

OPTIMAL SCHEMES OF PRACTICAL TRAINING FOR BIOTECHNOLOGICAL STUDENTS

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Practical training seems to us to be the most important and active part of learning. This type of training allows you to implement both an individual approach to learning and the opportunity to work in small (2-5 people) groups and the entire study group as a whole, that is, it is a fairly flexible tool.

It is relevant not only to search for educational materials and their organization, but also to develop optimal methods, techniques and means of preparing for practical classes that contribute to the active work of all students in the classroom and create motivation for independent homework. This is especially important when reducing school hours.

Therefore, the purpose of this work was to develop and implement schemes for practical tasks to maximize the involvement of biotechnological students in the work and a comprehensive discussion of a particular problem.

For example, the lesson structure may look like this.

The beginning of the lesson is 10-15 minutes – updating the lecture material, working with the summary – in the form of questions and answers. Each student conducts a short "practical summary" during the lesson. Answers questions in writing, makes notes, and drawings. The teacher can simultaneously demonstrate slides on which answers are given and the answers are accompanied by illustrations – a drawing, animation or a real demonstration of the phenomenon. You can even make small videos with your own explanations - this will also be included in the results of the work. Then comes the solution of tasks individually or in groups. All decisions are put on the discussion board.

As an example, this paper considers a scheme for conducting practical classes in a group of biotechnological students on the topic "Thermal radiation". Graduating departments often ask to treat this topic more carefully, to pay attention to the chemical and biological aspect of phenomena. It is when studying this topic that a visual representation of phenomena, the use of pyrometers, is required.

It is important that at the same time it is possible to get away from a set of small "particulars" in the form of individual tasks to a greater degree of generalization (on the board we have a number of situations up to 10 or more at once). And it is already possible to compare, analyze, generalize, that is, to increase the degree of fundamentality.