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METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –  
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**THE ROLE OF INFORMATION TECHNOLOGIES IN THE DEVELOPMENT OF  
EMOTIONAL INTELLIGENCE IN THE LEARNING PROCESS****Yulduz Tursunniyozovna Orinova**

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**ABOUT ARTICLE**

**Key words:** emotional intelligence, information technologies, digital education, artificial intelligence, empathy, communicative competence, multimedia tools, interactive learning, educational process, digital pedagogy.

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**Abstract:** This article analyzes the role and significance of information technologies in the development of emotional intelligence during the educational process. It highlights how the use of digital platforms, artificial intelligence, multimedia tools, and interactive technologies in education can help learners recognize and regulate their emotions, develop empathy, and establish effective communication. The article also examines the impact of information technologies on the key components of emotional intelligence and provides practical recommendations for their enhancement.

Furthermore, the study presents a comprehensive overview of the role of information technologies in fostering emotional intelligence in educational settings. The main components of emotional intelligence—self-awareness, emotional regulation, empathy, motivation, and social skills—are analyzed in close connection with the modern digital learning environment. The article also discusses the psychological challenges that may arise when emotional intelligence is insufficiently developed, including stress, emotional tension, communication difficulties, and barriers to academic performance.

In addition, the paper describes digital pedagogical technologies, interactive training methods, and reflective practices that contribute to the development of emotional intelligence. Effective approaches aimed at improving teachers' emotional competencies are also presented, emphasizing their importance in creating a supportive and emotionally responsive educational environment.

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**Introduction.** In the modern education system, it is important not only to develop an individual's intellectual potential but also to enhance their emotional and social competencies. In the context of globalization and digitalization, learners' ability to recognize and manage their emotions, communicate effectively with others, and adapt to various social situations has become one of the key indicators of educational quality. In this regard, emotional intelligence is recognized as an essential factor that ensures an individual's successful functioning and integration into society.

Emotional intelligence refers to a person's ability to understand and manage their own emotions, recognize the emotions of others, and respond appropriately to them. Modern information technologies, particularly e-learning platforms, virtual classrooms, artificial intelligence-based applications, and interactive multimedia tools, serve as effective means for developing these skills. Research indicates that students with a high level of emotional intelligence adapt more quickly to stressful situations, solve problems encountered in the learning process more effectively, and achieve higher academic outcomes. The digital learning environment provides opportunities for learners to monitor their emotional states, engage in self-reflection, and pursue independent personal development. Studies conducted by E. G. Arefyev and A. V. Pervyshin also emphasize that emotional intelligence reduces stress levels by strengthening self-regulation abilities [8].

From a psychological perspective, emotional intelligence is an important factor in the development of social skills. Online collaboration platforms, video conferencing technologies, and group project-based learning tools foster effective communication, empathy, and a culture of cooperation among students. As a result, learners develop teamwork skills, respect for others' opinions, and social adaptability.

The theories of emotional intelligence developed by D. Goleman and by J. Mayer and P. Salovey provide a scientific foundation for understanding the significance of this concept in the educational process. According to these scholars, emotional intelligence consists of the following core components: self-awareness, self-regulation, motivation, empathy, and social

skills. These components can be developed more effectively through the use of modern information technologies.

The importance of emotional intelligence is becoming increasingly evident in digital learning environments. In virtual settings, communication between teachers and students is not limited to knowledge exchange; it also involves emotional support, empathy, and social interaction. Therefore, educators and learners with well-developed emotional intelligence are more likely to achieve success in distance education and contribute to the creation of a healthy psychological climate.

**Methodology.** Information technology-based reflection exercises, virtual training programs, role-playing activities, gamification elements, and mindfulness applications play a significant role in the development of emotional intelligence. These tools help enhance emotional stability, reduce stress, increase motivation, and improve social skills among learners [5]. The impact of information technologies on emotional intelligence is presented in Table 2.1.

An analysis of pedagogical and psychological literature shows that, when determining the organizational and substantive structure of professional readiness, motivational components that define motives for choosing among various alternatives, as well as cognitive, theoretical, and informational knowledge about the intended professional activity, are considered essential. Other components may vary depending on the context.

**Results and Discussion.** Pedagogical scholars and researchers have attempted to identify and substantiate the structural and functional components of future social science teachers' readiness to work in inclusive education settings. Emotional intelligence is included in the structural and substantive framework of future social science teachers' professional preparation through personal-semantic components, which encompass internal and external relationships, motivational values, and the ability to work effectively in inclusive education. It also includes cognitive components, such as a system of specialized methodological, theoretical, practical, and professional knowledge, as well as practical skills in applying methods, techniques, and technologies [5].

### The Impact of Information Technologies on Emotional Intelligence

Type of Technology	Emotional Intelligence Component Developed	Outcome
Multimedia presentations	Self-awareness	Recognition and understanding of emotions

Type of Technology	Emotional Intelligence Component Developed	Outcome
Online communication platforms	Social skills	Enhanced collaboration and communication
Artificial intelligence systems	Self-regulation	Monitoring and support of personal development
Virtual simulations	Empathy	Improved ability to understand and experience different situations
Mobile applications	Motivation	Increased interest in independent learning

Emotional intelligence (EI) consists of several interrelated components, each of which can be effectively developed through modern information technologies.

Self-awareness refers to an individual's ability to recognize their own emotions, understand the causes behind them, and analyze their emotional state. Electronic journals, reflection platforms, and artificial intelligence-based applications enable students to monitor and assess their emotional well-being.

Self-regulation is the ability to control emotional states, manage stress and negative emotions, and maintain balance in impulsive reactions. Mindfulness applications, psychological training programs, and interactive exercises used in digital learning environments contribute significantly to the development of this skill.

Motivation refers to striving toward goals, demonstrating perseverance, and maintaining consistency in learning activities. Educational platforms incorporating gamification elements, electronic rating systems, and online motivational tools increase students' motivation and strengthen their engagement in the learning process.

Empathy is the ability to understand the emotions of others and respond appropriately. Virtual collaborative environments, video conferences, discussion forums, and group project platforms promote empathy, solidarity, and mutual respect among students.

Social skills encompass the ability to work in teams, communicate effectively, and manage social relationships. Online learning platforms and communication technologies facilitate constructive interaction between students and educators while strengthening collaborative competencies.

These components contribute not only to personal development but also directly influence the quality of the educational process. Students with well-developed emotional

intelligence are more inclined toward independent learning in digital environments, demonstrate greater adaptability to stressful situations, and achieve higher academic performance. For educators, emotional intelligence enables the effective use of information technologies, the identification of students' emotional needs, and the implementation of individualized teaching approaches [13].

In future teachers, emotional intelligence is considered part of the psychological structure of professional readiness. It is explained through pre-established attitudes, experiences, motives, and the individual's dynamic state in specific situations, as well as the ability to mobilize personal strengths effectively toward achieving successful outcomes within a given period [1].

In the context of digital education, adaptability and the emotional aspects of communication in online learning are becoming increasingly important. Communication between teachers and students in virtual environments extends beyond the exchange of knowledge to include emotional connections, empathy, and social support. Consequently, students and educators with developed emotional intelligence achieve greater effectiveness in online education and contribute to the creation of a positive psychological climate.

**Pedagogical Approaches to Developing Emotional Intelligence.** Reflection activities enable students to analyze their emotions, understand their causes, and engage in self-assessment. Such activities promote personal growth and strengthen intrinsic motivation.

Collaborative projects foster social interaction while enhancing empathy and cooperation skills. Through teamwork, students develop a sense of social responsibility and gain a better understanding of their role within a group.

Role-playing activities and training sessions teach learners how to manage emotional responses by simulating real-life situations. These methods prepare students to resolve conflicts, reduce stress, and make appropriate decisions in challenging circumstances.

Mindfulness techniques are effective tools for improving concentration, reducing stress, and maintaining psychological stability. In online education, these methods enhance students' focus and positively influence the learning process.

Professional development courses and digital training programs on emotional intelligence for teachers contribute to the improvement of educators' emotional competencies. Teachers with strong emotional intelligence are better able to understand students' needs, apply individualized approaches, and create a positive psychological environment in the educational process. Furthermore, the use of modern information technologies helps educators improve their communication, reflection, and emotional management skills.

As a result, the development of emotional intelligence in digital learning environments not only enhances students' academic achievement but also contributes to creating a healthy psychological climate. This is one of the key factors ensuring the effectiveness of modern education. (Table 2.2).

**Table 2.2. Criteria and Indicators for the Use of Information Technologies in the Development of Emotional Intelligence in the Educational Process**

<b>Criteria</b>	<b>Indicators</b>
<b>Cognitive</b>	Completeness of knowledge about emotional intelligence; theoretical knowledge of using digital educational tools; ability to recognize and analyze emotions; skills in processing information and using it effectively.
<b>Emotional</b>	Ability to regulate one's own emotions; stress resilience; emotional stability in online communication; empathy and the ability to understand the emotions of others.
<b>Conative (Behavioral/Activity-Based)</b>	Motivation to use information technologies; active participation in digital platforms; ability to solve problems independently; initiative in collaborative projects.
<b>Reflective</b>	Ability to analyze one's own activities; self-assessment through digital tools; learning from mistakes; monitoring one's emotional state and personal development.

The selected criteria and indicators make it possible to distinguish specific levels of emotional intelligence development, each characterized by unique features [3]:

Low (intuitive) level – academic, professional, and socio-personal competencies (including general cultural and professional competencies) are formed at a minimal level. Individuals at this stage experience difficulties in understanding the academic competencies associated with inclusive education, the characteristics of cognitive and emotional domains, and organizing effective social partnerships among teachers, parents, and specialists to address issues related to the education, upbringing, and support of children.

Reproductive (intermediate) level – learners demonstrate a tolerant attitude toward all participants involved in emotional and inclusive education processes, including students with disabilities. However, they may encounter difficulties in accepting the pedagogical, philosophical, scientific, and methodological foundations of inclusive education and its value-

based principles. At the same time, they are capable of analyzing the strengths and weaknesses of their professional activities.

Students' academic motivation is influenced by various factors. Among them, particular importance is attached to learners' interest in academic subjects, their understanding of the significance of educational outcomes, pedagogical support, and opportunities to use modern information technologies. In a digital learning environment, electronic platforms, interactive educational resources, and artificial intelligence-based systems increase students' interest in learning activities and contribute to the formation of intrinsic motivation. From this perspective, emotional intelligence is considered one of the key factors ensuring students' academic success and active participation in the educational process. Students with a high level of emotional intelligence are better able to regulate their emotions, adapt to stressful situations, and achieve higher results when completing complex tasks. This, in turn, helps them function more effectively in digital learning environments.

International studies have also extensively examined the impact of emotional intelligence on educational outcomes. Research conducted by Lam and colleagues demonstrated a positive relationship between emotional intelligence and individual performance effectiveness. The findings confirmed that students with higher levels of emotional intelligence tend to exhibit stronger academic performance and more advanced problem-solving skills. This indicates that the development of emotional intelligence is one of the important factors in improving the quality of education.

In digital education settings, emotional intelligence also plays a crucial role in ensuring students' psychological well-being. E-learning platforms, virtual communication tools, and reflective applications foster collaboration among students and contribute to strengthening emotional stability. Students who can understand their own emotions and recognize the feelings of others establish more effective communication in online learning environments and demonstrate a higher level of social adaptation.

Empathy, one of the key components of emotional intelligence, serves as a fundamental factor in promoting collaboration within digital learning environments. Through online group work, video conferences, and virtual projects, students develop the ability to listen to, understand, and respect the opinions of others. This contributes to the creation of a healthy psychological climate within the educational process.

M. K. Holiqova highlights the significance of divergent thinking in the development of creative thinking. Divergent thinking refers to the ability to generate multiple solutions to problems, apply creative approaches, and develop innovative ideas. This process is an

important factor in improving educational quality and is closely connected with emotional intelligence, as emotions directly influence cognitive processes.

Metacognitive skills refer to the ability to understand and regulate one's own thinking processes. These skills are closely related to the emotional intelligence components of self-awareness and emotional regulation. For example, a student who analyzes examination results and learns from mistakes engages in a process that contributes not only to cognitive development but also to emotional growth.

Practical Methods for Developing Emotional Intelligence. Group work and collaborative projects. Through teamwork, students develop social skills, while empathy and cooperation abilities are strengthened.

Reflective activities. Students learn to analyze their mistakes and draw conclusions from them. This enhances the self-awareness component of emotional intelligence.

Role-playing activities. By simulating real-life situations, students learn to understand the emotions of others and develop empathy.

Motivational lessons. Helping students set goals and identify ways to achieve them contributes to the development of emotional intelligence and strengthens intrinsic motivation.

Social skills can also be effectively developed through information technologies. Distance learning platforms and communication tools enhance interaction between students and educators and strengthen collaboration. As a result, learners acquire teamwork skills, the ability to exchange ideas, and competence in solving problems collectively.

**Conclusion.** Among the most effective methods of developing emotional intelligence are reflection exercises, virtual training programs, role-playing activities, and gamification elements organized through digital technologies. Reflection tools enable students to analyze their emotions, while virtual training sessions and simulations develop emotional regulation skills by modeling real-life situations. Furthermore, gamification technologies increase learners' interest in education and strengthen their motivation.

In conclusion, information technologies serve as an effective tool for the formation and development of emotional intelligence. They contribute to increasing students' motivation, strengthening emotional stability, developing social skills, and enhancing the overall effectiveness of the educational process.

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