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Basic Methods for Improving the Training Process

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Annotation: This article analyzes teaching methods. The essence of "teaching technique" and "teaching rule" is revealed. Particular attention is paid to the classification of teaching methods based on information sources. The method of problem-based study of material forms the basis of problem-based learning.

Keywords: Method, training, improvement, teaching method, didactic rule, social experience.

The teaching method is a historical category. The level of development of the productive forces and the nature of production relations influence the goals, content, and means of the pedagogical process. As they change, teaching methods also change.

At the early stages of social development, the transfer of social experience to younger generations was carried out spontaneously in the process of joint activities of children and adults. By observing and repeating certain actions, mainly labor ones, with adults, children mastered them through direct participation in the life of the social group of which they were members. Teaching methods based on imitation prevailed. Imitating adults, children mastered ways and techniques of getting food, making fire, making clothes, etc. It was based on ***the reproductive method*** of learning. This is the most ancient method of teaching from which all others have evolved.

As the volume of accumulated knowledge expanded and the actions mastered by man became more complex, simple imitation could not provide a sufficient level of assimilation of cultural experience. Since the organization of the sheets, *verbal* teaching methods have appeared. The teacher, using words, conveyed ready-made information to the children, who assimilated it. With the advent of writing and then printing, it became possible to express, accumulate and transmit knowledge in symbolic form. The word becomes the main carrier of information, and learning from books becomes a massive way of interaction between teacher and student.

Books were used in different ways. In a medieval school, students mechanically memorized texts, mainly of religious content**.** This is how *the dogmatic,* or *catechismal , method of teaching* arose . Its more advanced form is associated with posing questions and presenting ready -made answers.

In the era of great discoveries and inventions, verbal methods gradually are losing their significance as the only way to transfer knowledge to students . Society needed people who not only knew the laws of nature, but also who know how to use them in their activities. The learning process organically included methods such as observation, experiment, independent work, and exercise aimed at developing the child's independence, activity, consciousness, and initiative. *Visual teaching methods* are being developed, as well as methods that help to apply acquired knowledge in practice.

At the turn of the 19th and 20th centuries. *The heuristic method began* to occupy an important place as a variant of the verbal one, which more fully took into account the needs and interests of the child and the development of his independence. "Book" methods of study were contrasted with "natural" methods, that is, learning through direct contact with reality. The concept of "learning through doing" using *practical teaching methods aroused* interest . The main place in the learning process was given to manual labor, various kinds of practical exercises, as well as students' work with literature, during which children developed the skills of independent work and the use of their own experience. *Partial - search and research methods* are approved .

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, *problem-based learning methods* based on posing a problem and on students' independent movement toward knowledge are becoming more widespread . Gradually, society is increasingly beginning to realize that a child needs not only education, but also the acquisition of knowledge, skills and skills, but also in the development of his abilities and individual characteristics. Methods of developmental education are becoming widespread . The widespread introduction of technology into the educational process, computerization of teaching leads to the emergence of new methods.

American educator K. Kerr identifies four "revolutions in the field of teaching methods." In the early stages of the development of human society, the main teachers of children were parents. The first revolution occurred when they were replaced by professional teachers. The second revolution is associated with the replacement of the spoken word with the written word . The third revolution led to the introduction of the printed word into teaching, and the fourth was aimed at partial automation and computerization of teaching.

The search for methods to improve the learning process remains constant. However, regardless of the role assigned to one or another teaching method at different periods in the development of education, none of them, when used exclusively on its own, provides the desired results. No teaching method is universal. A variety of teaching methods should be used in the educational process.

The success of the educational process largely depends on the teaching methods used. **Teaching methods** are ways of joint activities of teachers and students, aimed at achieving their educational goals.

Teaching methods reflect in interrelation the methods and specifics of the teaching work of the teacher and the educational activities of students to achieve learning goals.

The concepts of "teaching method" and "teaching rule" are also widespread in didactics.

A teaching method is an integral part or a separate aspect of a teaching method, i.e. a particular concept in relation to the general concept of "method". The boundaries between these two concepts are very fluid and changeable. In some cases, the method acts as an independent way to solve a pedagogical problem, in others - as a technique that has a particular purpose. For example, if a teacher conveys new knowledge using a verbal method (explanation, story, conversation), during which he sometimes demonstrates visual aids, then showing them acts as a technique. If a visual aid is the object of study and students receive basic knowledge based on its consideration, then verbal explanations act as a technique, and demonstration as a teaching method.

Thus, the method includes a number of techniques, but nosam is not their simple sum. Techniques determine the uniqueness of the methods of work of the teacher and students and give an individual character to their activities.

A teaching rule (didactic rule) is a specific instruction on how to act in a typical pedagogical situation of the learning process.

The rule serves as a descriptive, normative model of reception. A system of rules for solving a specific problem is already a normative-descriptive model of the method.

In the early stages of social development, the transfer of social experience to younger generations was carried out in the process of joint activities of children and adults. Teaching methods based on imitation prevailed. Acting in the same way as adults, children mastered the ways and techniques of obtaining food, making fire, making clothes, etc. It was based on the reproductive method of teaching ("do as I do"). This is the most ancient method of teaching from which all others have evolved.

Since the organization of schools, verbal teaching methods have appeared. The teacher orally conveyed the prepared information to the children, who assimilated it. With the advent of writing and

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Books were used in different ways. In medieval school, students mechanically memorized texts, mainly of religious content. This is how the dogmatic, or catechismal , method of teaching arose. Its more advanced form is associated with posing questions and presenting ready-made answers.

In the era of great discoveries and inventions, verbal methods are gradually losing their importance as the only way to transfer knowledge to students. The learning process organically includes methods such as observation, experiment, independent work, and exercise aimed at developing the child's activity, consciousness, and initiative. Visual teaching methods are becoming widespread.

At the turn of the 19th and 20th centuries. The heuristic method began to occupy an important place as a variant of the verbal one, which more fully took into account the needs and interests of the child and contributed to the development of his independence. The methods of "book" learning were contrasted with "natural" methods, i.e. learning through direct contact with reality. The concept of "learning through doing" using hands-on teaching methods aroused interest. The main place in it was given to manual labor, activities of various kinds, as well as the work of students with literature, during which children developed independence based on the use of their own experience. Partial search and research methods have become established.

However, regardless of the role assigned to one or another teaching method at different periods in the development of education, none of them, when used exclusively on its own, provides the desired results. No teaching method is universal. A variety of teaching methods should be used in the educational process.

The classification of teaching methods is a means of systematizing scientific and pedagogical knowledge about teaching methods. It has theoretical and practical significance. The first is that by classifying teaching methods according to one or another basis, we gain deeper and more complete knowledge about the teaching method as an element of the didactic system, which gives the answer to the question: how to teach?

The practical significance of the classification is that it facilitates the selection of a teaching method to achieve a certain specific learning goal. Pedagogical science knows many classifications of teaching methods. But this does not mean that there are classifications of teaching methods that are more successful, and that there are also less successful ones. It's just that in some classifications one basis is adopted, while in others it is completely different. There are also classifications in which two, three and even four characteristics are taken as a basis.

A. **Classification of teaching methods based on sources of information.** In pedagogy, there is a known classification of teaching methods based on sources of information, according to which methods are divided into verbal, visual, and practical. The idea of such a classification was once put forward and justified by many famous teachers.

Verbal methods (conversation, story, explanation, lectures, etc.) are characterized by the fact that the student receives information for assimilation by verbal means, that is, through the word.

Visual methods - information for assimilation is obtained on the basis of sensory-perceptual activity (demonstrations, illustrations, showing an object, model).

Practical methods. Their essence is that by performing practical actions the student receives some information, which he analyzes, draws a conclusion and comes to the knowledge that needs to be learned. The peculiarity of the method is that the activity of acquiring knowledge can overlap in time with the activity of applying it, which gives an important pedagogical effect.

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This classification was at one time subject to sharp criticism for the fact that it was based solely on the external forms of activity of the teacher and students, without taking into account the activities of students. Of course, the criticism is correct, but an ideal classification that takes into account all aspects of the teaching method is unlikely to be found.

B. **Classification of teaching methods based on students' independent cognitive activity.** An equally well-known classification of teaching methods based on independent cognitive activity, proposed by I.Ya. Lerner and M.M. Skatkin . This classification consists of explanatory-illustrative, reproductive, partial-search, research methods, and the method of problem-based study of material. They are named in increasing order of the degree of independent cognitive activity of students.

Explanatory and illustrative teaching method. This method is designed to ensure that students understand the content being taught. Understanding, as we know, is not only a result, but also a process during which a person establishes a connection between the unknown and the known , brings an unknown concept under the known, compares the unknown with the known.

To identify a basis for comparison, to determine the direction of establishing connections is the prerogative of the teacher, so he takes on this function, of course, within reason. What a student can do on his own, he can do it himself; either the teacher sets the program of action, or he draws it up together with the students. Therefore, this method can have such forms of manifestation as a story, conversation, lecture, explanation, illustration, demonstration of experiments, diagrams, pictures, discussions, etc.

In addition, this method is based on the characteristics of perception, which means that the teacher must find such methods of action that lead the student not only to a correct understanding of the material being studied, but also contribute to the formation of correct, complete and clear ideas about the object and subject of study .

Since the teaching method for a teacher is a unique means of achieving learning goals, the teacher, using this tool, must immediately receive information about the degree to which the learning goal has been achieved, evaluate the planned and achieved results, and make corrective actions. But the condition for this is to obtain the necessary diagnostic information.

If the task that this method solves is to ensure understanding, then diagnostics comes down to diagnosing understanding.

In the explanatory-illustrative method, isn't it most important to provide a simultaneous combination of oral explanation according to demonstration , illustration of samples, examples, models, etc. After all, it is precisely this combination that includes the left and right hemispheres of the brain in the activity, contributes to the actualization of a person's learning experience and forms a cognitive image of the object of study.

Since understanding is based on establishing connections, on comparing the unknown with the known, it is clear that what is compared with plays a big role. If there is nothing to compare with, then no understanding occurs. New connections will not be created; therefore, the teacher's actions must contain an element that orients students to actualize the basis from which comparisons and connections will be made.

There must be an element of willpower in the actions of students in order to remember something, bring back something to themselves, restore, revive connections, that is, transfer a kind of discrete unit of knowledge into a block of RAM, making this unit ready for work. In practice, this looks like repetition of the material that will be used when learning new things. The external manifestation of

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such actualization does not yet indicate that the student has transferred this discrete unit of knowledge to a state of readiness.

So, let's summarize all the characteristic features of the explanatory-illustrative teaching method.

1. The method performs the function of ensuring the assimilation of training content at the level of understanding.
2. It is based on the psychological pattern of assimilation, the essence of which is the perception of educational information and the creation of associations on this basis.
3. The teacher's actions come down to the transfer of a discrete unit of current knowledge into a block of students' RAM.
4. Students' actions come down to establishing connections between the unknown, the new, the known, the old, and comparing one with the other.
5. Assessment of the effectiveness of the actions of the teacher and students is based on an assessment of the student's ability to compare, translate information from one language to another, interpret, give their own examples, and the like.
6. The external form of expression of the method is a story, lecture, conversation, explanation, illustration, demonstration, etc., together with elements of independent cognitive activity of students.

Reproductive teaching method. It solves a somewhat more complex problem than the explanatory-illustrative one and its function is to ensure such assimilation of the material in which students would be able to reproduce it, having external support in the form of a hint (recognition level), or be able to reproduce it independently and apply knowledge gained in a simple, typical situation (reproductive level). In order for a student to remember the material, he must concentrate, gather his willpower, and, in addition, repeat it several times, trying to remember this material. This method is based on a well-known psychological law; for strong memorization, it is necessary to reinforce it by repeating it several times.

However , in order to remember this or that information, it is not necessary to repeat it many times. The knowledge that needs to be remembered is included in various semantic transformations, while the student concentrates all his attention on the transformations and the necessary information is remembered on a subconscious level.

Developing the ability to apply knowledge in a typical educational or close to normal situation requires that the student see a course of action using a specific example, that is, create a certain course of action, remember the entire sequence of actions.

After this, the task will be to solve a new problem, analyze the situation described in this problem, come to the conclusion that it, this situation is similar to the training one and, therefore, you just need to apply the way of action recorded in memory in the new situation. If the given situation is slightly changed, then you first have to perform some transformations to bring this situation back to the standard one and only then apply a known method of action in the transformed situation.

We remind you that we are considering the classification of teaching methods based on the independent cognitive activity of students. Among the teaching methods that ensure the assimilation of knowledge at productive and creative levels of assimilation, we will highlight the method of problem-based study of material, partially search and research.

Partial search method. Since scientific knowledge includes many stages and each of them in itself requires certain knowledge and appropriate practice, there is a need to sufficiently work out each cognitive step, each stage of search with students. The student must learn to "see" the problem,

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highlight it among many questions and tasks. Understanding the problem itself requires updating certain knowledge, a certain content space. And this is associated with transformations of this content. Under this condition, it is possible to distribute the entire problem into subproblems or tasks. In this case, some of them are solved by the students together with the teacher, some independently.

Solving a specific problem or task is important in itself, but it is much more important that students themselves identify these problems, establish the order and sequence of their solution, that is, to establish or develop their own logic for solving this problem. Among all the stages of solving a problem, the development and generation of hypotheses have the greatest pedagogical importance. After all, it is clear that in order to develop and clarify not one, but several hypotheses, it is necessary to put into action, update all existing knowledge, you really need to look ahead, predict, predict the future result, plan the stages of movement towards solving the problem itself.

In this movement of thought, the share of student labor, the share of independent mental activity of students should be as large as possible. The teacher's skill lies precisely in allocating to students that part of the work that they are able to do independently, which means that it will bring more benefit to them in the sense of a difficult path of knowledge. Equally important is the participation of students in developing methods for testing hypotheses, in analyzing the results obtained, and in formulating conclusions. Let us note that the use of the partial search method of teaching in the educational process, with all its positive features, does not create in students a holistic vision of the entire path of searching and extracting knowledge, but at the same time, it is a pedagogical step that prepares students for such a vision.

Research method of teaching. There was a time in the history of our school when teachers considered the research method of teaching to be the only scientific method of teaching, and, moreover, universal. This shift in emphasis towards increasing the degree of independence of students in the learning process was due to the fight against excessive memorization of material. And on this basis in The research method of teaching included any actions with objects of study. The research method of teaching solves problems at the creative level of assimilation.

The method of problem-based study of material forms the basis of problem-based learning.

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