

IMPROVING THE METHODOLOGY OF TEACHING CHEMISTRY THROUGH CASE TECHNOLOGY IN THE CONTEXT OF NATIONAL EDUCATION.

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Annotation: The English word "work" is the source of the method's name. This is case for "work": box, volume, reading scientific texts, attending classes, and reading. I'll use the English phrases "story-real life" and "case-real life" to describe this method, and "one piece" of real life for the case. This approach is referred to be the "methodology of teaching practical cases" as a result. Information on the work plan, the specifics of how it will be carried out, the outcomes, and the conclusions that will be drawn from the analysis of each issue or subject covered by the case method. This method was considered the use of the Ministry of life in the educational process. In this article, the idea and ideas about improving the methodology of teaching chemistry on the basis of the technology of keys in the sphere of innavation education will be discussed.

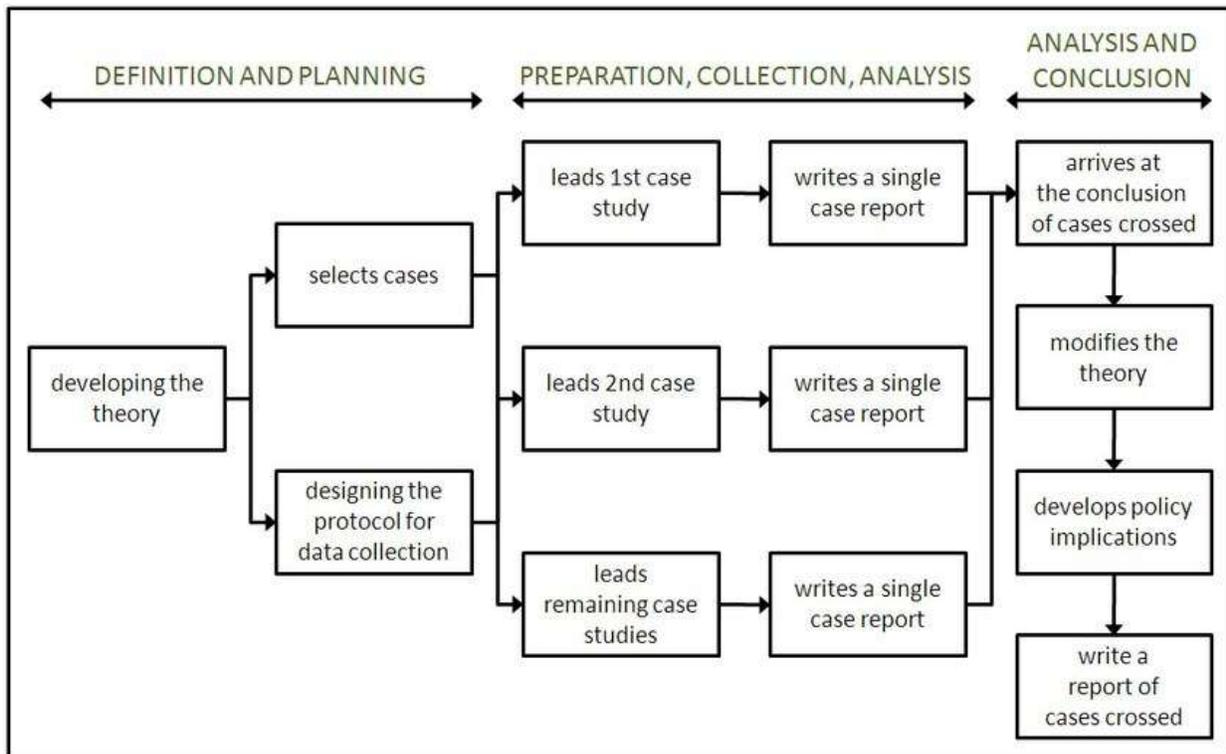
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It is based on issues that are now pressing in the realm of education. The fact that it enables you to address this issue demonstrates the significance of this strategy. Because of this, 25% of the curriculum in educational institutions in Western nations uses the keys-stadi approach, sometimes known as keys. Let's briefly discuss the value of utilizing real-world scenarios in educational settings in this regard. An educational process designed to organize the study of typical situations taken from real life or, based on artificially created situations, requires educators to seek specific solutions to the corresponding problems. This is how the Keys educational method is applied in the study of various situations.

Using this approach, educators can diagnose the real-world issue that is relevant to the subject, express hypotheses, pinpoint problems, gather more data, clarify hypotheses, and model their practical problem-solving and implementation strategies. The use of specific life situation-specific case ties the educational process to actual life. When taking keys into account, educators design a learning method. There are instances where their actual thought exchange occurs during the reciprocal movement in this process. Case gives teachers the freedom to conduct analysis, consider alternatives, and find a solution.

The terms "case" and "case-study" have a wide range of meanings, hence the following definitions were offered in a variety of ways to more accurately capture their key features. Case is a statement of the situation that arises during the performance of life tasks by educational students for specific purposes, allowing them to understand and evaluate it, and to express the problem and seek its intended solution. It is a necessary set of materials, additional information on the specified topic or problem and its solution, audio, video, electronic carriers, a set of educational and methodological materials,

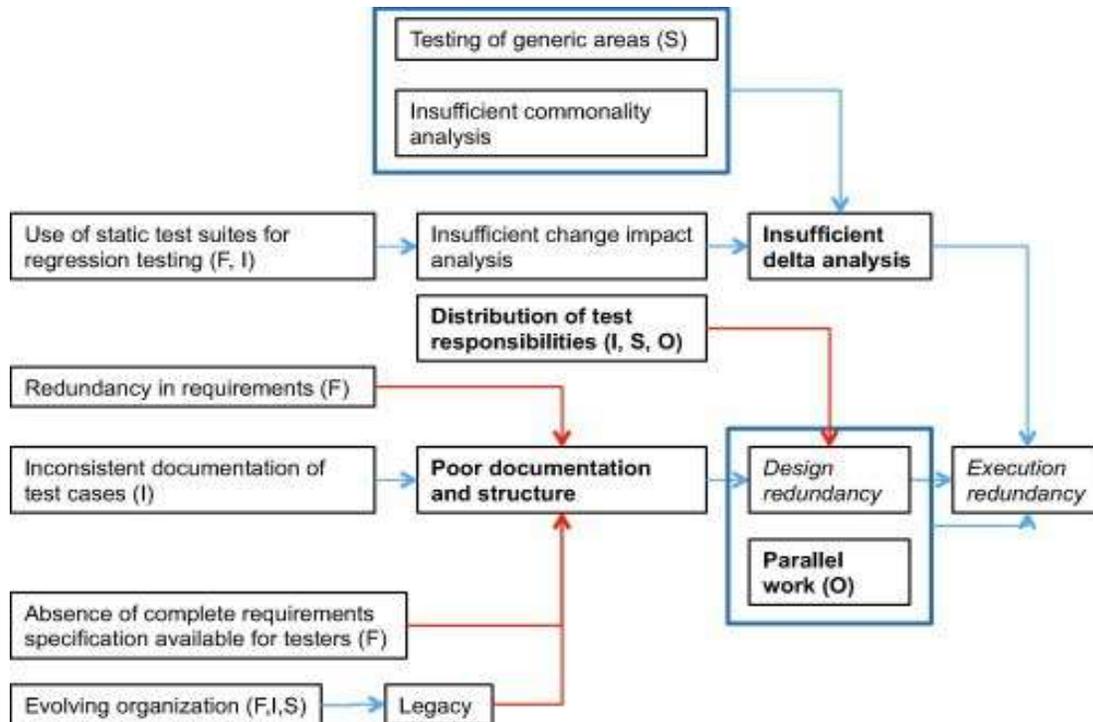
Case-study is a method of Education based on a problem-situational analysis of a clearly real or artificially created situation that directs educators to express the problem under study and look for options for its intended solution. It is an educational technology that consists of a set of optimal methods and tools brought into one order, providing in a mediated way a guaranteed achievement of predetermined (predictable) learning results in the process of implementing the educational goal set in teaching education, information and communication, management, nor other areas and solving the practical problem situation described in case.



The educational standard is based on the systematic-activity method to teaching, which assures that pupils are engaging in active learning and cognitive activity. According to us, project-based learning should be prioritized as a kind of instruction. The instructor must have prior experience engaging in project-related activities on their own before implementing the project-based method of working with pupils. Conditions for such approval are established in courses designed to improve intellectual capacity. As you are aware, at the start of the first quarter of the previous century, project activities were introduced as one of the kinds of education. The project's activities were designed to teach students by fusing theory and practice. This activity was organized through various observations and research experiments based on the educational knowledge of students. Despite the rather long history of the existence of project activity as a form of practical training, the modern activity of teachers is characterized mainly by a lecture-theoretical approach. The use of project activity as a form of systematic activity reorganizes the teacher's teaching system: the method of presenting educational material, the forms of Organization of classes and the role of the teacher in training are changing. Accordingly, the forms of work with teachers in advanced training courses are also being reorganized: now the emphasis is on the importance of not disseminating information, not giving recommendations for classes, but applying active forms of work with students.

Technology for the development of critical thinking, design, information communication technologies, and hokoza are some of the active teaching tools that have recently gained popularity. Let's examine Keys technologies in more detail. The name is derived from the Latin word "casus", which means a perplexing or peculiar instance. Additionally, a folder containing training materials is frequently referred to as a "case tech". A case study is a collection of instructional materials that offers a collective or individual search for a practical solution, a description of the problem situation based on specific facts, and situations that can be applied to the task situation and then solved with a subsequent reflection on the source and direction of the solution. You can use any text as text (newspaper, magazine material, Internet). Works can be practical, training (for solving educational and educational tasks), research (for conducting research activities and the formation of research skills). The Case method is designed to obtain knowledge in the sciences, in subjects where reality is uncertain. Job requirements:

1. statement of an urgent problem that can be discussed and does not have a clear solution;
2. The text corresponds to the educational goals and the topic of the lesson (section) in which it is proposed;
3. availability of sufficient data to analyze the research problem and find solutions;
4. lack of assessment of the problem by the author.



Case technology techniques include phenomenon-event, event, and collision. This is a thorough examination of a genuine or imagined issue. The method's goal is to teach the listener how to find information for his or her own judgment and, as a result, how to convey, organize, and analyze information. Let's examine an illustration from a Grade 9 chemistry lesson on the "properties of phosphorus and its compounds" All chemistry professors are familiar with this line from Doyle's novel "The Hound of the Baskervilles", which is read by the teacher at the start of the lesson: "The creature lying in front of us could startle anyone with its size". His huge jaws are still burning in a bluish flame, with wild-looking, deeply seated eyes surrounded by circles of fire. I touched this luminous head, and when I took my hand, my fingers also burst in the dark. It is proposed to check this fact. We give examples of a number of works for working in groups:

1. "Phosphorus, its chemical properties" .
2. "Phosphorus, allotropy, physical properties, effects on the body" .
3. "Phosphorus oxides and hydroxides, their chemical properties and preparation".
4. "Mysterious light and phosphorus production".

"Assignment for technologists": analyzing the methods of production of ammonia and sulfuric acid, we propose a technological scheme for the production of methanol from CO and H₂. Sources-technological schemes and description of the production of sulfuric acid and ammonia. "Task for environmentalists": to analyze the possibilities of environmental threats in the production of methanol, to propose ways to prevent this. How to effectively use natural resources and energy in this production. The development and implementation of work in teaching is a complex and time-consuming task that requires a good knowledge of Internet resources that facilitate the preparation of work. The activities of the teacher include creative work on assessing

the contribution of students in the analysis of the situation, creating a situation and creating questions for its analysis and discussion. But the time spent is justified by developing the mental activity of students, acquiring more solid knowledge and, of course, increasing interest in the topic.

The teacher's activity can be divided into two periods when employing the case approach. The initial stage involves assembling case studies and analytical questions through a complex creative process. It contains the teacher's research and methodological work and is taken from beyond the audience chega. Computer educational technology for students first developed in connection with the introduction of new information and communicative tools into the educational process. Today, this phrase refers to a comprehensive scientifically defined approach for using a system of tools, processes, and educational methods. At the same time, the scientific and methodological concept that combines the above system with a single general didactic idea for use in the educational process in order to effectively solve the triedina task (training, development and training of students) serves as the basis. At school, "computer technology" is one of the tools for the implementation of pedagogical technologies used in each individual case.

Naturally, it is impossible to achieve the most effective results in the training, development and education of students, this can be done by applying only one of any technologies. A systematic, complex, adapted approach to a particular school in the application of all existing pedagogical technologies, techniques and methods allows a particular teacher to achieve good results in the educational process.

Chemistry is a difficult but fascinating field of study. Its experiments seem memorable and creating equations and problems seems challenging. The study of chemistry starts in the seventh grade, which coincides with the emergence of the adolescent personality and the intellectual development of the student. On the other hand, students need to be provided opportunities and drawn to them; they also need support, self-defense, and the freedom to self-repress. Information and communication technology components here are a teacher's vital ally. This does not imply that you should stop using actual laboratory equipment and chemical reagents, but is a non-standard of slides and animations, in addition to the existing arsenal of tools, techniques, technologies. Ensuring that the training is carried out at a level of great interest, variety, colorfulness, memorization. As you know, today's students are the "youth of the era of computer technology", they can achieve the acquisition of any information before the teacher. Therefore, it is in accordance with the requirements of the time when a teacher - student or student walks one step ahead in the direction of Information Communication Technologies. It is carried out by working with information and communication technologies:

1. conducting Multimedia Lessons using ready-made digital educational resources;
2. using the "virtual laboratory";
3. application of e-Learning tests;
4. tasks, the student forms for himself a certain level of educational material and at the same time demonstrates it to the teacher;
5. test control using test preparation programs, as well as online test for students in chemistry;
6. create your own presentations, videos.

I frequently employ presentation materials as a system of supporting, well-lit photos that are organized according to an algorithm. It is convenient to use them because it saves the teacher time (since the necessary information doesn't need to be written on the board); enables you to focus on the important things (definitions, terms); and is convenient for students who have developed visual memories (since bright pictures, images are more memorable); and fosters the development of spatial thinking. With the aid of the presentation, the lesson is better organized, and the presentation serves as its main component. In this case, the logic of thinking corresponds with both the lesson's conclusion and, more importantly, with the overall work's outcome.

Extracurricular activities in chemistry cannot be carried out without information and communication technologies. Some of them are: participation of talented students in distance quizzes, contests, blitz tournaments; preparation for the final attestation of students; project activities on the topic, etc. Experience shows that if there is no order on the desktop (computer), you have a full arsenal of techniques in the office where you work, then you will definitely lose time in class in search of a specific material. Therefore, each teacher is important to bring their own materials to the system. It is necessary to systematize folders, topics. You can use bridges for this. In my case, I use a camera document. This allows you to demonstrate experiments. For example, the interaction of sodium with water, since this safety experiment is carried out only by the teacher. The camera helps to see the signs of chemical reactions in large volumes.

The ability to condense and share instructional experience is made feasible by information and communication technology. The state will be covered in the Chemical Sciences lessons in the 2021–2022 academic year. Their implementation uses a methodical and proactive strategy as its primary technology. Classes, extracurricular activities, their installation, and eventually the demonstration can all be planned with the aid of the students. This enables you to observe how the tactic actually works and how to get kids to participate. Discuss, examine, perhaps make a note, and educate yourself. The program information and communication technology elements continue to help the teacher, enriching with new materials the educational process in combination with other technologies is effective and efficient. It will soon bear fruit.

Case is a set of educational materials that is structured on the basis of practical issues, referring to the search as a collective or individual group for their solution, which consists of a description of a problem situation based on possible circumstances, a situation that can be transferred to a task or task form, for its solution, it is solved by thinking about Kyes stadi: the situation, the problem, the reasons that caused the problem. For curses, any texts (newspapers, magazines, internet materials, etc.) can be used as cases. Works can be practical, teaching (for solving educational and educational problems), research (for conducting research activities and the formation of research skills). The Case method is designed to gain knowledge on topics in which reality is ambiguous (abstract).

When determining the case response, one or more of the stages of using the following situations can be selected:

1. Preparatory stage-questions for drawing up the work and its analysis; preparation of methodological support for the upcoming lesson.

2. The stage of acquaintance (the teacher organizes work in the classroom, students get acquainted with the situation, its features).
3. Analytical stage-the purpose of the stage: to analyze the case in the group and find or develop its solution. Activities: - highlight the main problem, any proposals for its solution, - analysis of the consequences of decision-making.
4. Final stage (the teacher evaluates the student's contribution to the analysis of the situation, publishes a general conclusion).

Work, phenomena, and collision are some of the technology's methods. This is a thorough investigation of a real or made-up circumstance. Role playing technique. A state of reality emerges through dramatization, and students evaluate it. In role-playing games, participants take on a role by choosing the behavior strategy, scenario, and desired outcome on their own. Group discussion is the method. A discussion is often led by the teacher.

The following reflects the case's requirements. First and foremost, there must be a statement of an urgent issue that requires discussion and does not have a clear solution; second, the text must correspond to the established educational objectives and the proposed training topic; third, there must be enough data in the Reserve to analyze and solve the research problem; fourth, the case's purpose is to analyze the data for the student in training, sort it to solve a given problem, identify identifi.

In conclusion, the development and implementation of case for problem-solving training in teaching is a complex and time-consuming task that requires a good knowledge of Internet resources, which makes it much easier to prepare the issue case. The activities of the teacher include the creative activity of students to assess the contribution of students in the analysis of the situation, to create keys and questions for its analysis and discussion. But the time spent is justified by increased mental activity of students, increased knowledge and, of course, increased interest in science. This in turn leads to the formation and development of the student's intellectual ability to solve the issue.

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