ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-5206, Impact Factor: 12,23
American Academic publishers, volume 05, issue 12,2025

Journal: https://www.academicpublishers.org/journals/index.php/ijai

CONTINUITY AND CONSISTENCY IN BIOLOGY TEACHING

Urolova Nafisa Shavkat kizi
Termez State Pedagogical Institute, 70510105 -
Methodology of teaching exact and natural sciences (biology),
2nd year master's student

Abstract: This article analyzes existing curricula and teaching-methodical materials, identifies problematic areas in the educational process. Specific recommendations are given on optimizing the structure of the biology course, introducing innovative pedagogical technologies and methods that serve continuous education and the development of students' scientific thinking.
Keywords: biology, technologies, curricula, educational content, interdisciplinary connections, continuous education, consistency, continuity.

In the Middle Ages, biology teaching in Europe was primarily conducted in monasteries and universities. The medieval school Medica, based on the teachings of Aristotle and Hippocrates, was popular. However, the artificial theories associated with alchemy did not have a significant impact on practical education.
The Renaissance of the 16th and 17th centuries led to a renewed interest in nature and a systematization of knowledge. The study of anatomy became more practical, and the work of scientists such as Andreas Vesalius began to have a positive impact on the teaching of biology.
Currently, biology teaching faces a number of new tasks, such as integrating ecological knowledge, considering ethical issues in biology, and developing critical thinking skills in students. Thus, the teaching of biology has come a long way from the philosophical assumptions of antiquity to a complex and highly organized scientific discipline that includes various areas of knowledge and methodology. The content of “Continuity and Consistency in Biology Teaching” may look like this:
In pedagogy, the concept of continuity is considered as the establishment of a rational connection and consistency between different stages, levels and forms of education, ensuring the integrity and continuity of the educational process (V.S. Lednev, M.N. Skatkin, V.V. Kraevsky, I.Ya. Lerner). Consistency, in turn, implies the logical structure of the educational content, ensuring a gradual increase in the complexity of the material and the gradual development of concepts.
The theoretical foundations of educational continuity and consistency represent the basic concepts that underlie the development of educational practices and curricula at all levels. These foundations help to organize the educational process in order to ensure the most effective acquisition of knowledge and skills. The main aspects of the theoretical foundations of educational continuity and consistency are summarized below.
1. The concept of educational continuity
Continuity of education is the principle that the educational process should be organized in such a way that it occurs without sudden interruptions and breaks. This includes:
- gradual deepening of knowledge: learning should begin with simple basics and gradually move on to more complex concepts.
- the connection between levels of education: continuity implies the interaction between different levels of education (preschool, school, higher and further education).

ORIGINAL ARTICLE
INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE
ISSN: 2692-5206, Impact Factor: 12,23
American Academic publishers, volume 05, issue 12,2025
Journal: https://www.academicpublishers.org/journals/index.php/ijai

- Skills development: Continuing education should include not only the acquisition of theoretical knowledge, but also the development of practical skills necessary to apply this knowledge in life.

2. The concept of sequential education

Sequential education implies the logical structure and organization of the educational process according to a certain sequence of topics, concepts and skills. The main aspects include the following:

- Logical structure of educational material: Topics should be organized in such a way that subsequent knowledge builds on what has already been mastered.
- Adaptation to the levels of students: Educational programs should take into account the initial knowledge and skills of students and provide materials appropriate to their level.
- Multi-level approach to learning: The program should provide the opportunity to repeatedly study topics and study them in depth at different levels.

3. Psychological and pedagogical foundations

- age-related educational features: taking into account the psychophysiological development of students at different levels of education helps to adapt the content and delivery methods.
- Constructivism theory: focusing on active learning of students through experience and interaction with the environment. - Multiple intelligence theory (G. Gardner): Taking into account different learning styles and intelligences of students, which helps to achieve deeper and more meaningful learning.

4. Integration of interdisciplinary approaches

Modern trends in education help to integrate knowledge from different fields:

- Connections between disciplines: For example, biology can be combined with chemistry, physics and ecology to create interdisciplinary topics.
- Development of critical thinking: Students learn to apply knowledge from different fields to solve complex problems.

5. Practical aspects of implementation

- Curricula and curricula: develop curricula that ensure continuity and consistency of education.
- Teaching methods: Use a variety of methods and technologies (laboratories, projects, online courses) to maintain student interest and engagement.

6. Results and assessment

- Monitoring and feedback: Regularly assess student performance and adjust programs based on their successes and problems.
- Use assessment tools: Evaluate not only the final results, but also the learning process.

Thus, the theoretical foundations of continuity and consistency in education serve as an important foundation for developing effective programs and approaches to teaching. Their implementation allows you to create a more holistic and harmonious learning environment that helps students develop a deep understanding of the subject and develop important skills.

In order to improve the mechanisms for ensuring the continuity and consistency of biology teaching in secondary schools, a methodological system aimed at identifying the talents, abilities, competencies and interests of students was developed, based on its integrative properties, the use of interactive software tools based on the content of interdisciplinary connections in teaching natural sciences and the mechanism for its implementation in practice;

the content of the pedagogical and psychological approach to interdisciplinary connections in lessons was improved, in particular, the forms, methods and means of establishing interdisciplinary connections were identified in improving the mechanisms for ensuring the continuity and consistency of biology teaching in secondary schools;

ISSN: 2692-5206, Impact Factor: 12,23
American Academic publishers, volume 05, issue 12,2025
Journal: https://www.academicpublishers.org/journals/index.php/ijai

recommendations were developed to improve the mechanisms for ensuring the continuity and consistency of biology teaching in secondary schools.

Modern methods and technologies for teaching biology help create a more interactive and interesting learning environment. This will allow students not only to master knowledge, but also to develop important skills necessary for their future professional activities.

Following these recommendations can create a more dynamic and effective learning environment that will contribute to the in-depth study of biology and develop critical thinking in students

This table of contents allows you to systematically organize the material and present the main aspects of studying the topic of continuity and consistency in biology teaching.

References

1. Decree of the President of the Republic of Uzbekistan "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan".// Collection of Legislative Documents of the Republic of Uzbekistan. -T., 2017. -P.39.
2. Mirziyoyev Sh.M. The rule of law and ensuring human interests are the guarantee of the country's development and the well-being of the people. - T.: Publishing House "Uzbekistan", 2017. - P. 24.
3. Zverev, I.D. Mejsubjectnye svyazi in modern school. - M.: Pedagogy, 1981. - 160 p.
4. Zverev, I.D., Myagkova A.N. Obshchaya metodika prepodavaniya biologii: Ucheb. posobie dlya studentov ped. in-tov po spets. No. 2121 "Biology". - M.: Prosveshchenie, 1985. - 262 p.
5. Pakulova, V.M., Kuznetsova V.I. Methodology of teaching biology: Uchebnoe posobie dlya studentov pedagogicheskih vuzov. - M.: Prosveshchenie, 1990. - 280 p.
6. Stepanov, V.G. Preemstvennost v obuchenii biologii v usloviyax realizatsii FGOS // Biology and school. - 2015. - No. 2. – S. 28-32.
7. Sukhova, T.S. System of biological education in elementary school: analysis of problems and perspectives // Biology in school. - 2017. - No. 9. – S. 3-8.