

Khasanova Shohista Bobokholovna,
senior teacher Navoi regional institute of improvements of teachers
Republic of Uzbekistan

WORK ON THE TEXTBOOK «CYTOLOGY AND GENETICS BASIS»

ABSTRACT

The article covers some methods and techniques of working with the content of "Genetics textbook" for ninth grade in the Uzbekistan Republic and using this textbook as an effective means for developing skills independent acquiring of knowledge by students.

Keywords: comparative and analytical work, creative work, modeling.

Tasks at work with the textbook can have various character: reproductive-search, comparative and analytical and creative. It allows to carry out within a usual lesson the differentiated approach to training, considerably facilitates homework performance.

Rather – analytical work on the textbook

Comparison and the analysis of information is other level of work with the textbook. To the corresponding receptions the teacher conducts training practically in parallel with the working methods described above as they also demands ability to find the main thing, briefly to write down and accurately to formulate the thoughts. In any analysis elements of allocation of separate parts and signs, and also generalizations and findings of interrelations are put. Comparison it is possible to carry out works, being guided by the text, drawings and textbook schemes, and to issue its results in the form of tables and schemes. For example, in a subject: «Nucleonic acids» school students are offered to make the comparative table under heading «DNA and RNA structure» to the subject "Cage" - comparative tables «Structure of vegetative and animal cages», «A structure of cages прокариот and эукариот».

In the course of performance of tasks in comparison and the analysis it is expedient to use drawings. For example, we suggest school students to compare textbook drawing «Convergence. Similarity of a shape of a body and fins at unrelated quickly floating animals».

Creative works on the textbook

The system of creative tasks is realized through the following techniques and the algorithms allowing involuntarily remembering a material, to expand and deepen it, to put knowledge into practice. This system treat:

1. Drawing up of tests by pupils.

The text, now, is the most widespread type of check of assimilation of knowledge pupils. After subject studying by pupils it is offered to make 6-8 questions in the form of test tasks. Independently created test task provides formation of application of knowledge in a practical situation. Sometimes pupils are prepared by very interesting works which can be used further for individual poll. Drawing up of tests is offered on the following subjects: «Cage structure», «The chemical organization of a cage», "Macroevolution", «Origin of the person».

2. Creation sinker.

Creative work a form of a reflection is sinker. Ability to summarize information to state difficult ideas, feelings and representations in a few words – the important ability demanding a thoughtful reflection, based on a rich conceptual stock. The given form of work is possible on all to pupils, and sometimes during a lesson to create sinker it is impossible. Therefore in such situation pair or group work can be used, or it can be executed at home.

For example,

Charles Darwin
Ingenious, courageous
Opened, created, convinced
Evolution – irreversible process
Scientist
Virus
Dangerous, artful
Frightens, infects, destroys
Inexplicable riddle of the nature
Enemy

3. Drawing up of questions.

It seems what can be simpler, than ask questions? However actually it demands from pupils of certain efforts as that are provided in the paragraph shouldn't duplicate questions. They should begin definitely. For example: What structure have.? What conclusion can be made from? In what the interrelation of a structure and function consists? etc.

It is important to explain pupils that the teacher will estimate not so much quantity, how many qualities of questions, and also ability to answer them. Check of work can be carried out several способами selectively or at all class in writing-books; hearing questions of several pupils; declaring competition on the best question; during work in groups and competitions between them.

4. Modeling.

Creation of every possible models of studied systems, graphic drawings, schemes provides use of the additional information which is beyond, provided by the training program. For example:

1. To make drawing to the subjects "Bionics", «Phenotypic variability», «A structure of an eukaryotic cage».
2. To create the scheme of the basic abstract on subjects «Sexless reproduction», «A structure of proteins», «A prokaryotic cage».
3. To think up biological tasks of the subjects "Genetics", «Molecular genetics».
4. To find in additional literature information on ways of the adaptation of animals and plants to different geographical zones; to pick up a material about various forms of fight for existence; useful and competitive relationship between organisms; cloning; achievements of cellular and genetic engineering.
5. To think up the fantastic story about an origin of life or the future of the person. Thus, the ultimate goal textbook use at a lesson will be following:

- preparation of school students for self-education by a training way to their ability to work with the textbook and any other literature;

- ensuring close connection between intellectual and concrete practical educational activities.

In the course of training at lessons it is necessary to put pupils in position of need and interest to be engaged in self-education. To signs of self-educational activity carry:

a) high level of activity and independence of pupils;

б) voluntaries in acquisition of new knowledge;

в) coincidence of the purposes and motives of informative activity;

г) focus, systematize and systematic nature of this activity.

Realization of these signs should be carried out:

- the systematize of formation of development of ability independently to work with the textbook when mastering by pupils by algorithms of the actions making each ability;

- inclusion of pupils in search activity in work with the textbook which creates favorable conditions for development of informative independence;

- introduction in educational process of elements of entertaining that develops emotional enthusiasm in development of informative interest.

LITERATURE

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