INNOVATIVE METHODS FOR DEVELOPING CRITICAL THINKING SKILLS IN PRIMARY SCHOOL STUDENTS

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Abstract: This article analyzes the pedagogical foundations and innovative methods for developing critical thinking skills in primary school students. Particular attention is paid to the content of critical thinking and to the formation of students' abilities to reason independently, analyze information, compare evidence, and draw well-founded conclusions. The article also examines the possibilities of applying methods such as problem-based learning, "Brainstorming," "K-W-L" (Know–Want to know–Learned), "Why?" and "Mind Map" in primary school lessons.

Keywords: primary education, critical thinking, innovative methods, problem-based learning, independent thinking, analysis, argumentation, reflection, creative approach.

Introduction

In today's educational process, it is becoming increasingly important for students not only to acquire ready-made information but also to analyze it independently, ask questions, compare different opinions, and substantiate their own conclusions. As the volume of information continues to grow, it is not enough for a student merely to receive information. The student needs to understand its content, evaluate its reliability, and be able to apply their knowledge in new situations [1].

The primary education period is an important stage for forming the initial foundations of independent thinking in students. It is precisely during this period that children develop such types of mental activity as asking questions, observing, comparing, identifying cause and effect, and seeking several solutions to a problem [2]. If a teacher organizes the lesson solely on the basis of explaining information and then asking students to reproduce it, students' opportunities for independent reasoning may be limited. Therefore, it is necessary to use tasks that stimulate thinking and methods that direct students toward active participation [3].

Critical thinking is characterized by a student's ability to analyze existing information, identify evidence, compare different points of view, and draw a well-founded conclusion. This process depends not only on the student expressing their opinion freely but also on their substantiating that opinion with evidence. Consequently, developing critical thinking in primary grades requires aligning the content of education, teaching methods, and assessment approaches with one another [4].

Critical thinking is the process of consciously analyzing information, a phenomenon, or a problem; identifying the relationships among its components; evaluating evidence; and arriving at a logical conclusion. In this process, the student does not merely repeat the given information but strives to understand its content, to question it, and to consider various solutions [5].

The development of critical thinking in primary school students should be organized in a manner appropriate to their age characteristics. Rather than through complex theoretical concepts, it is more effective to develop thinking activity through real-life situations, simple problems, pictures, texts, observations, and practical tasks.

For example, a teacher may ask students: "Why do some plants not grow well in places where there is not enough sunlight?" Students express their assumptions, recall their prior knowledge, and try to explain their answers with evidence. Such a task directs the student toward seeking reasons and substantiating their opinion rather than memorizing a ready-made answer [6].

Critical thinking includes the following component skills:

- Analyzing — breaking information into parts and identifying the relationships among them.

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• Comparing — finding the similar and different aspects of objects, phenomena, or opinions [7].

• Asking questions — formulating questions that help to determine the essence of a problem.

• Argumentation — substantiating one's opinion with examples, observations, or data.

• Drawing conclusions — arriving at a logical result on the basis of available evidence.

• Reflection — analyzing one's own thinking process and, if necessary, reconsidering one's conclusion [8].

These skills are closely interrelated and are developed through regular, consistent practice in lessons.

Methodology

In developing critical thinking, innovative methods increase students' cognitive activity and expand their opportunities to solve learning problems independently and to substantiate their opinions. In this regard, one should take into account not only the novelty of a method but also its suitability for the learning objective and its capacity to activate the thinking process.

Problem-based learning is founded on creating a problem that requires students to think about the relationship between their existing knowledge and a new situation. The teacher does not present a ready-made solution immediately but directs students to understand the problem, put forward hypotheses, and test solutions. For example, in a mathematics lesson, the following problem may be given: "Three notebooks of the same price and two pens were purchased. What information is needed to determine the total cost of the purchase?" Students distinguish between the available and the missing information and identify the conditions necessary to solve the problem. In this way, they learn to analyze the conditions of a problem and to evaluate the sufficiency of the data.

An important aspect of problem-based learning is that, in the process of finding the answer, the student thinks actively, tests their own assumptions, and tries to substantiate the correctness of the solution.

The "Brainstorming" method is aimed at collecting students' various opinions on a particular question or problem and analyzing them afterward. First, students express their suggestions freely; then the suggestions are compared and their well-founded aspects are identified. For example, in a natural science lesson, the question "What can be done to save water?" is put up for discussion. Students offer various suggestions. At the next stage, the practical feasibility, benefit, and conditions for implementation of each suggestion are discussed.

This method develops students' skills of generating ideas, analyzing the ideas of others, and evaluating suggestions on the basis of evidence. For the method to be effective, it is advisable to distinguish between the stages of collecting ideas and evaluating them.

The "K-W-L" method serves to identify students' prior knowledge of a topic, to specify the information they wish to learn, and to analyze the knowledge acquired at the end of learning. The method is based on three questions:

• Know — What do I know about the topic?

• Want to know — What else do I want to know?

• Learned — What new information did I learn during the lesson?

For example, on the topic "The Water Cycle in Nature," students first write down what they know about water. Then they formulate the questions that interest them. At the end of the lesson, they record which of their questions they have found answers to and what new knowledge they have gained. This method helps students to organize their learning process consciously, to inquire through questions, and to become aware of changes in their own knowledge.

This method is directed at systematically identifying the causes of a phenomenon or situation. Students explain why a certain result occurred and, when necessary, ask additional questions. For example, in a reading literacy lesson, if a story's character has made a certain decision, students are asked to answer questions such as "Why did the character act this way?" "Which part of the text

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confirms your opinion?," and "How else could the character have acted?" This technique enables students to understand cause-and-effect relationships, to find evidence in the text, and to substantiate their own conclusions.

A mind map is used to organize information, to identify the relationships among concepts, and to see different aspects of a problem. The main concept is placed in the center of the map, and related ideas are represented through branches. For example, on the topic "The Benefits of Reading Books," students place around the main concept ideas such as learning new words, developing imagination, expanding knowledge, and enriching speech. They can then explain each idea with an example. The advantage of the method is that it enables students not merely to list information but to see the connections among concepts and to express their ideas in an orderly manner.

This method serves to develop students' skill of substantiating their point of view. The student first expresses their opinion, then provides evidence or an example that supports it, and finally draws a conclusion. For example, a student is offered the statement "The story's character acted responsibly." The student indicates whether they agree or disagree with this statement, cites a relevant event from the text as evidence, and explains their conclusion. The method can be used in lessons on the native language and reading literacy, natural science, and social topics. Importantly, the student is not required merely to give a "correct" or "incorrect" answer; attention is also paid to how they have substantiated their opinion.

It is not necessary to confine critical thinking to separate sessions. By integrating it into the content of primary education subjects, students learn to apply thinking strategies in various situations. In the educational process, it is recommended to link strategies such as planning one's thinking, observing, checking one's own work, and drawing conclusions directly to subject tasks.

In native language and reading literacy lessons, tasks can be used such as identifying the main idea of a text, analyzing the characters' actions, finding evidence in the text, predicting the probable continuation of events, and interpreting the author's opinion.

In mathematics lessons, critical thinking can be developed by analyzing the conditions of a problem, seeking several methods of solution, checking the answer, and comparing different solutions. For example, a task to solve one problem in two different ways directs the student to focus not only on the result but also on the logical foundations of the solution.

In natural science lessons, observing, putting forward hypotheses, identifying cause and effect, and interpreting the results obtained are important. By comparing the growing conditions of plants or observing weather changes, students practice drawing conclusions based on data.

In fine arts and technology lessons, it is possible to compare various creative solutions, explain the reasons for choosing materials, and identify the strengths of the completed work. Such tasks combine critical thinking with creative activity.

Results

In the process of developing critical thinking, the teacher is not only a source of knowledge but also performs the function of organizing and guiding students' independent inquiry. To this end, the educator must formulate questions purposefully, allocate time for students' thinking process, and create opportunities for analyzing different answers.

First, the teacher should not limit themselves to short, single-answer questions. Questions such as "Why do you think so?" "What evidence can you use to explain this?," and "Could there be another solution?" broaden students' thinking [9].

Second, it is important to regard mistakes as an opportunity for learning. When a student gives an incorrect answer, instead of immediately stating the ready-made solution, the teacher can determine how the student thought and ask questions that direct the student to recheck their conclusion [10].

Third, it is useful for the teacher to demonstrate their own thinking process. For example, while solving a problem, the teacher can explain aloud what information is important, why a particular method was chosen, and how the answer is being checked. Such a model helps students to master independent thinking strategies.

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Fourth, in assessment, not only the final answer but also the thinking process should be taken into account. A student's ability to provide evidence, make comparisons, ask questions, and explain their conclusion is an important indicator in determining their development [11].

Discussion

In the process of developing critical thinking, it is important to regularly monitor and analyze students' results. For this purpose, criteria appropriate to their age characteristics can be used.

Understanding and analyzing information: the student's ability to identify the main information and to distinguish between important and secondary information [12].

Comparing and identifying relationships: the ability to find the similar and different aspects of objects, phenomena, or opinions and to explain cause-and-effect relationships [13].

Argumentation: the ability to substantiate one's opinion with a text, observation, example, or logical explanation.

Drawing conclusions: the ability to form a logical conclusion appropriate to the situation by using available information[14].

Reflection: the ability to check one's own solution, reconsider one's opinion, and draw conclusions from one's mistakes.

These criteria can be assessed through observation, written and oral tasks, problem situations, and students' analysis of their own work. The main purpose of assessment is not to compare students with one another but to identify changes in their thinking skills and to determine subsequent educational tasks [15].

Developing critical thinking skills in primary school students is one of the important tasks of modern education. These skills develop students' abilities to analyze information, ask questions, compare evidence, seek different solutions to problems, and draw well-founded conclusions [16].

Conclusion

Methods such as problem-based learning, "Brainstorming," "K-W-L," "Why?" "Mind Map," and "Opinion — Evidence — Conclusion" create favorable pedagogical opportunities for organizing students' independent thinking activity. In using these methods, the suitability of the tasks to students' age characteristics, the content of the questions, and the active participation of students are of particular importance.

It is advisable not to confine critical thinking to a single subject or separate session but to integrate it into the content of native language and reading literacy, mathematics, natural science, and other subjects. The teacher's demonstration of the thinking process, allowing students time for argumentation, and directing them to analyze mistakes serve the consistent development of these skills. Thus, creating an educational environment oriented toward critical thinking is an important methodological direction that helps to increase primary school students' cognitive activity, to develop their readiness for independent learning, and to promote the conscious application of knowledge in various situations.

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