THE DEVELOPMENT OF CHEMICAL COMPETENCE IN STUDENTS

Jo'rayeva Barno Abduxalilovna
Tashkent State Pedagogical University

Abstract

In this article the examples are held for using innovative technologies that can be applied in chemistry classes. It describes dignity of multimedia support of lectures, electronic educational complex during independent study of students.

Keywords:

chemical literacy, conceptual knowledge, pedagogy, laboratory in chemistry education, virtual teaching, assessment, curriculum.

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.

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.

Using the information technologies may cause great pedagogical effect: using of computer opens the opportunity for organization of problem teaching developing the creative thinking, forming research, practical skills of students, creation of the steady positive motivation of the students. Technical facilities of the computer technology allow solving the teaching and research tasks in the chemistry come as original

catalyst of creation of different types of information technology systems and projection on their basis the novel ways and methods of their application. Use of computer technology in education helps to support necessary educational level of students and pay attention to their independent work. The article represents that the computer testing can be widely used for control of knowledge and for teaching. Teaching testing arouses interest in subject and develops ability of self-preparation and self – education, provides in-door and out- door work.

Armed with a list of resources on how to include technology in teaching, the next stage is to consider what to use and, more importantly, why to use it. Unfortunately this is not a straightforward task. The lecturer needs to wear many hats: technological knowledge to develop the resources; pedagogic knowledge to appreciate how it fits into curriculum delivery; and content knowledge to actually develop the material.

An approach for lecturers can be to ask the question: what problem or issue do I want a chosen technology intervention to achieve? In answering this, they will address the content they wish to deliver (content knowledge), the problems or limitations with the current mode of delivery, how an alternative might help students learn more effectively (pedagogic knowledge) and what technology they need to use or develop to deliver this intervention (technological knowledge). This reasoning also leads to the developed resource having a sense of value in the curriculum delivery: it is there for a specific pre-determined purpose, and therefore is valued by the lecturer, and likely to be promoted in a way that will demonstrate its importance to students.

REFERENCE

1. Tolipov O., Nomanova N. Modern pedagogical technologies in the teaching of chemistry S.D. Public education. 2011/1.
2. Azizkhojayeva N. Pedagogical skills and pedagogical technology. Tashkent 2005.
3. Tolipov O., Nomanova N. The use of modern pedagogical technologies in the educational process. Public education. 2002/4.
4. K.B.Borisovich "Formation of professional competence of future chemistry teachers in the development of students' creativity" abstract dissertation candidate of pedagogical sciences 2008.