

THE SIGNIFICANCE OF HELPFUL DIDACTIC TOOLS IN TEACHING BIOLOGY

Orazimbetov Edilbek Kayipbekovich

*Graduate student of Nukus State Pedagogical Institute named after Ajiniyaz
Methodology of teaching exact and natural sciences (Biology)*

Annotation. The importance of auxiliary didactic tools in biology teaching, logical methods of teaching, demonstration tools, and didactic purpose, tasks, and content of the subject studied in biology lessons are discussed in the article, and the cognitive activity of students is organized individually, in small groups, and as a whole. information about the forms is provided.

Key words: Biology, didactic material, teacher, student, lesson, method

The components of the educational content and their acquisition by students require the correct selection of teaching tools and their effective use. In biology lessons, it is recommended to use natural, pictorial exhibitions, screen tools, educational equipment, multimedia, electronic versions and manuals, which allow to illuminate them based on the content of the studied subject. The content of the lesson and the visual aids used require certain teaching methods.

A teacher should know well the types of teaching methods, their methods, and ways of using them. With this in mind, we will discuss groups of teaching methods below. The group of oral presentation methods includes conversation, story, and lecture methods. Below are the methodological methods included in these methods: The interview method is a method of putting interview questions in a sequence, asking auxiliary and additional questions at the right time, activating students, correcting mistakes in students' answers, creating conclusions and generalizations. The story method is a method of vividly describing the educational material, features specific to objects, scientificity, consistency, comprehensibility of information, fluency and expressiveness of speech.

The lecture method is a method of presenting the educational material in a logical sequence, posing problems, identifying objects, comparing, drawing conclusions, summarizing, attracting the attention of students. The group of visual methods includes natural and living objects, visual exhibition, screen tools.

Computer visual programs, multimedia presentation methods, including, in particular, the following visual aids, illustration, demonstration, educational films, video films, computer educational, modeling programs, electronic textbooks, multimedia presentation, meeting the taste and aesthetic requirements of the exhibition, illuminating the content of the lesson, and organizing students' activities in a sequence.

The group of practical methods includes the methods of observation, organization and conducting of experiments, methods of performing practical work, which are suitable for recognizing and identifying objects, observing and conducting experiments, explaining the progress of practical work to students, and drawing up a plan for performing practical work. , will consist of the methods of

monitoring the execution of practical tasks, analyzing the results of tasks, self-monitoring, completing and formalizing practical work, observation and experiments.

Methods of problem research include creating problem situations, creating a chain of problem questions, creating problem tasks and conducting experiments, creating learning hypotheses for solving problem situations, proving learning hypotheses, comparing objects, making logical reasoning, learning includes methods of conducting research experiments, describing learning conclusions and generalizations.

The group of logical methods of teaching consists of inductive, deductive, analysis, separation of the main idea, comparison, and generalization methods:

a) inductive method - a method of problem statement of specific facts, directing students' activities to drawing general conclusions from specific facts, giving problematic tasks; b) deductive method - a method of explaining general laws, directing students' activities from general to specific conclusions;

d) method of analysis - a method of understanding information, identifying similarities and differences between studied objects, dividing studied objects into components, and determining the beginnings between them;

e) method of separation of the main idea - separation and sorting of the main idea in the educational material, separation of information into logically completed parts of ideas, separation of the main idea and secondary ideas, separation of basic words and concepts, summary of the main idea release method;

f) method of comparison - the method of identifying comparative objects, determining the main characteristics of objects, comparing, identifying similarities and differences, formalizing the results of comparison with conditional symbols;

g) method of generalization - it includes the methods of identifying, comparing, preliminary conclusions, imagining the dynamics of the development of the phenomenon, formalizing the results of generalization using conditional symbols, drawing general conclusions.

The group of independent work methods includes exhibition tools and methods of independent work on the textbook. They include the methods of giving independent work assignments, developing independence in educational activities, developing educational work skills, organizing independent work according to the model, and giving creative assignments.

Methods of increasing interest in learning, didactic-game, learning discussions, forming the duties and responsibilities of students in learning belong to the group of methods of stimulating and justifying education, and they are as follows:

a) methods of increasing interest in reading, creating a positive feeling in students, using interesting analogies, the effect of surprise, creating the joy of learning, encouraging and reprimanding students;

b) didactic-game method, the method of choosing a game plot, creating game situations, choosing educational games, encouraging students;

c) the method of educational debates is to create a situation that causes educational debates, to create scientific debates. How to lead students to success, express their opinions, correct mistakes in their answers, motivate students;

d) the method of forming the duties and responsibilities of students in studying includes methods such as explaining the social importance of education, explaining the personal importance of studying, setting educational requirements, encouraging and reprimanding in teaching.

The group of control and self-control methods in teaching are examples of control methods using oral and written control, control using laboratory and practical work, self-control, mutual control sheet and tests. and the following:

a) oral and written control methods are used to teach students to logically and coherently express knowledge, to develop speech, to identify and eliminate typical errors in students' answers;

b) control methods with the help of laboratory and practical work to determine educational and practical skills, to determine students' skills in working with educational equipment and tools, to determine and evaluate the quality of completed tasks, depending on the content of the work, objects and correct selection of tools, completion of the work and formalization of the result, method of determining the correctness of the obtained results;

d) self-control methods, a short plan on the educational material, making questions, distinguishing the main idea, finding answers to questions, solving problems and checking them according to the sample, comparing, correctness of the obtained results the method of checking the reliability;

e) a chapter in which control methods are studied with the help of a cross-check sheet, creating control questions on the topic, methodological correctness of questions, logical sequence, accuracy of monitoring students' knowledge, a broad view laziness style;

f) the chapter on methods of control with the help of tests, from such methods as the creation of control tests on the topic, methodological correctness of test questions and answers, logical sequence, truthfulness and comprehensiveness of control of students' knowledge consists of Educational content, tools and methods require integrated forms of teaching.

Based on the didactic purpose, tasks, and content of the subject studied in biology classes, it is recommended to use the forms of organization of students' cognitive activities individually, in small groups, and as a whole. It is known that teaching biology is organized in the form of lessons, extracurricular activities, extracurricular activities and excursions. Lectures are divided into three parts: introduction, main part, conclusion.

In the introductory part of the lecture, students' attention and cognitive activity are activated, the ground is prepared for receiving knowledge. For this, at the beginning of the lecture, interesting examples of its content, bright and emotional events and incidents are described, and students are presented with problems. In the main part of the lecture, the educational material is presented in a

logical sequence, following didactic principles. In the concluding part of the lecture, students' knowledge is organized, summarized, and conclusions are drawn.

The lecture can be structured inductively or deductively according to the content and organization of students' activities. When the lecture is structured inductively, students are first introduced to events and objects, and then a general conclusion is drawn. In this regard, the learning activity of students is organized in an inductive way. Didactic game technology used in biology teaching activates students' cognitive activity, independent work on textbooks and additional literature, development of speech and communication culture, consciously guides them to the profession, eliminates difficulties that arise during the didactic game. Getting the goal right, analyzing various situations and making the right conclusions.

Didactic-game technologies are used in the educational process in the form of a didactic game lesson. Lessons with didactic games are plot role-playing games, presentations, creative games, businessmen's games, conferences and games, according to the content and essence of the harmony of students' learning activities with game activities. divided into exercises. The didactic purpose, specific characteristics, role and content of each didactic game lesson in the educational process were developed and put into practice on the example of biology lessons.

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