WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 4, Issue 3, Mar., 2023

INNOVATIVE PEDAGOGICAL TECHNOLOGIES USED IN THE DEVELOPMENT OF STUDENTS' COMPETENCIES BASED ON A SYNERGETIC APPROACH

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Annotation
This article presents information about innovative pedagogical technologies used to develop students' competencies based on a synergetic approach to teaching biology in schools.

Keywords: synergetic approach, competencies , innovative pedagogical technologies, interactivity, work in small groups, term chain, term sheet, cases, inserts, vaster, Venn diagram, brainstorming, express games and game exercises, biology course.

Аннотация:
В данной статье изложена информация об инновационно – педагогических технологиях, используемых для развития компетенций учащихся на основе синергетического подхода к преподаванию биологии в школах.

Ключевые слова: синергетический подход , компетенции , инновацион- но – педагогические технологии, интерактивность , работа в малых группах , цепочка терминов, лист терминов, кейсы, вставки, вастер, диаграмма Венна , мозговой штурм , экспресс-игры и игровые упражнения, курс биологии .

Annotatsiya
Ushbu maqolada maktablarda biologiya fanini o‘qitishda siner getik yondashuv asosida o’quvchilarning kompetensiyalarini rivojlantirishda foydalaniladigan innovatsion – pedagogik texnologiyalar **haqidagi ma’lumotlar bayon etilgan.**

Kalit so`zlar: sinergetik yondashuv, kompetensiyalar , innovatsion – pedagogik texnologiyalar , interaktiv, kichik guruhlarda ishlash , atamalar zanjiri , atamalar varag'i, Keys, insert, waster, venn diagrammasi, aqliy hujum , tezkor o'yinlar va o'yin mashqlari , biologiya kursi .

On the basis of a synergetic approach in the development of students' competencies , the practical application of innovative pedagogical technologies in biology lessons improves the student's independent , creative, creative thinking , as well as the formation of knowledge, skills, and skills .

To activate the cognitive activity of students when studying biology on the basis of a synergetic approach, it is advisable to use interactive lesson technologies to identify, systematize the knowledge, skills and abilities acquired by students on the passed topic, control and evaluate the acquired knowledge, skills and abilities on a new topic, as well as in the process of studying a new topic. When teaching biology, it is recommended to use interactive technologies "keys", "insert", "Vaster", "Venn diagram", "brainstorming", "working in small groups", "term chain", "term sheet", various forms of quick games and game exercises.

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 on the use of cases in the educational process:

• identification of a problematic topic in the content of the program, compilation of problematic questions-tasks for teaching these topics;

• determination during the lesson of the organization of independent work of problematic issues - tasks individually or in small groups of students according to their degree of complexity;

• planning ways to involve students in cognitive activity by solving these problems, educational discussions;

• problematic issue-should cause a final thought in educational discussions organized on the basis of assignments. It is recommended to use the insert only on topics on which it is intended to study the actual material on the content of the program.

Insertion is a local-level pedagogical technology that is used by students to create a basis for understanding the main idea and factual material in the educational material. In order for students to develop skills in working with inserts, they are given training materials and a special table. Students are encouraged to study each sentence

and mark it with certain symbols in a special table. If the information presented in the sentence corresponds to the knowledge that they have learned so far, "I know" - V, If the information is clear and new, then "I approve"+, if the information does not correspond to the knowledge that the students have learned, then "it is necessary to learn" - if the students have difficulty assimilating educational material, then "Did not understand"? puts a check mark.

Insertda foydalaniladigan maxsus jadval Custom table used when inserting .

"I know" V	“approve” +	"We need to learn" -	"I don't understand" ?

Development of biological competencies based on a synergetic approach and compliance with the following requirements when using an insert in the educational process:

• students will be divided into subgroups, but using the insertion tool, each student will first work individually and fill out a table, and group members will compare their thoughts after completing the work on time;

• guarantee that the members of the subgroup will have the same characters in the table by means of a training argument, that is, achieving uniformity in the following two columns in the table;

• the teacher should organize an educational discussion based on the questions-tasks compiled on the basis of the educational material and tabular marks of the members of the subgroup. The advantage of working with the insert is that first, a mutual learning dispute with small groups is held between members of a small group during the lesson in order to fill in the gaps made by students in the dispute, to fill in the gaps in knowledge .

Waster cluster ingliz tilida shajara degan ma’noni anglatadi. Ushbu lokal texnologiya o'quvchilar tomonidan o'zlashtirilgan va o'zlashtiradigan g'oya, nazariya, qonuniyat hamda tushunchalar o'rtasidagi bog'lanishini anglash, bir-biriga uzviyligini tushunishga imkon yaratib tahliliy-tanqidiy fikr yuritish ko'nikmalarini rivojlantirishga zamin tayyorlaydi.

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;

• first, a conclusion is made about the connections between the subject being studied and the subject being studied. In lessons using a cluster, students are divided into equal subgroups, after which they are explained the didactic purpose and the order of the educational task, they are given the opportunity to argue their thoughts, concentrating on a given time and defending the cluster they created, the best and most reasonably structured cluster is determined, winners are encouraged. Structuring a cluster into a single whole on one topic or chapter creates the basis for systematic thinking of students. The basic idea or concept follows from the basis of the cluster, structured, for example, according to the structure of the cell as follows: then, in the form of a network for each part, for example, genetic variability, the struggle for survival and natural selection are included in part of the driving forces, and their types are recorded in the next line and, thus, distributed among the concepts.

One of the technologies used locally in the educational process is the Venn diagram, named after the English scientist John Venn, who developed it. The Venn diagram requires analysis, synthesis and comparison of facts, Shun cha and processes originating from the studied subject. This diagram can be used to analyze, synthesize and compare forms of natural selection and artificial selection, natural selection, and the struggle for survival. For example, the Venn diagram used when comparing families of flowering plants is recommended to have the following form.

An important place in the educational process is occupied by the preparation of the basis for the solid assimilation of concepts and terms by students, therefore, the teacher must bring concepts and terms into the content of each chapter and topic in the "chain of terms". The "chain of terms" are terms and their definitions, which it is advisable to refer to a group of local technologies, since the teacher uses them in part of the lesson in order to finalize the topic covered, consolidate students' knowledge on the newly studied topic. There are several ways to approach the use of this technology in the educational process.

• students are divided into small groups, and a junior consultant is trained from the members of the group. The junior consultant evaluates the team members using a

card based on the terms in the assignment he was given. At the same time, readers can pronounce an annotation to the mentioned term or define the term depending on the annotation. Since a card is given for each correct answer, the number of cards determines the score they have scored.

• students are provided with a list of concepts and terms in the content of chapters and topics. In terms of content and essence, ulaming requires bringing into a state of a logically interconnected chain. Although this approach is time-consuming, its effectiveness is high, allowing the student to develop logical thinking skills.

• when used in the final part of a topic passing through a "chain of terms", members of a small group of students are required to verbally add a new term, interrelated in content and content, repeating a sequential mat of terms. At the end of the game, which the first member of the group starts with one member, there is a chain of terms equal to the number of members of the group. At the second stage, these terms require definition and interpretation.

Thus, the use of innovative pedagogical technologies in the development of students' competencies on the basis of a synergetic approach contributes to the independent work of students, creative thinking and increased learning efficiency.

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