

Individual approach in chemistry studies

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The scientific problem is connected with significant variation in elementary theoretical knowledge levels among students in academic groups, which creates difficulties during training in high school.

The purpose of this study is to provide optimal conditions for students' cognitive activity and the alignment of the knowledge level in the academic groups on the basis of the development of the differentiated tasks in chemistry considering individual differences in students' educational abilities.

The experience of the development of a differentiated book of Problem Exercises in chemistry for technical universities' students is brought. The tasks, differentiated by levels of difficulty, can be used during practical classes, laboratory works, tests and for students' self-study. It is shown that the main purpose of the differentiated approach to training is to provide optimal learning conditions for students with different initial levels of knowledge of the discipline, individualization of training and alignment of knowledge level in groups.

On the basis of discipline "Chemistry" problems and tasks differentiation by the levels of difficulty and existence of creative aspect it is possible to reach:

- the increase of efficiency and quality of training due to fast alignment of level of theoretical knowledge and abilities to solve problems in the academic groups;
- the optimal conditions for cognitive activity of students;
- the individualization of training providing profound knowledge;
- the developed skills of individual activity.

The developed book of Problem Exercises in chemistry belongs to methodical textbooks of the new generation and can be used in different types of educational activity. As the result the criteria of its efficiency is the use of various training techniques, the differentiated approach in a material statement, the development of students' individual thinking and skills, possibility of integration of the gained knowledge in professional activity.

Keywords: differentiated training, knowledge level diagnostics, individualization of training, students' self-study, levels of difficulty, differentiated book of Problem Exercises in chemistry.

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