# THE INTEGRATION OF INNOVATIVE METHODS, ICT, AND INTERACTIVE EDUCATION IN DEVELOPING STUDENTS' INDEPENDENT THINKING

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**Abstract:** *This article describes the development and improvement of students' independent thinking and creativity through innovative and interactive methods. Also, the directions of interactive education of innovative methods, as well as the role and importance of these developing methods in the process of student mastery in combination with ICT, as well as the different aspects of these developing methods are considered one by one. By using these methods, proposals and recommendations are presented for the effective organization of not only higher educational institutions, but also all types of educational stages.*

**Keywords:** *innovative educational methods, interactive methods, information and communication technologies (ICT), modern educational technologies, educational efficiency, digital technologies.*

In today's era of rapidly developing modern technologies, interactive teaching methods—which serve as tools for developing students' and young learners' independent thinking and enhancing their creativity—are one of the main factors in organizing the education system more effectively. In addition, the importance of innovative methods and ICT is also very high, because with the help of these tools, sharp changes and significant developments are being observed in the education system.

First of all, instead of focusing on increasing students' thinking through tools used in organizing the educational process, we should answer the general and basic question: what is independent thinking, or what is thinking itself? We know that thinking is the highest form of mental activity, intellectual capacity, communicative behavior, and conscious conduct. Independent thinking, in turn, is a tool for understanding the surrounding environment, the social context, and reality, as well as a fundamental condition for carrying out a student's broad intellectual activity rationally and effectively. [1]

From this, it follows that any innovation, discovery, or progress arises as a result of human intellect and independent thinking [2]. In order to develop independent thinking in individuals, we strive to enhance their creativity starting from school or higher education. In this regard, the main tools that serve us are digital technologies, modern pedagogical tools, and interactive and innovative methods. Now, let us become familiar with each developmental component one by one.

Innovative methods are a set of approaches that encourage students and young people to think independently and create new projects and discoveries. The following methods can be given as examples:

Problem-Based Learning (PBL) – In this method, a certain problem is presented to students, and they independently think, research, and try to find a solution. In this approach, students are not directly given specific educational content or knowledge; rather, they are encouraged to develop their thinking skills and search for solutions to problems.

Project-Based Learning (PjBL) – Through group work and pair work, students are shown the fundamentals of independent thinking such as planning a project, setting goals, conducting research, analyzing, and achieving final results.

Brainstorming – This innovative method primarily serves to develop students' independent thinking and creativity, enabling them to freely express their ideas and communicate them in an organized manner [3]. This method is widely promoted in both schools and higher education institutions as an interactive method and is considered quite effective.

While innovative methods encourage students to create innovations, demonstrate their ideas with evidence through projects and teamwork, and independently propose solutions to problematic situations, interactive methods and ICT (Information and Communication Technologies) work in harmony to increase students' participation and activity in the learning process. Interactive methods include cluster mapping, fishbone diagrams, group work, and collaborative activities. These methods mainly serve to increase students' engagement during lessons. They are based on active communication between teacher and student, and among students themselves. The main goal of using interactive methods is to actively involve students in the learning process. In addition, thinking skills are developed through communication and cooperation.

Another noteworthy aspect is that the use of interactive methods does not necessarily require technology; ICT and other technological devices mainly serve as key tools for the innovative methods mentioned above. Interactive methods, on the other hand, activate in traditional lessons. Furthermore, tools that foster creativity, encourage innovation, develop independent thinking, and help quickly find solutions to problematic situations are mainly directly related to information technologies. For example, ICT. Let us answer the questions: "What is ICT, and what advantages does it offer in improving education quality while developing students' independent thinking?"[4].

Information and Communication Technologies (ICT) is an expanded term for Information Technology (IT), emphasizing the role of unified communications [5] and the integration of telecommunications and computers, as well as the necessary enterprise software, middleware, storage, and audiovisual systems that enable users to access, store, transmit, and interpret information. ICT is an umbrella term that includes any communication device, such as radio, television, mobile phones, computers, and network hardware, as well as various services and equipment such as distance learning. ICT also includes any mode of transmission, including paper-based communication [6].

If such tools are used continuously in the educational process, significant advancements can be achieved in the education system. It can be observed that students develop not only creativity and a desire for innovation in learning, but that this also represents a major investment in national development. Modern pedagogical technologies essentially consist of ICT and digital technologies. If every educator can organize the learning process using visualization, demonstrations, and other innovative approaches, students' thinking systems, inclination toward innovation, and ability to quickly solve problems in any situation will be effectively developed. In addition, they ensure interactivity and active student participation in the learning process, expand access to

information, promote the exchange of knowledge and experience, and help teachers and students remain relevant and competent in their field [7].

In conclusion, in today's era of advanced modern technologies, it is crucial to develop students' independent thinking, enhance their creativity, and foster critical and creative thinking skills. Therefore, educators are supporting students through ICT, digital technologies, innovative methods, and interactive approaches. As a result, students demonstrate leadership in the education system, actively participate, and achieve various accomplishments.

These developments further encourage students to think independently and create new innovations. Organizing the learning process by effectively using these methods greatly helps to increase students' engagement and develop their critical and creative thinking. This is undoubtedly a reflection of the educators' contribution to the education system and the effective integration of modern technological tools.

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