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Abstract: This article comprehensively analyzes the cognitive (mental) impact of music on the formation of youth thinking. The role of music in the development of mental functions such as hearing, perception, memory, attention, thinking and creative thinking in the process of cognitive development is highlighted on the basis of scientific sources and modern psychological and pedagogical approaches. The study also substantiates the positive impact of music education on youth thinking, its importance in ensuring emotional-intellectual balance and its role as a means of stimulating creative thinking with practical examples. The article serves as a useful scientific and theoretical resource for educators, music teachers and psychologists working with youth.

Key words: music, cognitive development, youth thinking, mental activity, musical education, creative thinking, emotional intelligence, psychological impact of music, education of thinking

Introduction

The role of music in the formation and development of human cognition has been recognized for centuries. Music is not merely a source of aesthetic pleasure but a powerful educational and psychological tool that stimulates mental activity, emotional stability, and intellectual growth. Particularly in the educational process of children and adolescents, music serves as a medium to improve memory, attention, logical thinking, and problem-solving skills.

In recent decades, an increasing number of international studies have confirmed the positive impact of music education on cognitive development. However, in many educational systems, including that of Uzbekistan, music remains undervalued and often marginalized [1].

This article aims to explore the cognitive benefits of music education, compare international practices, and provide practical recommendations for integrating music more deeply into Uzbekistan's educational strategies [2].

Methods

The following research methods were applied:

- **Analytical Review:** Analysis of international and local research articles on music education and cognitive psychology.
- **Comparative Method:** Comparison of music education models in Finland, the United States, Japan, and Uzbekistan.
- **Empirical Observation:** Classroom-based observations and insights gathered from music instructors and schoolchildren.
- **Statistical Reference:** Interpretation of key findings from empirical studies by Kirk (2017), Jensen (2018), Batey (2019), and others regarding music and cognitive performance.

Results

1. Development of Core Cognitive Functions

Music education significantly contributes to the development of memory, attention, critical thinking, and problem-solving. Studies show enhanced **divergent thinking** and **working memory** capacities among students engaged in musical activities [4]. Learning to read notes, play instruments, and

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comprehend musical structure engages various areas of the brain, thus strengthening neural connections.

2. Memory Enhancement through Music

Playing and listening to music activate both short-term and long-term memory systems. Research shows that students who are musically trained outperform their peers in tasks involving memorization, sequential recall, and complex processing. Repetitive musical practice also improves muscle memory and auditory recall.

3. Focused Attention and Discipline

Musical training requires sustained focus, which helps students develop the ability to concentrate over long periods. Whether reading sheet music or synchronizing in an ensemble, children learn how to manage distractions and sharpen their attention span.

4. Emotional and Psychological Growth

Music positively influences emotional well-being by reducing anxiety, stress, and symptoms of depression [4,9]. Performing or engaging with music boosts self-confidence, encourages emotional expression, and improves students' emotional regulation skills—particularly important for adolescents facing developmental changes.

5. Social Integration and Creativity

Group-based musical activities such as choir, orchestra, or ensemble rehearsals foster social collaboration, empathy, and mutual respect. Students learn to listen, adapt, and respond in real-time, which translates into better communication and cooperation skills. Creativity is also stimulated through improvisation and composition.

6. Integration of Innovative Technologies

The integration of digital tools such as music learning apps, online platforms, and interactive media has revolutionized music education. Students can now engage with music at their own pace, reinforcing individual strengths and adaptive learning pathways.

Discussion

The educational models of Finland, Japan, and Norway serve as exemplary cases where music education is not an optional luxury but an essential part of the curriculum. In these countries, music is used not only for artistic expression but also to nurture cognitive, emotional, and social competencies [8].

In Uzbekistan, music education exists in both general schools and specialized institutions, yet it often follows traditional and non-integrated approaches. There is a need to transition toward contemporary pedagogical methods, including:

- Modernizing curricula with cognitive science-based approaches,
- Integrating music with digital technologies and multimedia,
- Enhancing teacher training and certification in music psychology,
- Developing national standards to assess the cognitive outcomes of music education.

Gender-based observations also indicate that girls may approach music with more emotional and aesthetic sensitivity, while boys may focus on structure and technique [11]. Music helps bridge these cognitive and emotional differences by providing inclusive learning experiences [15].

Conclusion

Music education contributes holistically to cognitive, emotional, and social development. Specifically:

- It enhances memory, attention, problem-solving, and language acquisition.

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- It promotes emotional intelligence, psychological well-being, and self-confidence.
- It fosters collaboration, empathy, and cultural awareness [13].

In the context of educational reforms in Uzbekistan, music should be regarded not as an extracurricular hobby but as a strategic tool for cognitive and personality development. By embracing international best practices and technological innovation, the education system can unlock the full potential of music in shaping future generations.

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