

Activity of the Student during Evaluation of his Knowledge

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In the system of preparation of specialists – firemen and rescuers – large attention is paid to teaching bases of the special chemistry, i.e. chemistry of burning, which includes the bases of general, organic and physical chemistry.

Increase in efficiency of teaching process of the students of higher school constitutes an objective factor of a continuous scientific and technical progress of society. The necessity of perfection of the system of higher and special education, including Bologna system of education in the preparation of modern specialists results in new educational tendencies in the world, competitions among leading countries and their methods of specialist preparation, competitions among leading world Universities in their fight for a good specialist (manager, engineer, scientist) of the XXI century, and finally in hegemony in a fast developing world. Similar to all new systems in science including pedagogics, Bologna system of education has certain drawbacks and inaccuracies in some definitions, approaches, assessment of modules, and finally in evaluation of a general progress of the student during his studies.

One of the main drawbacks of the methods of evaluation is absence of consideration of student activity in the process of education.

To increase the efficiency of teaching of students it would be reasonable to use the ideas and research of cybernetics, which studies the systems, their features and laws of conduct. In our point of view, the teacher / student relation requires in the notions of cybernetics, in the educational system «Teacher – Student» a positive feedback which will allow to strengthen the interaction between the components of a given system.

To remove those drawbacks, while considering the activity of the student during education process, we suggest to form a general estimation for the module.

One can assume that a final assessment for the educational module (1,5–2 months of studies) must be equal to 50 grades. It includes the average assessment of the student on practical and laboratory courses, assessment of the module control test MCT and assessment of a general activity of the student during the lesson comprising the module. This last assessment for activity must take into account progress of the student (a number of positive grades) PG and number of lessons attended by the student ZS and general number of lessons of this module Z.

The final formula of total module estimation is as follows:

$$\text{mod} = \text{ave}_{\text{prac}} + \text{ave}_{\text{lab}} + \text{MCT} + (\text{PG} + \text{ZS})^{\text{PG}/(\text{Z}-1)} [\text{PG}/(\text{Z}-1)]^{1/\text{ZS}}$$

Using of this formula for evaluation of diligence of the student during his studies, alongside with other stimuli, will contribute to increase in motivation and level of preparation. This method of progress evaluation can be applied for determination of a total module estimation during the study of other fundamental disciplines such as chemistry, physics, and mathematics.