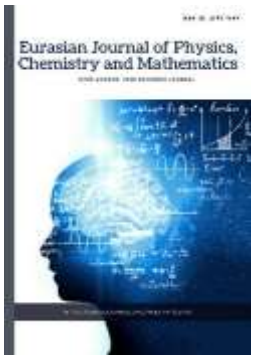

Using Innovative Technologies for Chemistry Teaching

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ABSTRACT

In this article are held the examples for using innovative technologies, in examining of organic chemistry in technical University. Describes dignity of multimedia support of lectures, electronic educational complex during independent study of students. Also, here had given a description of innovative types of test tasks, which allows for variability of decision. Use of such types tests, not only allows to modular extend of all the sections of organic chemistry, but also contributes to formation of complex understanding of being studied educational disciplines to students.

Keywords: innovation, organic chemistry, technical University, teaching methodology, test tasks, multimedia technologies.

One of the directions of innovative activity in the higher education system is related to correction of education seminars, work programmes, aimed to use of innovative methods of teaching. In a rapidly changing conditions of regulatory documentation, innovation means for department, constant introduction anything new for a goal, content and form of education. Clearly manifesting tendency to reduction of time for classroom work with a priority of independent study, forces to review the content of traditionally developed forms of education. In addition, intellectual and practical skills, experience of innovative working, should be included to the structure content of education [1]. Traditionally, in examining the course of organic chemistry students carry out three types of education activities: visiting lectures, parsing and analysis of theoretical sections, in solving of tasks at seminars and carry out of laboratory works. The main emphasis should be made for acquisition of fundamental knowledge, development ability of analyse and to solve various chemical tasks as well as theoretical and experimental. It should be noted, that contradiction between almost accelerating exponentially amount of new actual materials and strict regulation of education standards is the major problem in qualitative learning of organic chemistry. Obviously, to overcome of this problem, requires significant changes at methodology of education, organization forms of educational process, which is possible only by using modern information and pedagogical technologies. In terms of perception of information, particularly attractive that's visualisation, which is actual in education process of organic chemistry and related disciplines, as so this science uses more than others specific graphic language of structural formula, depiction of spatial configuration of giant polymeric molecules. Multimedia accompanying allows to demonstrate various facts and phenomena to students, that is absolutely impossible to illustrate during the standard lecture: photos have gotten with electronic microscope, dynamic models of organic molecules and etc. Technical means of presentation enables to empowerment of lecturer, to transfer part of information burden

to the visual area. Use of computer technologies on teaching requires to change system of perception of lecture materials by students. Students do not need to record all education material mechanically, the comprehension of commentaries of the lecturer and consolidation of this comprehension by further study of education materials after lecture acquires the important role. Increasing role of independent work demands from students ability to find necessary information, the role of department consists of helping them, to supply with appropriate education materials. In this situation essential role concerns to electronic educational complex, created by teachers in department. That's main destination is carefully selection and optimization of information, which composes course content, as well as subsections interconnectedness: the main types of organic reactions, spatial structures of organic compounds, specificities of structure and chemical properties of natural biomolecules. Effective monitoring by the education quality by the whole process - integral attribute of rating system. However, be noted that implementation thats with traditional methods, would be significantly overloading for teachers [2]. In this regard, in department have been developed set of test for every course module, which allows to implement testing in blitz - test format, not only in controlling, but and in instruction regime with analysing of results. Besides, traditional control and testing, by authors team were presented innovative type of test tasks about synthesis of organic compounds, which allows for variability decision. The task of proposed test is set of classic, synthetic task (to get compound X from compound A). At the disposal of testing student, will be set with 20 - 25 standard schemes of transformation, by combining of them, could be achieved desired results, which specified by task, even answer can have several correct versions (Synthetic schemes). Such a structure of tests allows to encompass all sections of organic chemistry, also allows to create complex tasks, which is necessary for students, for example in the preparation of the courseworks and State Examinations. Therefore, by using modern informational and pedagogical technologies, traditional system of education will get "the second breath", acquiring more attractive as well as for students (provides them with more greater opportunities for effective independent work) and for teachers (rids them from routine job and allows to implement effective control by education quality).

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