

INNOVATIVE AND PEDAGOGICAL TECHNOLOGIES USED IN THE DEVELOPMENT OF STUDENT COMPETENCIES ON THE BASIS OF A SYNERGISTIC APPROACH

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ABSTRACT

This article describes information about innovative and pedagogical technologies used in the development of student competencies on the basis of a synergistic approach to teaching biology in schools.

Keywords: Synergistic approach, competencies , innovative – pedagogical technologies , interactive, work in small groups , chain of terms , term sheet, Keys, insert, waster, venn diagram, mental attack , fast games and game exercises , pedagogical technology , biology course .

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

In order to activate the cognitive activity of students in the study of biology, it is advisable to determine the knowledge, skills and qualifications of students mastered on the past topic of the lesson, systematize ulami, control and evaluate the acquired knowledge, skills and qualifications on the new topic, as well as use interactive technologies in the process of studying a new topic. In the teaching of biology, it is recommended to use interactive technologies "Keys", "Insert", "Waster", "Venn diagram", "mental attack", "work in small groups", "chain of terms", "sheet of Terms", fast games and various forms of Game practice. The use of "Keys" in the teaching of problematic issues in the content of the biology course has a high effect. "Keys" - case studies is derived from English, meaning process or situation. Initially, this technology was used in the training of a businessman and entrepreneur, depending on the content of the science currently being taught, living organisms go to gan process, where problem situations are created and educational discussions are organized to solve problems on external and internal, objective and subjective factors. Evolutionary concepts in the content of the program have led in the teaching of biology, as well as such topics as the controversial "emergence and development of plants", "the emergence and development of the animal world" can be used in teaching.

Teacher to use keys in the educational process:

- identify a problematic topic in the content of the program, draw up problematic questions and tasks for teaching these topics;
- determination of the organization of independent work of problematic questions - tasks individually or in small groups of students according to the degree of difficulty during the lesson;
- planning ways to solve these problems and participate in the debate through educational discussions of students ' cognitive activity;
- it is necessary to create a final thought in educational discussions organized on the basis of problematic questions and tasks.

It is recommended to use the Insert on topics where only the study of factual materials in the content of the program is intended.

Insert is a pedagogical technology at the local level and is used by students in order to lay the groundwork for their understanding of the main idea and factual materials in the educational material. In order for the student to develop skills to work with the help of Insert, educational materials and a special table are distributed to them, which will be studied. It is recommended that students study each sentence and mark it on a special table using specific symbols. If the information given in the sentence corresponds to the knowledge acquired to this day, "I know" - V, if the data is understandable and new, then "I approve" +, if the data does not correspond to the knowledge acquired by students, then "it is necessary to learn" -, if students feel difficulties in mastering educational materials, then "I did not understand" ? puts its mark.

Custom table used in insert

	"I know" V	I support +	«Must learn» -	«I didn't understand»?

The following requirements must be observed when using the insert in the educational process:

- students are grouped into a small group, but the Insert tool initially allows each student to work individually and complete a schedule, comparing their thoughts once the group members have completed work within a set time frame;
- ensuring that the characters of the small group members in the table are the same through the training debate, that is, achieving the same over the next two columns in the table;
- the teacher should organize a training contest based on questions and assignments compiled on the basis of educational material and signs of the members of the small group in the table.

The advantage of working with the Insert is that the information provided by the teacher on the basis of the fact that first the middle of the members of the small group during the lesson will be held a cross-educational contest with small groups, fill the shortcomings allowed by students in the dispute, fill gaps in their knowledge will serve the effectiveness of Education. The information source function of the pedagogical activity of the teacher using the insert is slightly reduced, and the control and control functions of the cognitive activity of students are increased. Therefore, the teacher must carefully plan and implement this issue. In the teaching of Biology, an important place is occupied by the use of a cluster in order to systematize the acquired knowledge of students, to ensure their strength.

Waster cluster means shajara in English. This local technology prepares the ground for the development of analytical and critical thinking skills by making it possible to understand the connection between the idea, theory, law and concepts mastered and Mastered by students, to understand their continuity with each other.

The construction of the cluster is carried out in the following order:

- a specific idea in the content of the biology course is written in the middle of a board or paper;

- laws related to this idea, the interdependent state of concepts is determined by the indicator, then the factual information of these laws and concepts is graphically written and a network is formed;

- conclusions are drawn about the links between the previously studied subject and the subject to be studied. In classes that use a cluster, students are divided into an equal number of subgroups, after explaining to them the didactic purpose and order of execution of the educational task, they are able to concentrate their thoughts within a specified time, defend the cluster they have formed and prove their opinion, the best and most well-structured Waster is determined, the winners are encouraged. Structuring the cluster as a whole on a single topic or chapter sets the stage for students to think systematically. The basis of the cluster is occupied by a basic idea or concept, for example, structured according to the structure of the cell as follows: then, in the form of a network on each part, for example, a part of the driving forces, hereditary variability, struggle for survival and natural selection are introduced, on the next line, their types are written, and thus.

One technology used locally in the educational process is the Venn diagram, named after John Venn, an English scientist who developed it. The Venn diagram requires analysis, synthesis, and comparison of fact, shun cha, and processes that take place from the subject under study. This diagram can be used in the analysis, synthesis and comparison of natural selection and artificial selection, natural selection, forms of subsistence struggle. For example, the Venn diagram used when comparing families of flowering plants is recommended to be in the following view.

In the educational process, it is important to prepare the ground for the solid assimilation of concepts and terms by students, so that the teacher must bring concepts and terms in the content of each chapter and topic into the "chain of terms".

The "chain of terms" are terms and their definitions, from which it is advisable to include them in the group of local technologies, since the benefit in part of the lesson is 1an/F, in order to complete the topic passed by the teacher, strengthen the knowledge of students on the newly studied topic. The use of this technology in the educational process can be approached in several ways.

- students are organized into subgroups and a junior consultant is prepared from the members of the group. The junior consultant evaluates the members of the group by means of a card based on the terms in the assignment given to him. In this, readers can say the annotation of the said adjective or identify the adjective depending on the annotation. Since a card is awarded for each correct answer, the number of Cards determines the score they have earned.
- readers are given a list of concepts and terms in the content of chapters and topics. In terms of the content and essence of the connection, it is required to bring the interconnected chain to the state of Waster. Although this approach takes a lot of time, the effectiveness is high, which makes it possible to develop the logical reasoning skills of the reader.
- when used in the ending section of a subject that has passed through a "chain of terms", small group members of students are required to add a new term in relation to its content and essence by repeating the terms in a series of awalgilami verbally. At the conclusion of the game, in which the first participant of the group begins with one term, a chain of terms is formed equal to the number of members of the group. The second stage requires a description of the terms in question and an explanation of the link.

In conclusion, the use of interactive methods and technologies in the teaching of biology serves to make students work independently, think creatively and gain educational efficiency.

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