IMPROVING TEACHERS' DIGITAL COMPETENCE IN SUPPORTING SENSORY INTEGRATION IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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Abstract. This article examines ways to improve teachers' digital competence in supporting sensory integration in children with autism spectrum disorder. The study focuses on digital pedagogical literacy, individualized sensory monitoring, technology-assisted instructional planning, and the development of professional skills among special education teachers. Particular attention is given to the scientific and methodological contributions of Uzbek scholars, international digital competence frameworks, and competency-based professional development. The article proposes a practical approach to assessing and improving teachers' ability to select existing digital resources, document sensory-related educational needs, and organize individualized learning activities.

Keywords: autism, sensory integration, digital competence, special education, teacher professional development, sensory processing, inclusive education, educational technology, individualized learning.

The rapid development of digital education has increased the professional demands placed on teachers working with children with autism spectrum disorder. Contemporary special education teachers are expected to possess not only theoretical knowledge of developmental characteristics but also practical skills in selecting digital educational resources, adapting learning activities, and assessing children's individual educational needs. From this perspective, improving teachers' digital competence in supporting sensory integration is an important direction in the modernization of special education.

Sensory integration refers to the neurological organization of information received through different sensory systems, including vision, hearing, touch, movement, and body position. These processes contribute to adaptive behavior, motor coordination, awareness of the environment, and participation in everyday activities. Some children with autism spectrum disorder may experience difficulties processing sensory information, regulating their responses to environmental stimuli, or participating in activities involving multiple sensory experiences. Teachers therefore need to understand individual sensory characteristics and create educational conditions that support children's participation.

An important international reference is the European Framework for the Digital Competence of Educators, known as DigCompEdu. Developed by the European Commission, the framework identifies 22 digital competences organized into six areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence. This framework provides a useful foundation for improving the professional preparation of special education teachers. In particular, the areas relating to digital resources, assessment, and empowering learners can be adapted to the organization of sensory-related learning activities. Teachers should be able to evaluate digital resources in terms of accessibility, developmental appropriateness, and suitability for children with different sensory profiles.

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An important component of digital competence is the ability to conduct systematic educational observations. Digital observation forms and electronic portfolios can help teachers document children's responses to classroom noise, lighting, tactile materials, movement activities, and changes in the learning environment. Such records can help identify environmental barriers and plan appropriate educational adjustments. For example, if a child frequently avoids activities in a noisy classroom, a teacher can record the circumstances, frequency, and possible environmental factors associated with this response. Based on repeated observations, the teacher may introduce adjustments such as reducing background noise or organizing activities in a quieter area.

UNESCO's ICT Competency Framework for Teachers, Version 3, provides another important international foundation. This framework identifies competencies and objectives related to the pedagogical use of information and communication technologies. It emphasizes that digital competence should develop progressively and be integrated into professional learning, instructional planning, and teaching practice.

Based on these international approaches, professional development programs for special education teachers can be organized around three interconnected levels. The first level involves acquiring basic knowledge of digital access and sensory development-oriented education. The second level focuses on applying digital tools to individualized educational planning and observation. The third level involves independently developing, evaluating, and improving digital educational resources according to children's needs.

Integrating national and international experience is particularly important for Uzbekistan. Methodological principles presented in the work of educators can be combined with international digital competence frameworks to develop professional development programs adapted to national educational conditions. Particular attention should be given to creating Uzbek-language digital learning materials, practical case studies, electronic methodological guides, and accessible professional learning platforms.

In conclusion, improving teachers' digital competence in supporting sensory integration in children with autism spectrum disorder requires a comprehensive approach combining national traditions of special pedagogy, international digital competence frameworks, individualized educational planning, and systematic professional assessment. The scientific and methodological contributions of Uzbek scholars provide an important foundation for understanding the educational needs of children with autism spectrum disorder, while international frameworks offer practical guidance for developing contemporary digital competencies.

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