

Use of Multimedia Presentations in Chemistry Lessons for Non-Core Chemistry

Kholmirezayev Rapigjon Rasuljon ogli

Namangan Province, Pop District, Margizor
Tashkent State Pedagogical University named after Nizami
The direction of teaching chemistry. Student
holmirezayevrofill@gmail.com

Annotation: Chemistry lessons are illustrated and illustrated using computer technology, multimedia elements, and pedagogical teaching methods. At the same time, it is said that such activities help students develop their intellectual abilities.

Keywords: computer technology, multimedia, problem-based learning technology, metals, learning.

Introduction

For non-chemistry majors, the goal of chemistry education is for students to master the basics of chemistry and learn to understand the environment from a chemical perspective. Students develop their intellectual abilities by observing, understanding, experimenting, measuring, comparing and contrasting, analyzing, synthesizing, etc. Chemistry education is aimed at developing the intelligence of students, logical, figurative, theoretical and other information means ensures the implementation of such learning principles as scientific character, visibility, accessibility, activity and independence. The most effective forms of presentation of educational material include multimedia presentations. I am trying to present the material for the lesson in view of the presentation as a system of bright reference images filled with comprehensive structured information in an algorithmic order. In this case, various channels of perception of students are included in the work, which makes it possible to lay information not only in factographic, but also in associative form in the memory of students. I see the purpose of such a presentation of educational information, first of all, in the formation of students' intellectual thought systems of education[2].

Materials And Methods

The presentation of educational material in the form of a multimedia presentation reduces the time of learning, frees up the resources of the health of young people, allows you to build an educational process based on psychologically correct modes of functioning of attention, memory, mental activity, and pedagogical interactions, building the learning process from the standpoint of integrity [3].

I believe that the use of presentations is advisable at any stage of studying the topic and at any stage of the lesson: when explaining new material, consolidating, repeating, controlling. At the same time, the presentation performs various functions: a teacher, a working tool, a learning object, a collaborating group or subgroup [4].

When using multimedia presentations in the process of explaining a new topic, a linear sequence of frames is sufficient, in which the most advantageous moments of the topic can be shown. Definitions and diagrams can also appear on the screen, which the guys write off in a notebook (if there are technical capabilities, a brief summary of the presentation content can be printed out for each student), while the teacher, without wasting time on repetition, manages to tell more. In my practice, I use multimedia presentation notes created specifically for specific classes, containing a short text, in the 1st course of the topic "Metals and their properties", the explanation of the new material is accompanied by a multimedia presentation consisting of slides that define the basic concepts (electrical conductivity, plasticity, metallic luster, etc.), there are schemes for classifying metals according to various indicators, static and dynamic images of metals, and a video clip showing the formation of a metallic bond [6].

Classes for consolidating, generalizing and systematizing knowledge are classes that require the teacher to constantly pay attention to the answers of students in order to deeply understand the topic (or

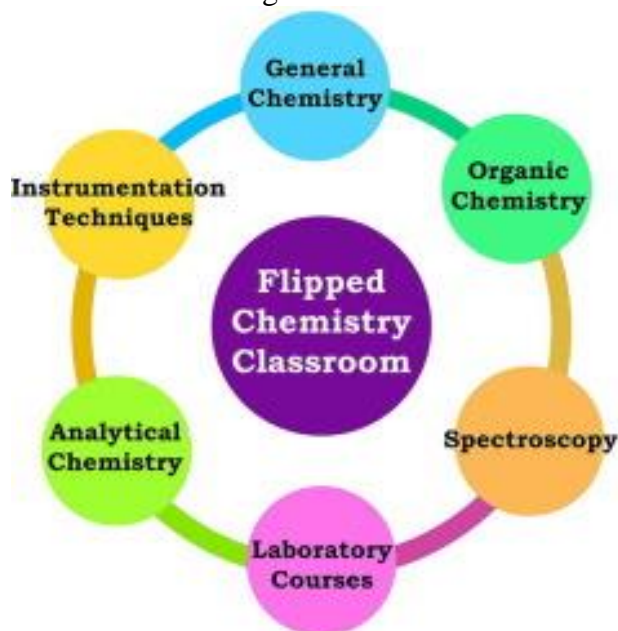
section) by students. The use for this presentation can occur in different ways. You can display problematic issues on the screen and gradually come to their solution with the whole class, you can create a game situation using illustrative material [7]. Problem-based learning permeates the entire course of chemistry. In addition, the study of chemistry is accompanied by the creation of problem situations in the classroom and the formulation of problematic questions. Practically, the study of the entire topic is based on putting forward hypotheses, creating problematic situations, posing problematic questions and searching for answers to these questions, ways to resolve problematic situations [8].



After such classes, the studied material remains in the memory of students as a vivid image and helps the teacher to stimulate the student's cognitive activity [9].

Computer presentations are an effective method of presenting and studying any material. When material is presented in graphs, pictures, tables, theses, virtual models, the mechanisms of not only sound, but also visual and associative memory are activated.

If it is necessary to show models (molecules, atomic structure, structure of crystal lattices), processes (mechanisms, signs of reactions, the course of reactions, dissolution of substances, the phenomenon of hybridization, dissociation, etc.). For example, at the first stages of studying organic chemistry, the difficulty is the spatial structure of molecules [10]. The drawings in the textbook are flat, two-dimensional. The spatial image has to be thought out, imagined. In the case of using computer technologies, any object can be represented not only in a strictly defined, fixed form on a plane, it can be moved in space and viewed from different angles. But I believe that the main advantage of computer design in a chemistry lesson is its use when considering explosion and fire hazardous processes, reactions involving toxic substances, radioactive drugs, in a word, everything that poses an immediate danger to the health of the student[11]



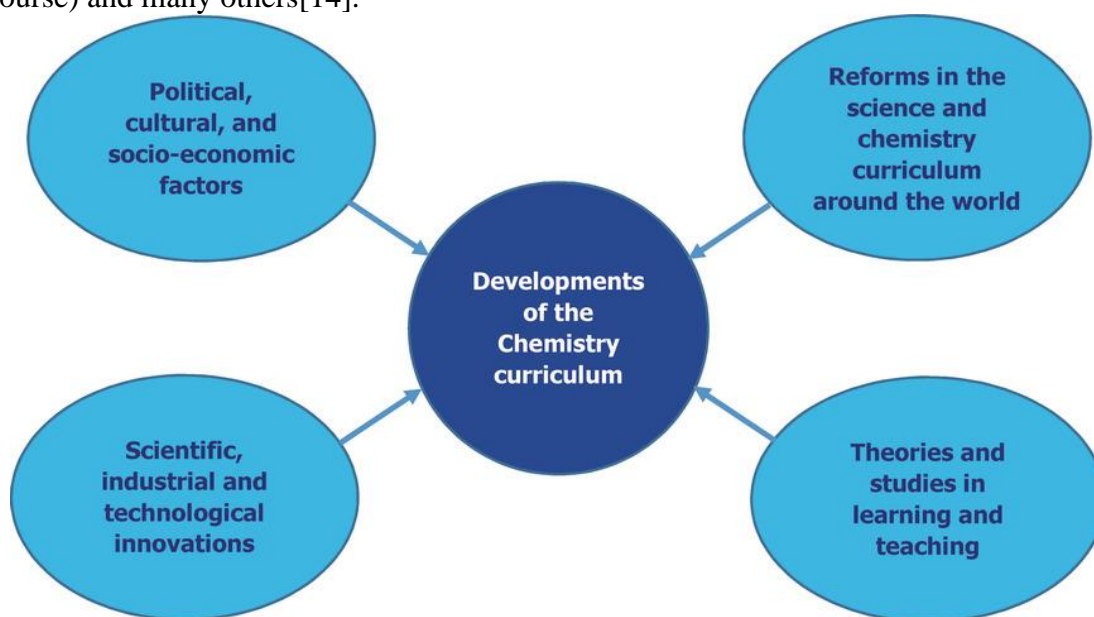
The use of computer presentations in the classroom makes teaching chemistry more meaningful, interesting, emotional, visual, and effective. The presentation organically fits into the structure of the lesson, accompanying the lecture[12].

Results And Discussion

Almost all teaching aids, except for a chemical experiment, can replace presentation slides. If the purpose of an electronic presentation is to replace a paper poster with slides, then the use of multimedia technology in this case is not justified by the costs that the teacher makes to prepare for the lesson. If it is necessary to use several of the listed tools in a lesson in a complex, if the existing tables, diagrams, drawings are outdated or do not meet the teacher's intention, then the presentation is a modern solution to the problem. This is appropriate, in particular, because it does not divert the student's attention to technical pauses: hanging a poster, turning on an overhead projector, a video recorder, etc. It should be noted that there will be a positive effect only if the presentation is applied not once, but systematically [13].

The whole lesson, in my opinion, should not be focused on the presentation. Presentation slides can be used during explanation, consolidation or create a problem situation in the lesson. The teacher may well include both the experiment and the writing on the board (especially if the students can make them), and the demonstration of models.

Practically invaluable help in the work of a chemistry teacher is informational web resources. These are specialized portals "To Help the Teacher", and sites of educational and methodical publications, scientific and educational institutions, commercial organizations. When creating presentations, I very often use the following sites: <http://www.chemnet.ru> (here you can find the latest news of Russian chemistry education, useful information for schoolchildren, a large number of links to various scientific and educational resources), <http://www.alhimik.ru> (the site contains a large number of educational, methodical, popular scientific and entertaining materials on chemistry), <http://him.1september.ru> (section "I'm going to a chemistry lesson" contains a thematic selection of educational, didactic and methodical materials on the main topics of the school chemistry course) and many others[14].



Conclusion

I use various forms of work with ICT when conducting classes to study new material, control knowledge, skills, repetition and generalization. To demonstrate complex experiments, I used not only presentations created by myself.

I use ICT in the classroom:

- a lesson in the study of new material "Chemical bond", "Water in nature. Properties of water", "Water hardness"
- a general lesson on the topic "Classes of inorganic substances", «Chemical kinetics. Chemical balance»

- Extra-curricular activity "Nitrates: harm or benefit?", "Mineral fertilizers"

Classes with the use of ICT allow diversifying the forms of studying and controlling knowledge, increase the amount of material considered, arouse interest among students, and develop communication skills. ICT helps to make classes more interesting, meaningful, holistic, modern.

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