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THE INFLUENCE OF SENSORY INTEGRATION METHODS ON THE QUALITY OF THE EDUCATIONAL PROCESS IN UNIVERSITIES

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Abstract. This review article explores the significance of sensory integration methods in enhancing the quality of higher education. The study emphasizes that sensory-informed educational strategies, including adaptive classroom design, multisensory instruction, movement-based interventions, and immersive digital technologies, contribute to improved cognitive functioning, academic engagement, emotional regulation, and student well-being. Furthermore, the article highlights the growing importance of inclusive and neurodiversity-oriented pedagogical practices in developing effective, student-centered university learning environments.

Keywords: Sensory integration, higher education, multisensory learning, inclusive education, cognitive development, student engagement, sensory-informed teaching, neurodiversity, educational quality, academic performance, learning environment.

Introduction. In recent decades, there has been growing interest in the concept of Sensory Integration (SI) within the field of education, including higher education systems. Originally developed by the American occupational therapist A. Jean Ayres in the 1970s, the theory of sensory integration considers the human ability to process and organize sensory information as a fundamental basis for the development of cognitive, emotional, and behavioral functions. In the university environment, where the educational process requires high levels of concentration, adaptability, and stress resistance, the application of SI methods becomes especially relevant.

The purpose of this review article is to analyze the influence of sensory integration methods on the quality of the educational process in universities, identify the main directions of their application, and determine the prospects for the further development of this approach

Theoretical Foundations of Sensory Integration. The theory of sensory integration is based on the assumption that the brain constantly receives and processes signals from various sensory systems: visual, auditory, tactile, vestibular, and proprioceptive. Effective integration of these stimuli ensures adequate perception, attention, and behavior, which directly affects learning success. According to A. Jean Ayres (Ayres, 1972), sensory integration dysfunction may lead to learning difficulties, decreased motivation, and emotional instability. Modern studies confirm that optimizing sensory conditions contributes to the improvement of cognitive processes such as memory, attention, and information-processing speed.

Practical Application of Sensory Integration Methods in Universities :

The implementation of sensory integration principles in higher education involves creating a favorable multisensory learning environment adapted to students' individual characteristics. The main areas of implementation include:

Organization of the learning environment. The creation of "sensory-flexible" classrooms where lighting, noise levels, temperature, and furniture ergonomics can be adjusted. This helps reduce sensory overload and improve students' concentration.

Use of sensory and movement breaks. Short physical exercises, breathing practices, and mindfulness techniques help lower stress levels and restore students' attention.

Application of interactive technologies. Virtual Reality (VR) and Augmented Reality (AR) create immersive sensory environments that facilitate better understanding and retention of educational material.

Sensory-informed teaching. Teachers who possess knowledge of sensory integration principles can adapt teaching methods to different learning and perception styles, which is especially important for neurodiverse students.

Influence on the Quality of the Educational Process. A number of studies demonstrate that the application of sensory approaches positively affects academic performance, student motivation, and psychological well-being.

The main identified effects include improved concentration, reduced anxiety levels, increased student engagement in the learning process, and the development of self-regulation skills. Thus, sensory integration methods not only improve the quality of education but also contribute to the personal development of students.

Challenges and Prospects of Implementation. Despite the evident advantages, the spread of SI methods in university practice faces several barriers, including insufficient awareness among teachers, limited resources, and a lack of interdisciplinary research. To address these issues, universities are encouraged to introduce professional development courses on sensory pedagogy, strengthen collaboration among educators, psychologists, and occupational therapists, and stimulate scientific research in this field.

Conclusion. Sensory integration methods represent an effective tool for improving the quality of the educational process in universities. Their use contributes to the creation of a comfortable, inclusive, and motivating educational environment. SI principles enable educators to improve academic performance while fostering sustainable self-regulation skills and emotional intelligence. In the future, sensory integration may become a key element of modern university pedagogy focused on the comprehensive development of students' personalities.

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