TECHNOLOGY OF ORGANIZATION OF INTEGRATED LESSONS IN TEACHING BIOLOGY

Narbutaev Hushbak Babanazarovich
Termez State University
Candidate of Pedagogical Sciences, **UZBEKISTAN**

ABSTRACT

The interconnected development of various events in nature and society can be understood through the integration of science. Separately studying of the natural and social sciences leads to the formation of a dispersed knowledge about them. That knowledge does not allow the formation of ideas about the unity of nature and society, the role of humanity in nature, the need for a systematic approach to explain and understanding the nature of global problems facing for human. The article focuses on the importance of integrated lessons in teaching biology, its forms and methods, and the methodology used in the teaching process.

Keywords: Integration, nature, lesson, biology, form, method.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Therefore, the basis of integration is the interdisciplinary relationship and finds its development in the idea of integration. The study of integrated disciplines is seen as a factor that ensures the integrity and knowledge of future professionals.

It is well-known that increasing the number of academic disciplines does not always yield positive results. This is because modern technology requires not only the numbers, but it shows also the quality.

The main goal of education integration is to create a good understanding of the nature and society in the secondary school and to shape their approach to the laws of their development. Therefore, it is important to show a school student from multiple perspectives on science or event. Mastering basic subjects and teaching inter-disciplinary and interdisciplinary approaches to understanding regularities in the universe is a methodological framework for the integration of education. This can be achieved by returning to the concepts of the various lessons many times, deepening and enriching them, and identifying important knowledge that can be understood by this age. Thus, any lesson that is included in a group of concepts related to the subject matter can be taken as a basis for integration.

Currently, there are many ideas about integrating school education. In particular, a school student embodies the whole world. For him, integration of biology, chemistry, physics and other academic disciplines develops students' scientific outlook and thinking.

Therefore, education integration is a requirement of modern. How to solve this problem, what is its essence?

Academic I. D. Zverev tried to cover the theoretical and pedagogical bases of nature protection in his monograph. According to I. D. Zverev, interdisciplinary communication develops students' thinking abilities, increases their independence. It also contributes to the development

of eco-culture with the development of their skills and abilities along with the development of their interest in science [1].

I. T. Suravegina researched to enhance the teaching of biology through the use of interdisciplinary links in biology classes, to increase students' interest in biology and other sciences. From his point of view, it is difficult to imagine teaching biology without linking it with other disciplines. He claims that proper interdisciplinary communication and skillful use of interdisciplinary approaches can help to shape students' knowledge about nature [2].

Biologist- Methodist Scientists Verzilin and V.M. Korsunskaya have shown that interdisciplinary connections can be two types: horizontal and vertical. Scientists stated that horizontal interdisciplinary communication is made between classes taught in one class, one-quarter, and one-half year, and vertical interdisciplinary links through the use of knowledge acquired in previous classes.

Also, some methodologists of Uzbekistan have done some work to study interdisciplinary links between disciplines. In particular, the interdisciplinary approach in teaching biology by AT A.T. Gafurov , S. S. Faizullaev researches the problems of interdisciplinary links in teaching the basics of genetics and selection, the use of integration in the training of pedagogical cadre.

Factors that contribute to an active mental activity in the integration of academic disciplines are the combination of disciplines, the combination of teacher and student behavior, and the choice of content and methods, taking into account the age of children.

There are certain opportunities for integration in all school subjects, and its integrated organization depends on a number of conditions. Therefore, Teachers and Methodists should consider all these considerations before developing a new program.

For instance, it is possible to organize discussions with students, organize group competitions and organize questions by organizing integrated lessons. The main purpose of using these types of lessons is to activate students in the learning process and achieve a high level of learning material. This technology teaches students for visualizing the world, to connect with practice, to memorize theoretical principles, to understand the harmony of individuals and societies, to achieve diversity of ideas, and to understand the ways of self-development.
The integration of subjects is divided into the following components:

- Object Integration - The embodiments of an object in different disciplines are included in the same topic, section or course;
- Conceptual integration includes topics or courses in which general concepts are revealed;
- Theoretical integration - general theories of biology, chemistry and physics are studied;
- Methodological integration - includes integration of separate methods of scientific knowledge;
- Interdisciplinary problems in problem integration are covered and solutions are explained;
- Integration of activities will include discussion of problem solving, working in small groups, development of interdisciplinary action plans, preparation of projects;
- Creation of technical products based on processes that are important for practical integration.

Integration of disciplines in the teaching of biology, that is, the interdisciplinary connection is an important didactic condition of the educational process, which carries out the following tasks:

1. The scientific and consistency of the learning material which is the main source of knowledge for students, provides a didactic connection of concepts learned in other natural sciences.
2. Students' interest in learning is enhanced and mental development accelerates.
3. Integration of natural sciences, that is, the gradual and consistent implementation of interdisciplinary links in teaching, will enhance the students' scientific outlook.

The interconnected development of various events in nature and society can be understood only on the basis of interdisciplinary links. Separate study of the natural and social sciences leads to the formation of diffused knowledge about them. Such knowledge does not allow the understanding of the role of humanity in nature and the need for a systematic approach to understanding and rationalizing the nature of global problems facing humanity.

The use of chemical and physical concepts in the classroom will encourage high school students to learn about biological knowledge, as well as the interdisciplinary link in their teaching, to understand the nature of the processes and changes in nature, and to provide a comprehensive picture of the general and private concepts in these disciplines. It is important for the formation of biological concepts in students through the application of practical skills and abilities enough[3].

Concepts of biology that form the basis of interdisciplinary approaches to teaching students are divided into:

1. The generality and continuity of events that occur through the interconnection of inanimate and vibrant nature.
2. Interdisciplinary interconnection through the use of chemical and physical laws, as well as biological laws, in understanding life processes and variations in living organisms, in addressing problem-solving tasks.
3. The need to study events and positions in the material world, the causes of environmental disasters, and the measures to prevent them.
4. Ways to study and apply the laws of nature by man effectively and efficiently.
5. The causal links in the interconnection and development of natural phenomena.
6. The human being is a social being.
7. Conservation is the key to saving lives on the planet.

Interdisciplinary communication develops students' thinking abilities, increases their independence. In addition to developing their interest in the sciences, they also form labor skills and qualifications and contribute greatly to the development of environmental culture.

Direct and active communication with nature improves the process of mental activity organized by schoolchildren. This affects students' thinking, creates an interest in learning about nature and improves their mental abilities.

As an object of cognitive activity, nature is able to provide schoolchildren with sufficient information about natural events, their features, their interrelationships, and the importance of the natural environment in their lives.

In particular, the introduction of chemical and physical concepts in the teaching of biology to schoolchildren creates a careful attitude to the environment and nature, and the

interconnectedness of living and inanimate nature. So they also create an interest in learning about nature.

The theoretical analysis of the content of teaching subjects in general education schools shows that they contain some or all of the educational material that informs biological knowledge. Each of them plays an important role in the implementation of minor tasks and encourages students to get closer to nature and to interact with it.

However, it is also worth noting that the opportunities for learning subjects in developing students' interest in learning about nature are not the same. The leading role in biology, chemistry and physics, as well as the formation of biological knowledge in their structure, based on a particular system and sequence, allows students to gain grounded information about natural phenomena and processes and developing an interest in nature.

When the school student observes an object or event in its natural environment, they perceive it not as an individual object but as an essential part of an entire ecosystem, seeking to understand the interconnectedness and interrelationship between them. As a result, students will be able to distinguish specific features of a particular object that they are referring to compare them with interacting subjects and find answers to their questions based on grouping in common.

Integrated education offers movement from simple to complex, from knowledge to science, from confusion to harmony and creativity. The child will be acquainted with the "bricks" of creation, addressing the beginning of the universe and the appearance of man on the earth. He seeks to uncover the words the mystery of numbers, the green signs , the mysteries of ancient legends. He travels through space and time. So Integrated education offers movement from simple to complex, from knowledge to science, from confusion to harmony and creativity. The child will be acquainted with the "bricks" of creation, addressing the beginning of the universe and the appearance of man on the earth. He seeks to uncover the words the mystery of numbers, the green signs, the mysteries of ancient legends. He travels through space and time.So the child feels the beauty and variety of the universe that needs to be opened every day.

Implementation of interdisciplinary linking between biology, chemistry and physics in the teaching and learning process helps students to understand the essence of causal linkages in the analysis of facts, phenomena and processes, and the application of previously acquired knowledge in new situations.

It has mentioned that a comprehensive secondary school curriculum, including biology and chemistry teaching, will provide a meaningful analysis of all three syllabus, identify synchronous and asynchronous links, and address the age and psychosocial characteristics of students. As a result, there was a need to apply it in the educational process.

The didactic nature of the integration of academic disciplines is dictated by the need for the development of laws and regulations for pedagogical activities that allow to identify conceptual structures and methods for the formation of new knowledge in different disciplines.

The use of interdisciplinary mechanisms in the learning process plays an important role in developing students' independent thinking skills. By summarizing the imagination and knowledge gained during the study of biology, the students are given certain skills and abilities based on interdisciplinary interactions in the social and humanitarian series [4].

It is necessary to create a methodological and didactic infrastructure for scientifically substantiating interdisciplinary links in the learning process, to ensure the interconnection of academic disciplines using innovative pedagogical technologies used in the educational process. The effectiveness of the interdisciplinary approach to the learning process is largely dependent on the creative research and content of the teachers of the subject. The following results can be achieved by teaching interdisciplinary teaching in secondary schools:

- optimization of the curricula and the system of curricula of general education;
- the decline in a number of subjects in secondary schools will provide opportunities for learning or developing physical and learning languages at an early age;
- school- age students will develop the skills of independent and logical thinking, abstract thinking;
- students will gain a holistic understanding and concepts of nature, society and science, life skills.

In order to ensure interdisciplinary links in the learning process, the sources of interdisciplinary disciplines must be carefully selected . Only then will the scientific and practical level of the study material be increased.

Thus, in the process of integrating biology with physics and chemistry, it should aim to gain a deeper understanding of nature by students. Modern science and education systems rely on the process of interdisciplinary integration to create a holistic theory of human and personality development.

In a nutshell , the importance of using integrated education in the learning process is given. The structure of integrated lessons is required at all stages of the study, for the accuracy and consistency of the materials studied, the careful study and the logical relationship between them. This can be accomplished through the compactness of the curriculum in the program, as well as by introducing some of the more modern methods of organizing study material.

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