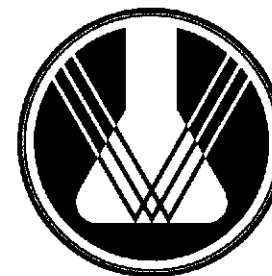


**5th International Conference
on Chemistry and Chemical Education**

Sviridov Readings 2010



Belarusian State University
Minsk, Belarus
6 - 9 April 2010



I S T C
M H T U

BELARUSIAN STATE UNIVERSITY
RESEARCH INSTITUTE FOR PHYSICAL CHEMICAL PROBLEMS
CHEMICAL FACULTY
INORGANIC CHEMISTRY CHAIR

*5th International Conference on
Chemistry and Chemical Education*

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Book of Abstracts

Minsk 2010

Self-education of students in a chemical training

N. Michailova

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Carrying out chemical experiment assumes that a student performs an independent work on the search, analysis, selection of necessary information, but not all the first-year students are ready for this. The difficulties are connected with the inability of students to allocate time and arrange the work, to work effectively with a variety of sources and texts, to restructure activities if it appeared to be ineffective, and also with the wrong orientation on external stimulus, the absence of internal performance criteria. The formation of self-education activities which includes the range of components such as demand-and-motivation, conceptual, organizational-and-activity-based, reflexive one promotes the overcoming of these difficulties. In our research we pay attention to the necessity to create in the educational process pedagogical conditions for self-education of the student. The experiment showed that these conditions contribute to the efficiency of independent work, training quality.

The principles of the matter selection for chemical discipline training

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Construction of the content for chemical education on the basis of integrated approach demands the use of certain principles of the matter selection for training. Among the main principles we distinguish a system principle (the system factor is the purpose of chemical education). The principle of interdisciplinary communications provides the display of the training matter in dialectic interrelations which exist in the nature. The foundation principle of maintenance means the usage of basis theories, laws, categories which integrate round them a great volume of chemical knowledge. The principle of professional orientation provides unity, sequence and continuity in training. The principle of historicism means the exposure in the matter of chemical education of a classical heritage and modern lines of a science development. The environmental principle means disclosing of modern problems of environment through a prism of chemical knowledge, demonstration of modern ecological situations in a global scale and at a regional level.

Principles of composing pretests for routine diagnostics in general chemistry course

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A series of pretests designed to determine student's preparedness for doing laboratory assignments on selected topics has been developed and piloted on 1-st year students. It has been shown that using short diagnostic pretests allows to shorten the time necessary for preparedness evaluation, simplifies the drawback finding and correction procedure. Principles for material selection and test composition are discussed.