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Innovations in Teaching Chemistry

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Abstract: The article discusses modern innovations used in the teaching of chemical sciences, their types, requirements for their use.

Key words: Innovation, educational activity, ideological innovations, cognitive activity.

Innovation in education refersto theimprovement of pedagogical technologies, a set of methods, techniques and means of teaching. Atthe right time, the innovativepedagogy of any educational institution. And this is no coincidence. It is innovative activity that not only creates the basis for creating the competitiveness of an institution in the market. educational services, but also determines the directions of professional growth of the teacher, his creative search, really contributes to the personal growth of pupils. Therefore, innovative activity is inextricably linked with the scientific and methodological activities of teachers and the educational and research activities of pupils.

Today, almost any changes in the field of education claim to an innovative status.

In general, two fundamentally different types of innovation should be distinguished:

1)Global innovation – in total, there has never been anywhere (neither in another teacher, nor in another school, nor in another city, nor in another country), will now be.

2) Local innovation – somewhere it has already been successfully implemented and works effectively, but not here.

Innovations can be divided into:

- Within the subject innovations: that is , innovations implemented within the subject, which is due to the specifics of its teaching. An example is the transition to new CMCs and the development of author's methodological technologies.
- General methodological innovationsto them include theintroduction and pedagogical practice of non-traditional pedagogical technologies universal in nature, since their use is possible in any subject area. For example, the development of creative tasks for students, project activities, etc.
- Administrative innovations are decisions made by managers of various levels that ultimately make it possible to effectively function with all subjects of educational activity.
- Ideological innovations: theseinnovations are caused by the renewal of consciousness, all the time is the primary basis of all other innovations, since without awareness of the necessityand importanceof first-order updates, it is impossible to proceed directly with renewal.

Innovation should never be judged by the scale of implementation, as something that works perfectly in one place. Aftersome time, innovation ceases to be recognized as an innovation and not the usual state of the educational process in a given institution.

Innovative technologies should not be one-sidedandoffer only the development of children's mental abilities. Innovations in education should carry, first of all, the process of developing the student's confidence in himself, his own abilities. It is necessary to reverse the authoritarianism of education

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in the thinking of teachers, so that they can put the child on an equal footing with themselves, with the date of the child's opportunities . to control himself and the world around him.
The goal of every modern teacher is to improve the quality of education by introducing computer technologies into the educational process.
To realize this task, it is necessary to include computer components and a chemical education system, since when teaching chemistry, the most natural is to use a computer and a multimedia projector in chemistry lessons, based on the peculiarities of science.
The final result of the introduction of computer technologies in the process of teaching chemistry is the mastery by students of computer technologies in the process of teaching chemistry, is the mastery by students of the computer as a means of cognition of processes and phenomena occurring in nature and used in the practical activities of people.
A teacher who uses computer technologies in chemistry lessons becomes a leader, consultant, coordinator, expert, source of up-to-date information. The teacher forms the main skills to extract information from various sources, including on the Internet to analyze, compare, store and transmit it. He develops students' research skills, a culture of communication, expands horizons.
A chemistry teacher can use computer technology at each lesson, and at its different stages.
First, it is advisable for a chemistry teacher to use presentations when studying new material, and which must necessarily includedemonstrative experiments, since visibilityand activizes the activities of students in the lessons into test tasks for the whole class, controlling students' perception of new material.
Secondly, improving the quality of teaching in chemistry lessons depends on the systematic control of students' knowledge in each lesson, so it is recommended to conduct a test control of knowledge at the beginning of each lesson.
Thirdly, computer technology can be used during laboratory and practical work, that is, it processes the data of a chemical experiment. Such use of a computer is useful because they instill in students the skills of research activity, forms cognitive interest, increases motivation, develops scientific thinking .
In the fourth, in chemistry lessons, you can use training programs. The content of the software tools used in the teaching of chemistry is determined by the objectives of the lesson by the content and sequence of presentation of the educational material. In this regard, all software tools used for computer support of the process of studying chemistry can be divided into programs:
- Reference manuals on specifictopics;
- solution of calculation problems;
- Experimental problems;
- organization in the conduct of laboratory and practical work;
- monitoring and evaluation of knowledge.

Training programs for effective application in the educational process should correspond to the course of chemistry of the corresponding profile of training, have a high degree of visibility, simple use, contribute to the formation of special subject skills in generalized and deepen knowledge.
The use of computer technologies in each chemistry lesson increases interest with the subject and affects the set of the future profession of the younger generation.
It is expedient for teachers to create their presentations, as they will be more relevant to the teacher's chosen program, topic and lesson content.

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Great opportunities for personal development are provided by the use of the Internet to the educational process.
Students with a high level of cognitive activity using the Internet get extended access to the information ofinterest to them. They independently search for messages about holding competitions of Olympiads, conferences, testing, etc.
In modern conditions, it is required to prepare the student for the rapid perception and processing of incoming information, successfully display it in use. The end result of the introduction of information technologies in the process of teaching chemistry is the mastery by students of a computer as a means of cognition of processes and phenomena occurring in nature and used in practical activities.
When teaching chemistry, it is most natural to use a computer, based on the characteristics of chemistry as a science. For example, for modeling chemical, processes and phenomena, laboratory use of a computer in the mode of the interface of computer support for the process of presenting educational material and controlling its assimilation. Simulation of chemical phenomena and processes on a computer is necessary, first of all, to study phenomena and experiments that are almost impossible to show in the laboratory, but they can be shown using a computer.

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