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METHODOLOGICAL FEATURES OF USING INTERACTIVE EDUCATIONAL TECHNOLOGIES IN TEACHING ZOOLOGY

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Annotation: The paper involves methodological properties of the use of interactive educational technologies and active methods, as well as specific aspects of increasing the effectiveness of education in the process of teaching zoology by future biology teachers studying in higher educational institutions.

Keywords: educational effectiveness, interactive educational technologies, active methods, vertebrate zoology, taxonomy, mammals, insects, invertebrates.

Introduction. In global scientific and research institutions, alongside educators engaged in pedagogical activities, the improvement of the professional competence of future teachers, the systematic organization of their pedagogical activities based on innovative approaches, and the effective implementation of interactive educational technologies in the development of professional skills are prioritized from the perspective of the process. In particular, in order to form and develop the innovative activity of future teachers, the ability to think creatively, continuous independent work on oneself, conditions for independent learning, self-achievement and objectively analyze their shortcomings, large-scale practical research is being organized. In countries such as England, Japan, the USA, Germany, South Korea, Singapore, and Russia, the continuous systematic development of students' innovative activities is defined as a mandatory component of professional-methodological and pedagogical activities.

In recent years, a solid legal framework has been created in our country's education system to improve the professional and methodological training of future teachers based on foreign experience. In particular, Decree No. UP-5712 of April 29, 2019, "On Approval of the Concept for the Development of the Public Education System of the Republic of Uzbekistan until 2030," and Decree No. UP-60 of January 28, 2022, "On the Development Strategy of New Uzbekistan for 2022-2026" [1], It is advisable to review the Resolutions of the President of the Republic of Uzbekistan No. PP-3775 dated June 5, 2018, "On additional measures to improve the quality of education in higher educational institutions and ensure their active participation in the large-scale reforms being carried out in the country," No. PP-4884 dated November 6, 2020, "On additional

measures to further improve the education system," and No. PP-289 dated June 21, 2022, "On measures to improve the quality of pedagogical education and further develop the activities of higher educational institutions training pedagogical personnel."

As the scientific and methodological analysis of our research shows, although extensive research has been conducted to improve biology teaching methodology, interactive educational technologies in teaching zoology have not been sufficiently implemented in the process of acquiring zoological knowledge. This necessitates conducting research to improve students' knowledge of the animal world. Activating students' cognitive activity during the study of zoology, correctly organizing cognitive independence, and studying the topic covered in the credit-module system determining the level of development of acquired knowledge, skills, and abilities, systematizing them, monitoring and evaluating acquired knowledge, skills, and abilities on a new topic, as well as implementing the effective use of interactive educational technologies in the process of studying a new topic into educational practice, is one of the pressing issues of today.

Content. In order for a future biology teacher to effectively utilize interactive educational technologies used in their future pedagogical activities during the organization of zoology lessons, they must not only fully master the content of zoology but also form and develop the methodological aspects of using interactive educational technologies and their specific characteristics. The word "interactive" is an English word meaning "inter" - mutual (jointly) and "act" - to carry out an action, and its general content is interactive - that is, to carry out an action together. This type of behavior can be understood empirically as follows: It is expressed as "student-teacher" and "student-student." When using interactive educational technology in the pedagogical process, professors and teachers act as participants in the organizational part of educational and cognitive activity, while students act as subjects of this educational and cognitive activity. Interactive education is a special organizational form for the formation and development of students' educational and cognitive activities in the learning process, ensuring the student's participation as a subject in interactive learning through cooperation with one another. Interactive educational technologies used in the educational process are of great importance in situations involving the modeling of life processes, the use of didactic game exercises, and the resolution of existing problems based on the establishment of mutual cooperation.

Teaching based on the principles of interactivity, along with fostering a high level of activity, creativity, and independence in students' mastery of the knowledge being studied, allows for the full achievement of educational goals during the learning process [3-65 p.]. In the process of teaching zoology, as in all subjects, interactive educational technologies and active methods that serve to actively organize students' educational and cognitive activities and increase educational efficiency can include many types such as "Venn Diagram," "SWOT Analysis," "Concept Analysis," "Assessment," "Sinkway," and "Case Study." Future biology teachers must be able to distinguish between types of interactive educational technologies and active methods used in organizing all forms of instruction, based on the content of the topic being studied. Teaching zoology based on the above considerations we will focus on the methodology for using some interactive educational technologies and methods used in the educational process.

SWOT analysis. The main idea of this method in educational practice is to identify solutions to existing problems through the analysis and comparison of acquired theoretical knowledge and practical experience, to reinforce acquired knowledge, to evaluate the results obtained, and to form independent, critical, and creative thinking skills [4, p 24].

S – (strength) – strengths. **W** – (weakness) – weaknesses.

O – (opportunitu) – potential aspects. **T** – (tnreat) – existing obstacles.

As an example, in the process of preserving and protecting mammal species listed in the Red Data Book of Uzbekistan, record their strengths and weaknesses, internal capabilities, and external threats hindering their conservation in this table (Table 1).

Table 1

S	Strengths of preserving and protecting mammal species listed in the Red Data Book of Uzbekistan	The preservation of rare and endangered species of mammals in Uzbekistan will be achieved
W	Weaknesses in the conservation and protection of mammal species listed in the Red Data Book of Uzbekistan	The decline in specialized scientific research on the conservation of rare and endangered mammal species in Uzbekistan
O	Possibilities for the conservation and protection of mammal species listed in the Red Data Book of Uzbekistan	Organization of awareness-raising work among the general public regarding the conservation of rare and endangered species of mammals in Uzbekistan, and the formation of scientific imagination.
T	Barriers (external)	Reproduction of species and excessive amount of illegal hunting by the population

In particular, it is recommended to use the assessment on the topic "Brief description of the main orders of placental (Placentalia) infraclasses" [2, p. 450], which is included in the vertebrate zoology textbook. It is advisable to score up to 5 points for each correct answer provided by students (Table 2).

Table 2.

Test Determine how many orders the Placentalia subclass is divided into. A) 5-6 B) 22-23 C) 17-18 D) 11-12	**Comparative analysis** Provide a comparative analysis of the differences between the orders of insectivores and imperfectives.
Symptom Systematics of the Infraclasses of Placentals.	**Practical skill** List 3 families belonging to the orders of insectivores and imperfectives, as well as the species belonging to these families.

In pedagogical higher educational institutions, the use of the cluster method in zoology lessons is of great practical importance for systematizing and ensuring the strength of students' knowledge in zoology.

Conclusion.

Based on the effective use of interactive educational technologies in the process of enhancing the knowledge of future biology teachers studying zoology in higher educational institutions, the following opportunities arise:

in the process of implementing all forms of learning, students work in cooperation with a group or team; a creative approach in the process of solving problems encountered when studying

topics included in the textbook; students fully reveal their internal capabilities and abilities during the study of the fundamentals of science; independent, logical, creative thinking, generalization of ideas, the ability to select the most important among them; monitoring and evaluating their educational and cognitive activities during classes; and in the process of mastering knowledge, awakening full confidence in their capabilities and strength; acquires the skills to make correct decisions in various unexpected situations encountered during training.

Therefore, during their pedagogical activities, every professor-teacher must, as far as possible, eliminate the use of interactive educational technologies in lesson design, thereby laying the foundation for the formation and development of a high level of knowledge, skills, abilities, and competencies.

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