, the following research objectives were solved:

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- the content of Interactive Software for teaching has been identified as a tool for the specialist activities of the future biology teacher to increase the educational-cognitive activity of students;
- revealed didactic potential of web search technology to prepare future biology teacher for use interactive programming tools of teaching;
- the pedagogical conditions for achieving the readiness of the future biology teacher for interactive use were determined by the software through web search technology;
- higher education institutions, where design principles are developed for the use of interactive biology teaching aids;
- developed and tested the methodology for determining the readiness of the future biology teacher to use interactive programming tools of teaching through web search technology.

At the same time, the object of the study was the professional and pedagogical preparation of the future biology As a result of the research conducted, we found that the content of interactive software tools to provide lessons to future biology teachers with the opportunity to increase their professional competence, to ensure the improvement of the quality of Education; systematic use of interactive software tools determined to increase the effectiveness of the teaching methods of the future biology teacher with didactic possibilities of web-quest technology.

At the same time, the content, forms, methods, tools and ways of carrying out the preparation of students-potential biology teachers through web search technology for the implementation of Interactive Software has been identified; the possibility of applying design principles in the implementation of interactivity the means of teaching biology in universities have been scientifically substantiated.

The information obtained made it possible to design a teaching methodological provision for teaching.

The science of "biology" (the approach of educational programs of courses with modernized content within the framework of disciplines).

Along with this, the Electronic Program and methodological complex" biology", the system of courses, seminars and workshops that shape and develop skills and skills for new use in future biology teachers in the process of teaching biology, information technologies have been developed, the educational process of the higher educational pedagogical institution;

- an electronic textbook" information and Communication Technology in biology " has been created, which can be used in biology lessons through web search technology, and the results of the research can be carried out as follows biology teaching methodology course.

REFERENCES.

25	ISSN 2319-2836 (online), Published by ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW., under Volume: 11 Issue: 06 in June-2022 https://www.gejournal.net/index.php/APJMMR
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1. Ахмаджонова, М. С. (2015). Состояние окружающей среды и её влияние на здоровье человека. *Инновационная экономика: перспективы развития и совершенствования*, (2 (7)), 29-31.
2. Ravshanova, I. E., Ahmadjanova, M. S., & Shermatova, Y. S. (2020). Role of physiological and psychological characteristics of a person in life safety. *European Journal of Research and Reflection in Educational Sciences Vol*, 8(1).
3. Abzalov, M. F., Akhmedjanova, M., Jumaev, F. K., Yunusov, B., & Khagai, E. V. (2002). Genetic Analysis of a Mutant with homozygous Lethal Effect in *G. Hirsutum L. Acta Gossypii Sinica*.
4. Sadriyevna, A. M. (2021). SOME INVENTIONS FROM HUMAN STRUCTURE. Sadriyevna, A. M. (2021). USE OF MENTAL MAPS IN TEACHING COMPLETE HERITAGE IN SCHOOL.
5. Sadriyevna, A. M. (2021). SOME INVENTIONS FROM HUMAN STRUCTURE. Sadriyevna, A. M. (2021). USE OF MENTAL MAPS IN TEACHING COMPLETE HERITAGE IN SCHOOL. *European Scholar Journal (ESJ)*, 2(10), 116-117.
6. Sadriyevna, A. M. (2021). USE OF MENTAL MAPS IN TEACHING COMPLETE HERITAGE IN SCHOOL. *European Journal of Humanities and Educational Advancements (EJHEA)*, 2(10), 233-236.
7. Axmadjanova, M. S. (2021). HAYVONLARNING TUZILISHDAN ANDOZA OLGAN BAZI IXTIROLAR. *Scientific progress*, 2(3), 32-36.
8. Sadriyevna, A. M. (2020). SCIENCE OF GENETICS AND A BRIEF HISTORY OF ITS CREATION. THE CREATION OF THE LAWS OF HEREDITY.
9. Sadriyevna, A. M. (2020). SCIENCE OF GENETICS AND A BRIEF HISTORY OF ITS CREATION. THE CREATION OF THE LAWS OF HEREDITY. *European Scholar Journal (ESJ)*, 1(3), 14-15.
10. Ахмаджанова, М. С. (2020). USE OF MENTAL MAPS IN TEACHING COMPLETE HERITAGE IN SCHOOL. *Актуальные научные исследования в современном мире*, (5-7), 262-265.
11. Ахмаджанова, М. С. (2020). THE USE OF MENTAL MAPS IN TEACHING THE TOPIC OF EPISTASIS. *Актуальные научные исследования в современном мире*, (6-7), 9-11.
12. Ахмаджонова, М. С., Шониёзова, З., & Абдиева, О. (2015). Проблемы и перспективы развития экологического воспитания. *Инновационная экономика: перспективы развития и совершенствования*, (2 (7)), 31-33.
13. ТОШПУЛАТОВА, Д. С. (2021). РАЗВИТИЕ КРЕАТИВНЫХ СПОСОБНОСТЕЙ УЧАЩИХСЯ НА УРОКАХ БИОЛОГИИ. In *ОБРАЗОВАНИЕ. НАУКА. КАРЬЕРА* (pp. 16-19).
14. Gapparov, A. M., Toshpulatova, D. S., & Umarxonova, H. V. (2021). Phytochemical Study of the Plant *Convolvulus Pseudocanthabrica* Growing in Fergana Region. *European Journal of Agricultural and Rural Education*, 2(5), 10-11.
15. ТАШПУЛАТОВА, Д. С., & ХАЛИМОВА, М. Р. (2017). Редкие и исчезающие растения. In *Будущее науки-2017* (pp. 330-331).
16. Yusupov, I. M. (2021). Scientific and practical experience in studying ecological problems. *ASIAN JOURNAL OF MULTIDIMENSIONAL RESEARCH*, 10(5), 563-568.

17. Yusupov, I. (2021, July). METHODS OF DETERMINING THE MINERALIZATION OF THE SOIL. In *Конференции*.
18. Mamirovna, T. O., Komiljonovich, P. M., & Rasuljonovich, M. R. (2020). HEPATOPROTECTIVE POTENTIAL OF POLYPHENOLS IN CCL4-INDUCED HEPATIC DAMAGE. *European science review*, (11-12), 3-8.
19. Tudiyeva, O. M., & Ibragimova, D. A. (2019). USE OF INNOVATIVE TEACHING METHODS TO IMPROVE "REPRODUCTIVE HEALTH". *Scientific Bulletin of Namangan State University*, 1(5), 294-299.
20. ТУРДИЕВА, О. М., ТОЖИБОЕВА, С. Х., & ТУРСУНОВА, Ш. А. (2015). О ПРЕДОТВРАЩЕНИИ УСТАЛОСТИ У ШКОЛЬНИКОВ. In *БУДУЩЕЕ НАУКИ-2015* (pp. 422-426).
21. ТУРДИЕВА, О. М. (2015). ОХРАНА ОКРУЖАЮЩЕЙ СРЕДЫ КАК СРЕДСТВО ФОРМИРОВАНИЯ БИОЛОГИЧЕСКОЙ КУЛЬТУРЫ. In *БУДУЩЕЕ НАУКИ-2015* (pp. 419-422).
22. Toshmatova, S. R., & Usmonov, S. O. (2021). Biological aspects of human adaptation to environmental conditions. *ACADEMICIA: An International Multidisciplinary Research Journal*, 11(3), 2185-2188.
23. Kalonova, M., Tashmatova, R. V., & Mukhamadiev, N. K. (2020). Preparation of melanin from silkworm wastes and studying its physical and chemical characteristics. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, 1(2), 8-12.
24. Тошматова, Ш. Р. (2016). Показатели достоверности и нарушения подразделений экологических ниш тлей. *Молодой ученый*, (20), 50-53.
25. Meliboyev, T. T., & Ibragimova, D. A. (2021). TECHNOLOGY FOR INTRODUCING A HEALTHY LIFESTYLE INTO THE MINDS OF YOUNG PEOPLE.
26. Adxamovna, I. D., & Turgunovich, M. T. (2022). REPRODUCTIVE HEALTH IS THE GUARANTEE OF A HEALTHY FAMILY. *Modern Journal of Social Sciences and Humanities*, 4, 374-377.
27. Ravshanova, I. E., Ahmadjanova, M. S., & Shermatova, Y. S. (2020). Role of physiological and psychological characteristics of a person in life safety. *European Journal of Research and Reflection in Educational Sciences Vol*, 8(1).
28. Равшанова, И. Э., & Шерматова, Ё. С. (2020). ТАЛАБАЛАРНИНГ ПСИХОЛОГИК САЛОМАТЛИГИНИ ТАЪМИНЛАШНИНГ АСОСИЙ МЕЗОНЛАРИ. *Интернаука*, (3-2), 87-89.
29. Ravshanbek, J. (2022). CREDIT-MODULE SYSTEM, ITS BASIC PRINCIPLES AND FEATURES. *Yosh Tadqiqotchi Jurnal*, 1(4), 304-309.
30. O'G'Li, J. R. M. (2022). METHODS OF ORGANIZING INDEPENDENT STUDY OF STUDENTS IN THE CREDIT-MODULE SYSTEM. *Ta'lim fidoyilari*, 25(5), 93-97.