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# TECHNOLOGY OF STUDENTS'CRITICAL THINKING DEVELOPMENT IN LESSONS OF INFORMATICS

**Kyselova Olesia Borysivna,**
PhD in pedagogical sciences, Associate Professor, Associate Professor of Informatics
Municipal establishment “Kharkiv humanitarian-pedagogical academy” of Kharkiv regional council, Ukraine

The main task of a modern school is to train students who are able to think critically, solve problems at a high intellectual level, analyze the situation, plan their actions a few steps ahead, defend their position, adequately evaluate results, make informed decisions, independently obtain and rethink information. interact constructively with other people.

School informatics plays an important role in preparing the younger generation for life in modern society, in the formation of students' critical thinking.Science and practice have consistently collected and summarized best practices in finding the most effective ways to develop critical thinking in computer science lessons. The following well-known scientists dealt with this problem: R. Thompson, K. Hal, G. Sorin, A. Fedorova, E. Fedotovska, A. Kuznetsov, M. Antonchenko, T. Oliynyk, and others.

The definition of the essence, content, main features of critical thinking is quite ambiguous. In his own research, I. Zagashev defines critical thinking as a process during which a person can characterize a phenomenon or object, express his attitude to it through polemics or argumentation of his own opinion, and find a way out of any situation. Critical thinking is the ability to actively, creatively, individually perceive information, optimally apply the desired type of mental activity, analyze information in many ways, have a personal independent opinion and be able to correctly defend it, be able to apply the acquired knowledge in practice [1].

In Khachumyan T.'s work, critical thinking is seen as a person's ability to clearly identify a problem that needs to be solved, independently find, process and analyze information; logically build their thoughts, give convincing arguments; the ability to think mobile, to choose the only correct solution to the problem; to be open to the perception of the opinions of others and at the same time principled in defending their position [3].

The development of critical thinking is a very important aspect not only in teaching computer science, but also in everyday life.

H Teaching children to think critically in computer science lessons means:

teach them to ask questions correctly;

draw conclusions independently;

find and make the right decisions.

The technology of development of critical thinking in computer science lessons consists of three stages.

Stage I – the challenge. Functions: motivational (motivation to work with new information, interest in the topic); information (verification of existing knowledge on the topic); communicative (conflict-free exchange of views). At the stage of the call

with the help of various techniques (individual, pair, group work; brainstorming; content prediction; problem questions, etc.) - there is a generalization of existing knowledge on this topic, an idea of what will be studied. knowledge is brought to the level of awareness. They can now become the basis for the acquisition of new knowledge, which gives students the opportunity to more effectively relate new information to previously known and consciously, critically approach the understanding of new information [1].

For example, in 9th grade, while studying the topic "Graphic Editors" at the beginning of the lesson, students can be asked to come up with their own editor, describe its capabilities, different from those already known. Then, in the process of discussing the editors, students learn which of the invented possibilities actually exist and which do not. Students do not have to learn the possibilities of a graphic editor, they themslves assume and discuss them.

Stage II – comprehension. Functions: information (receiving new information on the topic); systematization (classification of the received information on categories of knowledge). At the stage of comprehension, students come into contact with new information, systematize information, compare them with their own knowledge. Students learn to evaluate the effectiveness of their learning [1].

For example, in the 11th grade, students can be asked to prepare reports on "Using e-mail in the enterprise (in the company, at school, in the bank, etc.)" while studying the topic "E-mail". Then in class they are invited to share these reports. Reading them, children learn to identify commonalities and differences, to find the facts that they did not take into account when preparing their own essay. Such tasks require more careful reading and study of the material. The information provided in this way will be better assimilated than the usual explanation of the new material by the teacher.

Stage III – reflection. Functions: communicative (exchange of views on new information); information (acquisition of new knowledge); motivational (encouragement to further expand the information field); evaluative (the ratio of new information and existing knowledge, developing their own position, evaluation of the process). At the stage of reflection, students solve several tasks: generalization of the received information, development of own attitude to the researched material, analysis of educational process as a whole. A lively exchange of ideas between students gives them the opportunity to get acquainted with different points of view, teaches to listen carefully to a friend and argue their own opinion [1].

For example, when learning the concept of "algorithm" in 8th grade at the end of the lesson, students can be asked to throw a cube, on the faces of which will be written tasks: "What does it look like?", "Where is it used?", "Where did you meet before?" and other. Students, throwing the dice, get the task and immediately answer: where the algorithm is used, what it consists of and so on. Thus, there is a repetition and consolidation of the studied material.

Grade 9 students write messages at the end of each topic: "Computer, useful and harmful", "What if there were no computers", etc.

There are many different techniques and techniques used at each stage. At the stage of the challenge is the construction of a cluster, a "brainstorming", a table, "thick" and "thin" questions, and so on. At the stage of comprehension - it is reading the text by

the method of INSERT, summarizing the theoretical material on reference issues, reading with stops, etc. At the stage of reflection - is a review of the initially compiled list of ideas, group discussion. The presence of various methods makes it possible to make lessons non-standard, dissimilar, different.

Forms of a lesson on the development of critical thinking are different from lessons in traditional teaching. Students do not sit passively, listening to the teacher, but become the main protagonists of the lesson. They think, share their thoughts with each other, read, write, discuss.

Summing up, we note that the use of technology for the development of critical thinking in computer science lessons can maximize the effectiveness of the educational process, makes it possible to create conditions where all students are involved in active, creative learning, self-learning, self-realization, learn to communicate, cooperate, think critically , defend their position, develop communication skills, learn to find not one but several ways to solve the problem.

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