

USING THE SOCRATES METHOD IN IMPROVING THE QUALITY OF EDUCATION IN PEDAGOGICAL UNIVERSITIES

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Abstract:

It is shown that Socrates' dialogue method is a kind of laboratory, an animated search field, assuming the presence of two interlocutors. There is no real wisdom outside of Socrates' dialogue, but only a lot of knowledge. The emergence of information computer systems makes it possible to expand the cognitive possibilities of dialogue. Such a virtual dialogue does not diminish the importance of a live, direct dialogue but complements it by changing the form of the traditional educational process.

Keywords: dialogue, truth, knowledge, self-knowledge, virtual dialogue

Introduction:

The socio-economic changes in ancient Greece led to the destruction of established communication between people. They required the development of a new life position. Philosophy was the answer to this demand. She offered the man a new type of self-determination: not through habit and tradition, but through his mind. The philosopher told the students not to take everything for granted and to think for themselves. The philosophy that arose at the time of the crisis of the traditional way of life and traditional values, on the one hand, acted as a criticism of traditions, deepening doubts about the importance of the principles of life that have been established for centuries, and on the other hand, it is an attempt to find a justification for building a new culture. Socrates played a significant role in this. Socrates' philosophising is a dialogue involving direct contact between interlocutors, a joint search for truth during conversations and disputes. Dialogue, as a way of life and a way of philosophizing, was the reason for Socrates' conscious rejection of written works. The written form, depriving

the need for independent search, allows students to seem knowledgeable, repeating what was said in other people's writings. Dialogue is a living, animated speech. He is a kind of laboratory, a search field, assuming the presence of at least two interlocutors. There is no real wisdom outside such a dialogue, but only much knowledge is possible. And much knowledge, as Heraclitus of Ephesus said, will not teach the mind. In the dialogue, each of the interlocutors acts as an equal. This applies equally to the case when one of the participants in the dialogue is a teacher, and the other is a student. According to traditional concepts, a teacher is someone who speaks and reads, and a student is someone who listens and writes. In the learning process, the first plays an active role, and the second — a passive one, and the training itself takes place in an atmosphere dominated by the teacher's authority. These concepts are entirely alien to the Socratic understanding of the teacher-student relationship. Socrates himself was not a teacher in the traditional sense. In his dialogue, according to his pedagogical views, no teacher transmits a certain amount of knowledge to the student, and no student carries this set of information in his head. In the Socratic dialogue, there are two persons for whom truth and knowledge are not given in a ready-made form. This means that truth and knowledge are not transmitted, or figuratively, and do not flow from one head to another but are revealed in the participants' minds in the dialogue. Therefore, Socrates, unlike the sophists, did not consider himself a teacher of wisdom who knows everything and undertakes to teach everything. He only claimed to teach the art of dialogue, in which the interlocutor, answering the questions asked, expressed judgments, revealing his knowledge or, conversely, his ignorance.

Thus, the skill of asking questions became a test of the interlocutor, his "rebuke". The "denunciation" that Socrates resorted to was aimed in some cases at moderating the self-confidence of the interlocutor, who thinks he knows himself, and proving to him not only that he knows nothing but moreover, remaining a narrow-minded person, he does not suspect his ignorance; in other cases, the "denunciation" was intended to orient the interlocutor to self-knowledge, as well as to discover and clarify what had previously remained hidden and implicit in himself. In the latter case, Socrates considered the art of asking questions as a means by which one can promote the birth of truth in the interlocutor's mind, helping him to reveal his creative abilities. Socrates compared this question-and-answer art with the midwifery of his mother Fenareta and jokingly called mayeutics. Socrates' "denunciation" put the interlocutor in a difficult position, forcing him to contradict himself, which caused confusion and confusion. In the words "I know that I know nothing" is the whole of Socrates, his whole philosophy. He was sure that ignorance, or rather, the knowledge of his ignorance, would eventually turn into knowledge. Therefore, ignorance is a prerequisite for knowledge; ignorance stimulates the search and makes you think. Thus, a person who does not doubt the truth of his knowledge and imagines himself omniscient in everything has no need to search, think and reflect.

The changes taking place in modern education are related to the use of information computer systems. The interactive mode of working with a computer allows you to have a virtual dialogue with your interlocutor. Virtual dialogue, compared to live, direct dialogue, has a much greater information load. However, this form of dialogue can in no way replace the

Socratic dialogue, but it is an addition to it, changing the form of the traditional educational process.

The increased interest in Socrates' dialogue is also indicated by the statement of the founder of Apple, Steve Jobs. When asked about his main desire, he replied that he would like to meet Socrates and enter into a dialogue with him.

Pedagogy as a science studies the essence, patterns, trends and prospects of education as a factor and means of human development throughout his life. On this basis, pedagogy develops the theory and technology of the organization of the educational process, the forms and methods of activity of the subjects of this process (teachers and students), as well as strategies and ways of their interaction.

Humanity has to constantly increase its search activity, increasing its knowledge and creative abilities. The further away in time, the greater the radius of creativity you need to have and solve more and more issues. That is why they are increasingly talking about methods for developing creative abilities and generating new ideas.

Special training and development programs are being actively introduced into the modern education system. An interesting fact is that most of them are based on ideas expressed before our era by the great scientist and philosopher Socrates, who is the ancestor of the dialogic teaching method.

As you know, Socrates (469 BC -399 BC, Athens) was an ancient Greek philosopher whose teachings marked a turn in philosophy from considering nature and the world to considering man. With his method of analyzing concepts (Maieutics, dialectics) and the identification of virtue and knowledge, he directed the attention of philosophers to the unconditional importance of the human personality

To substantiate his views, Socrates used the method he developed, which went down in the history of philosophy under the name Socratic, namely dialectics, the art of dialectical dispute. The main task of this activity was to bring to life the best, innermost mental forces of the pupil based on a careful study of his inclinations and abilities.

The essence of the scheme was that it was necessary first of all, to destroy the system of false ideas and related judgments in the student's mind, lead him to the conclusion that he knows nothing, and then, thus breaking his bias, on cleared ground to build a system of new ideas, each stage of development of which would arise in the student's mind as something objectively inevitable and at the same time as close, dear, growing out of one's self.

To cause the "self-generation of truth" in the student's mind, Socrates had to break with the dogmatic method of presenting relevant material practised by the "older" sophists. A lively, relaxed conversation replaced the place of sophistical lectures.

The didactic foundations of educational conversation, formulated in the form of distinct provisions two thousand years later by Komensky in his "Great Didactics" (the continuity of

transitions from the previous to the next, the path from the near to the far, from the less complex to the more complex, etc.) were intuitively guessed by Socrates.

Hence, the peculiarity of Socrates' conversations, which already amazed his contemporaries so much: these conversations usually began with pointing out the most straightforward life cases, the most ordinary of the objects around us. At the same time, the whole construction of the conversation was not like teaching the knowledgeable to the ignorant.

From all that has been said, it follows that Socrates appeared in the field of socio-pedagogical activity primarily as a reformer in the field of higher education, without changing the forms of this education established by the sophists, but putting new content into these forms.

The ancients, starting with Plato, realized that when a teacher reads, and a student writes, learning takes place in an atmosphere dominated by the teacher's authority. This is alien to the Socratic understanding of the student-teacher relationship.

The outstanding German scientist and teacher F. Disterveg wrote about the famous philosopher and theologian F. Schleiermacher and his teaching style: "There is no method that excites the mind as much as the one he used. It was a living process of thinking; the process of thinking in its most vivid, immediate and exciting clarity was carried out in full view of all those sitting in front of Schleiermacher; one could see and hear how he thought; one could feel it. This was the Socratic method in its modern application to modern sciences... Although the listener did not answer aloud, he answered internally and heard the mentor's answers to his questions." At the end of the quote is the essence of the Socratic dialogue. Questions based on a hidden contradiction excite the brain extremely strongly; do not leave it indifferent. When a person finds himself in a situation of uncertainty, and a contradiction creates it, he concentrates and painfully searches for a way out. This is one of the principles of human behavior and mental activity. Only balance preserves inner comfort. But Schleiermacher is gone, and again we cannot find any mention of the Socratic teaching method for a hundred years.

It is quite another matter when this method is considered a recommendation for activating students. Here we again find references to the technology of dialogue from the outstanding mathematician and teacher of the twentieth century, D. Poya, in his fundamental work "Mathematical Discovery". Poya's main credo is: "The best way to learn something is to discover it yourself." To confirm his point, the mathematician cites the statements of the German physicist and philosopher of the XVIII century Lichtenberg: "What you were forced to discover yourself leaves a path in your mind that you can use again when the need arises." Developing Lichtenberg's thesis, Poya deduces one of the main principles of active study: it will be most effective when the student independently discovers "as much of the material being studied as is possible under the circumstances." He rightly notes that this principle of learning is very old and it is he who underlies the idea of the "Socratic method". Next, Poya returns to the idea that "ideas should originate in the minds of students, and the role of the teacher in this process can be compared to the role of a midwife. This is the classic instruction of Socrates, the form of education that best meets him is the Socratic dialogue."

In the middle of the twentieth century, the Socratic method was again vividly highlighted in the world press in the work of the famous Hungarian mathematician A. Renyi "Dialogues about Mathematics". Here we are not talking about learning, but about the method of presenting content. In the preface to the Russian edition, our domestic mathematician, academician B. Gnedenko writes: "His "dialogues" acquire a special power of influence because of the form of presentation, which, unfortunately, is almost completely forgotten by modern authors. Renyi does not instruct the reader, does not simply seek to put his own thoughts into him, but talks to him, anticipating possible doubts and objections in advance, and puts them into the mouth of the interlocutor. As a result, the reader himself becomes a participant in the dialogue..."

A. Renyi himself writes in the afterword to his book: "... indeed, it is necessary to discuss the basic issues of mathematics and its application in such a way as to make them understandable to non-specialists and at the same time reveal these problems in all their complexity. I was aware that it was not easy to make such questions publicly available, so I was looking for some special method. The search led me to an experience with the Socratic form of dialogue. Socratic dialogue demonstrates thoughts in the process of their creation and, as it were, dramatizes them. Thanks to this, the reader closely follows the development of thought and easily understands it." In the same afterword, Renyi notes one of the main aspects of the Socratic method, hidden from a superficial look at its essence: "The Socratic dialogue is not a clash of two points of view, just the participants trying to find out the truth together."

The greatest difficulty for the followers of the Greek philosopher was to achieve the subtle irony that the questions of Socrates himself "breathed".

All references to the method of the great Greek philosopher, to which we referred, were of an episodic nature, once again supporting the great rarity of the use of Socratic dialogue both in life and in educational practice. An attempt at a truly massive introduction of a dialogical form of education into secondary school was made by the American reflexologist B. Skinner and his followers in the mid-50s. Skinner is recognized as the founder of the idea of programmed learning. His questions, like micro steps, break up the topic of the lesson in extremely detail. Each such "step" should be so simple that the student can make it unmistakably. The scientist believed that the probability of a correct answer to the question should be close to 0.05.

A surprisingly simple linear dialogic scheme was proposed: question –answer; the question is necessarily easy, otherwise the reinforcement scheme will not work. The answer must be successful. The student is convinced by comparing his answer with the answer in the script that he guessed correctly, and thereby receives reinforcement.

Subsequently, many hundreds and even thousands of computer-based training courses appeared. The extensive scheme of Crowder's questions and answers is now successfully used in many educational institutions in various countries. Now the system of programmed learning has become especially fashionable in Russia, despite the fact that it has been dramatically enhanced by ways of influencing the right hemisphere of the brain, for example, by using

painted images-pictures that help to understand the content of leading questions, and the difficulty of leading questions. And yet, numerous new methods of programmed learning are still far from the fundamental essence of the Socratic method and do not solve many problems. But as the antithesis of the usual traditional way of transmitting educational information, they have become extremely widespread.

If we talk about the main general disadvantage of question-and-answer learning technologies (linear Skinner, branched Crowder and most modern technologies), then, apparently, it is appropriate to apply Disterveg's statement to them: "The essence of the Socratic dialogic method is not that the teacher asks the student, that is, not in the dissolution of grammatical sentences in questions. The point is that the subject under discussion is actually or inherently represented in the questions. Therefore, those who use the question-and-answer method of teaching are often far from the Socratic method. It often turns out to be an empty, insignificant game, eliciting a predicate with a given subject or object in the presence of a predicate. Such formal questions do not touch upon the essence of real socratics."

The 20th century was full of great social and geopolitical events that led to increased competition in the field of science and technology. Solving the problems of creating knowledge-intensive technical means and high-tech industries is always associated with overcoming certain contradictions and problems caused by these contradictions. From a logical point of view, the problem can be considered as a complex issue, i.e. as a system of interrelated issues. Aristotle also believed that knowledge consists of answers to questions, and there are as many types of questions as there are types of things. The questions have a categorical nature.

It is customary to distinguish seven types of questions:

These questions, by their logical and philosophical-dialectical nature, take the form of belonging, belonging, existence, possession of qualities, necessity, sufficiency, possibility and uniqueness.

Questions are also divided into direct (aimed at solving the problem) and indirect (complementary). The first group includes questions about the property, about the attribute belonging to the object, about the community of belonging to this attribute, about relationships. The issues of complementation include questions about the individual properties of an object related to a separate object, and about the relationship between objects; about what objects are included in the relationship between each other.

As an example of such questions, the so-called "Lists of control questions" by A. Osborne, D. Poya, G. Bush, T. Eyloart should be mentioned, which are a further development and modification of the Socratic question-developing dialogue. They are widely used in the design departments of large multinational aviation, automotive and engineering companies to search for new ideas and innovative design and technological solutions.

The method of Socratic heuristic questions was widely used in the 60-80s of the last century and is still used in the practice of inventive activity. The founder of this Russian creative school was G.S. Altshuller.

Currently, many Russian schools and universities teach disciplines aimed at developing the creative abilities of schoolchildren and students, increasing their creativity, mastering methods of searching for new creative ideas, eliminating contradictions and problems generated by them, and creating competitive material and spiritual values.

For example, the course "Idea Generation and Engineering Creativity" is taught at the Moscow Energy Institute, the course "Creative Pedagogy and Psychology" is taught at the Bauman Moscow State Technical University and the Moscow State Technological Academy, the disciplines "Fundamentals of Scientific and Technical Creativity" and "The theory and practice of advertising", in which the method of heuristic Socratic questions occupies a special place.

The expediency and effectiveness of using the method of heuristic questions were confirmed by a longitudinal psychological and pedagogical experiment to identify the dynamics of the growth of creativity indicators of students of the 3rd year of the Faculty of Electrical Engineering of CSPU in the process of their training in the discipline "Methods of scientific and technical creativity". The experiment was conducted using the E. Torrens test of creative thinking "Figuralforma" according to four criteria: fluency of thinking, flexibility of thinking, originality of thinking, elaboration (detail) of ideas [3]. 79 students of the experimental group and 70 students of the control group took part in the experiment conducted over two years.

Conclusion:

The results of statistical processing of the experimental data obtained on the dynamics of creativity growth showed that in the process of studying the course "Methods of scientific and technical creativity" with the active use of the Socratic question method, students' creativity increased 1.5 times in terms of flexibility of thinking, in terms of originality of thinking - by 32%, in terms of fluency of thinking and detail of ideas – by 7 – 10%.

The reflection of Socratic ideas can be found in almost any pedagogical system, no matter whether it is technical or humanitarian. Dialogue is the best form of learning. This is the best way to get rid of prejudices and learn self-criticism. The shift towards problem-based teaching began at the end of the nineteenth century, but studiosness still prevails in education. Socrates' conversations were aimed at helping the "self-generation" of truth in the student's mind.

Socrates' conversations caused a special emotional and intellectual uplift in the audience. Socratic dialogue, although it requires more work from the teacher, or rather, his other abilities,

is a more democratic way of transferring knowledge, as well as a means of generating creative ideas and preparing students for professional activity.

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