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Pedagogical Aspects of the Development of Analytical Thinking in Students

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Abstract

This article analyzes the theoretical and practical aspects of the development of analytical thinking in students. The development of analytical thinking skills is considered as one of the main goals of the modern educational process, in this regard successful international experiments, pedagogical approaches and methodological technologies are highlighted. The author studies the essence of analytical thinking, the problems in the process of its formation and their solutions, as well as innovative methods used in the training and education of students. The article examines effective methods of developing analytical thinking based on the scientific views and approaches of famous scientists such as John Dewey, Jean Piaget, Francis Galton.

Keywords: Analytical thinking, pedagogy, problem education, interactive methods, intelligence, innovation, training technologies.

Introduction

In the modern educational process, analytical thinking is an important indicator of teaching students to think independently, creatively and innovatively. This ability is of great importance in ensuring that students are successful in their professional activities in the future. Analytical thinking develops a person's ability to understand a problem, study various aspects of it, evaluate existing information and offer based solutions. Scientific research and international experiments on this topic show that the formation of this ability depends on the knowledge and experiences of educators.

1. Analytical thinking: theoretical foundations and its role in education.

Analytical thinking is the process of critically evaluating knowledge, determining the connection between existing data, and drawing reasonable conclusions. This ability ensures that the student not only receives knowledge, but also applies this knowledge in practice. The research of several scientists plays an important role in the scientific justification of the concept of analytical thinking. For example, Jean Piaget, in his theory of cognitive development, linked analytical thinking with

the stages of development of human intellectual abilities. He proposed specific tasks for the formation of analytical thinking in the age-appropriate development model [1].

D.B. Bogoyavlenskaya and V.A. According to krutetsky's research, analytical thinking plays an important role in the student's process of independently solving the problem, making decisions and proposing alternative solutions [2].

The development of analytical thinking has a positive effect on the following aspects of the student:

1. Formation of a critical approach.
2. The ability to take the problem more than different rakurs.
3. Logical and justified decision - making.
4. Develop innovative ideas.
5. Role of analytical thinking in education:

The role of analytical thinking in the educational process serves for the deep assimilation of knowledge by students in various disciplines. This forms their ability to find an independent solution in any problem situation in the future.

Formation of analytical thinking: pedagogical approaches and technologies

The effectiveness of the formation of analytical thinking depends on the correct selection of pedagogical approaches. The use of modern educational technologies is important in this regard.

Problem learning approach: the problem learning method encourages students to seek new knowledge. John Dewey proposed to develop analytical thinking in his pedagogical views by creating problem situations and solving them together with the Student [3].

This approach leads to the following results in the learning process: students express their opinion on the problem, strive to draw independent conclusions, learn to apply the acquired knowledge to practice,

Interactive methods

Interactive methods ensure the active participation of students in the course of the lesson. These methods include: debate and debate: through this method, students learn to defend their opinions by analyzing the problem in depth. Project method: students analyze existing data and offer new ideas by preparing a project on various topics. Role-playing games: by analyzing issues based on different roles, students will have the opportunity to understand real-life situations [4].

Information and communication technologies (ICT). Through ICT, students use modern resources to develop knowledge analysis skills. For example, with interactive platforms, electronic textbooks and simulation programs, it is possible to increase students ' ability to think analytically [5].

Individual approach an individual approach is of particular importance in the development of qualitative thinking. V.A. As krutetsky points out, it is necessary to develop training plans suitable for the abilities and interests of each student [6].

Many successful projects have been implemented in the world experience in the development of analytical thinking. Below are some major experiments: Francis Galton's study "innate geniuses". Francis Galton studied innate abilities and their relationship with the environment in developing analytical thinking skills. As a result of his scientific work, diagnostic tools for assessing and developing students ' abilities have been developed [7].

Jean Piaget's theory of cognitive development. Piaget's theory of cognitive development allowed for the development of curricula in line with the age characteristics of students. On the basis of this theory, special pedagogical methods were introduced to develop students ' analytical thinking skills [8].

The "big questions" method in the American education system. In the US, the" big questions " method is widely used in teaching students to analyze independently. This method has produced successful results in developing students ' independent thinking and creativity skills [9].

Interactive methods in the Finnish education system. Interactive methods aimed at developing analytical thinking in the Finnish educational system are giving successful results. These methods promote communication between students, solve problems together, and propose new ideas [10].

Conclusions and Suggestions

The development of analytical thinking not only ensures the academic success of the student, but also forms him as an active and creative member of society. The result of the studies shows that the following measures should be taken to develop analytical thinking:

1. Wide introduction of problematic education and interactive methods in the educational system.
2. Creation of modern educational resources through the use of ICT tools.
3. Formation of project and group work skills among students.
4. Development of special programs for improving the skills of educators.

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