



Competencies Developed in Students Through Foresight Methods

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Abstract: This paper analyzes foresight methods and the system of key competencies they develop in students. Foresight methods help students develop the ability to create future scenarios, assess probabilities, think under uncertainty, and make strategic decisions. The research specifically examines competencies such as strategic thinking, creativity, analytical reasoning, problem-solving, socio-cultural adaptability, and innovative decision-making that are cultivated through foresight methods. Furthermore, the integration of foresight methods into the education process is shown to enhance students' preparedness for global transformations.

Keywords: Foresight methods, competency, strategic thinking, future modeling, scenario analysis, uncertainty, innovative thinking, decision-making, education, creativity, analytical skills.

Introduction: Modern education is not only about acquiring existing knowledge but also about developing skills that allow students to anticipate the future, engage in strategic planning, and make sound decisions under uncertainty. Foresight methods are recognized as effective tools for cultivating such competencies. Through these methods, students develop abilities to create alternative scenarios, identify future trends, conduct comprehensive analysis, and think strategically. Foresight methods prepare students for uncertain and rapidly changing environments while fostering innovative thinking and responsible decision-making. Therefore, the application of foresight methods in education plays a crucial role in students' personal, professional, and social development.

Competencies Fostered by Foresight Methods in Education:

- Systematic analysis;
- Understanding long-term consequences;
- Strategic planning;
- Metacognitive reflection;
- Creative and critical thinking;
- Decision-making under uncertainty [Gustavsson, 2012].

Adaptation to Local Context:

In Uzbekistan's education system, the implementation of foresight methods considers the following characteristics:

- Local challenges and prospects (labor market, ecology, digital transformation);
- Cultural values (collective decision-making, cooperation);
- Interactive approaches to enhance student engagement;
- Integration of foresight approaches with STEAM and innovation projects [Tursunov, 2023].

The use of foresight methods in education prepares students for future complex challenges, teaches strategic thinking, and develops the ability to make sound decisions under uncertainty. Foresight methods help students envision the future, model it, and devise ways to achieve desired outcomes. As a result, education becomes more modern, goal-oriented, and aligned with real-life needs.

The Role of ICT in Developing Foresight Competencies:

The modern world is characterized by rapid change, complexity, and high uncertainty. Education, as a social institution that directly responds to these changes, has become a central direction of digital transformation. In particular, newly emerging competencies in the education system—such as foresight thinking, strategic decision-making, and scenario modeling—are closely linked to information and communication technologies (ICT).

ICT tools such as artificial intelligence, big data, interactive platforms, simulations, virtual environments, mobile applications, social networks, and online collaboration tools provide vast opportunities for developing foresight competencies. Through these technologies, students engage in processes such as analyzing current realities, observing future trends, creating scenarios, and making sound decisions based on complex information [Anderson, 2017].

1. Didactic and Functional Opportunities of ICT:

ICT, above all, enables the interactive, integrated, and

personalized presentation of educational content in fostering foresight competencies. For instance:

- Visual simulations help expand students' understanding by vividly demonstrating complex processes such as the consequences of global warming, demographic changes, or the impact of AI on education;
- Interactive scenario platforms allow students to create and evaluate alternative future scenarios;
- Mind-mapping tools assist in the structural representation of complex ideas, connections, and trends;
- Mobile apps and learning management systems (LMS) facilitate the assignment process, discussions, and feedback collection [OECD, 2021].

One example is the Delphi method, a well-known foresight technique that can be implemented remotely via Google Forms, Microsoft Teams, or Miro. This approach not only simplifies collaboration with experts but also enhances students' social communication, digital literacy, and information-based thinking—key metacompetencies [Popper, 2008].

2. Technical Effectiveness of ICT:

ICT provides not only the technical infrastructure but also enhances the effectiveness, monitoring, and adaptability of developing foresight competencies. For example:

- Big data and analytics tools are used to predict trends based on large volumes of statistical and social data;
- AI and machine learning algorithms personalize the learning environment and automate individual feedback mechanisms;
- Blockchain technology ensures secure storage and authentication of scenario and decision-making processes [Kaplan, 2020].

A practical example is a simulation project titled "The Education System of Uzbekistan in 2035," developed based on a foresight game scenario. When combined with real-time monitoring tools, it enables accurate assessment of students' intellectual approaches. Furthermore, such technologies allow for multi-dimensional analysis of economic, environmental, and social factors [Inayatullah, 2015].

3. Psychological and Motivational Impact of ICT:

ICT contributes not only to knowledge acquisition and technical capabilities but also to students' internal motivation, emotional engagement, and the activation of reflective thinking.

- Gamified environments enhance student motivation by organizing foresight activities in an

engaging manner;

- Virtual and augmented reality (VR/AR) immerses students in future problem-solving situations, fostering empathy and social thinking;
- Online discussions via social networks or forums allow students to compare scenarios and engage in social reflection [Radianti et al., 2020].

Additionally, distance learning opportunities provide flexibility to develop foresight competencies anytime and anywhere, directly supporting lifelong learning, adaptive thinking, and self-awareness.

CONCLUSION

In conclusion, incorporating foresight methods into the educational process serves to develop competencies aligned with modern global demands. In particular, skills such as strategic thinking, creating alternative scenarios, managing uncertainty, generating innovative decisions, and evaluating future probabilities prepare young generations for a complex and rapidly changing socio-economic environment. Foresight methods enhance students' intellectual, social, and professional potential, shaping them as responsible individuals with a future-oriented mindset. Therefore, the widespread and systematic use of foresight methods in education is considered essential.

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