



## MUSICAL AND RHYTHMIC NEUROPRACTICES IN WORKING WITH PRESCHOOL CHILDREN

## МУЗЫКАЛЬНО-РИТМИЧЕСКИЕ НЕЙРОПРАКТИКИ В РАБОТЕ С ДЕТЬМИ ДОШКОЛЬНОГО ВОЗРАСТА

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**Abstract:** *The article explores the potential of musical-rhythmic neuropractices as an interdisciplinary means of supporting the development of preschool children, integrating elements of neuroeducation, music pedagogy, and motor activity. Music and rhythm are considered as mechanisms of neurosensory activation that contribute to the development of interhemispheric interaction, self-regulation, and children's emotional responsiveness. The paper presents practical experience in implementing rhythmic-motor exercises in the educational environment of a kindergarten, demonstrating their positive impact on attention stability, reduction of emotional tension, and activation of creative self-expression in preschoolers. The relevance of using musical-rhythmic neuropractices within the system of psychological and pedagogical support for children is substantiated.*

**Key words:** *musical-rhythmic neuropractices, preschool age, neuroeducation, psycho-emotional development, interhemispheric interaction, self-regulation, motor coordination, attention, music-motor activity, preschool education*

**Аннотация:** *В статье раскрывается потенциал музыкально-ритмических нейропрактик как междисциплинарного средства развития детей дошкольного возраста, объединяющего элементы нейропедагогики, музыкального воспитания и двигательной активности. Музыка и ритм рассматриваются как механизмы нейросенсорной активации, способствующие развитию межполушарного взаимодействия, саморегуляции и эмоциональной отзывчивости ребёнка. Представлен практический опыт внедрения ритмико-двигательных упражнений в образовательную среду детского сада, демонстрирующий их влияние на*



*устойчивость внимания, снижение эмоционального напряжения и активизацию творческого самовыражения дошкольников. Обоснована целесообразность использования музыкально-ритмических нейропрактик в системе психолого-педагогического сопровождения детей.*

**Ключевые слова:** *музыкально-ритмические нейропрактики, дошкольный возраст, нейропедагогика, психоэмоциональное развитие, межполушарное взаимодействие, саморегуляция, двигательная координация, внимание, музыкально-двигательная деятельность, дошкольное образование*

## INTRODUCTION

The modern system of preschool education is focused on creating conditions that ensure the holistic development of the child, encompassing cognitive, emotional, and motor domains. In the context of increasing educational demands and reduced physical activity among preschool children, the search for pedagogical tools that support psychological well-being and the development of self-regulation becomes particularly relevant. In this regard, growing attention is being paid to neuroeducational approaches aimed at activating the natural mechanisms of brain development in early childhood.

Musical-rhythmic neuropractices represent a set of exercises and methods based on the synchronization of musical perception, rhythmic movement, and sensorimotor responses. The integration of music, rhythm, and movement contributes to the development of interhemispheric interaction, attention, memory, and emotional responsiveness, which is especially significant in preschool age characterized by high neuroplasticity.

Despite the existence of studies devoted to music education and rhythmic activities, the potential of musical-rhythmic neuropractices in preschool educational settings remains insufficiently systematized. This determines the need for theoretical reflection and practical analysis of their application in kindergarten environments. The purpose of this article is to examine musical-rhythmic neuropractices as an effective means of psychological and pedagogical support for preschool children and to substantiate the relevance of their integration into everyday educational practice.

## METHODOLOGY AND ORGANIZATION OF THE STUDY

The methodological framework of the study is based on the principles of neuroeducation concerning the relationship between sensorimotor experience and the development of higher mental functions in preschool age, the ideas of the cultural-historical approach emphasizing the leading role of activity in personality development, as well as concepts of music education and rhythmic development that consider music and movement as essential means



of forming the emotional sphere and regulatory mechanisms of behavior. The study relies on an interdisciplinary approach that integrates psychological-pedagogical, neurophysiological, and musical-methodological aspects of working with preschool children.<sup>15</sup>

The empirical part of the study was conducted in a preschool educational institution and involved older preschool children. The choice of this age group is обусловлен high neuroplasticity, active formation of interhemispheric connections, and the increasing role of voluntary behavioral regulation. In accordance with the research objectives, a program of musical-rhythmic neuropractices was developed and tested, aimed at activating interhemispheric interaction, developing attention, motor coordination, emotional stability, and self-regulation abilities.

The content of the program included a system of musical-rhythmic exercises designed according to the principles of gradual complexity, variability, and play-based orientation. The activities incorporated rhythmic movements accompanied by music of different tempos and characters, coordination exercises with cross-lateral movements, tasks for synchronizing auditory, visual, and motor responses, as well as elements of musical-motor

improvisation. Special attention was paid to creating an emotionally supportive environment that ensured children's engagement and sustained motivation for activity.<sup>16</sup>

The organization of the study involved a phased implementation of the experimental work. At the ascertaining stage, an initial diagnosis of attention development, motor coordination, and psycho-emotional state was carried out using pedagogical observation, diagnostic tasks, and analysis of children's behavior during musical-motor activities. The formative stage focused on the systematic integration of musical-rhythmic neuropractices into the educational process of the kindergarten and was implemented through regular sessions conducted within music and physical education classes as well as during routine activities. The control stage included repeated diagnostics of the studied indicators in order to identify dynamics and evaluate the effectiveness of the implemented program.

The research methods included pedagogical observation, psychological and pedagogical diagnostics, analysis of children's creative products, as well as qualitative and quantitative data analysis methods. A comparative analysis of the results obtained at different stages of the study made it possible to identify changes in the development of the psycho-emotional sphere, attention, and motor

<sup>15</sup> Konurova Leyla Ruslanovna. (2025). Psychological aspects of developing creative abilities in children through the integration of music therapy and modern pedagogical technologies. *European International Journal of Pedagogics*, 5(03), 72–75. <https://doi.org/10.55640/eijp-05-03-19>

<sup>16</sup> Thaut, M.H. (2005). *Rhythm, music, and the brain: Scientific foundations and clinical applications*. New York: Routledge.



organization of preschool children and to draw conclusions about the effectiveness of using musical-rhythmic neuropractices in working with preschool children.

## RESULTS OF THE STUDY AND THEIR DISCUSSION

The analysis of the results obtained during the experimental work revealed a positive dynamic in the development of the psycho-emotional and regulatory spheres of preschool children who participated in the program of musical-rhythmic neuropractices. A comparison of the data from the ascertaining and control stages demonstrated stable changes in indicators of attention, motor coordination, and emotional stability.

The most pronounced changes were observed in the area of voluntary attention. During the systematic performance of musical-rhythmic exercises, children showed an increased ability to concentrate, reduced distractibility, and greater attention stability when completing tasks requiring auditory-motor coordination. The children became more quickly engaged in activities, followed rhythmic patterns more accurately, and demonstrated more organized behavior during sessions. These results confirm the significance of rhythm as a factor contributing to the structuring of mental processes and the regulation of behavior in preschool age.

Positive dynamics were also identified in the development of motor coordination. At the control stage, children demonstrated more accurate performance of cross-lateral movements,

improved coordination between the movements of the arms and legs, and an enhanced ability to synchronize movements with musical accompaniment. These changes indicate the activation of interhemispheric interaction, which is consistent with neuroeducational principles emphasizing the role of sensorimotor integration in the development of higher mental functions.

An analysis of the psycho-emotional state of preschool children revealed a decrease in emotional tension and an increase in emotional stability. During the sessions, children displayed greater confidence, initiative, and readiness for improvisational forms of activity. A reduction in manifestations of anxiety and an increase in positive emotional responses were also observed, expressed in heightened interest in the activities and a stronger inclination toward independent musical-motor self-expression.

The obtained results confirm the effectiveness of musical-rhythmic neuropractices as a means of comprehensive influence on child development. Unlike traditional forms of musical-rhythmic activities, neuropractices are aimed not only at developing musical and motor skills but also at fostering neuroregulatory mechanisms that ensure the integrity of psychological development. This allows musical-rhythmic neuropractices to be considered an important component of psychological and pedagogical support



for preschool children in educational settings.

Overall, the results of the study indicate the advisability of the systematic use of musical-rhythmic neuropractices in working with preschool children and confirm their potential for enhancing the effectiveness of the educational process aimed at the harmonious development of the child's personality.

## CONCLUSION

The conducted study made it possible to substantiate the significance of musical-rhythmic neuropractices as an effective means of psychological and pedagogical support for preschool children. In the context of modern preschool education, which is focused on the holistic development of the child's personality, these practices serve as a valuable resource ensuring the integration of cognitive, emotional, and motor processes.

The results of the experimental work confirmed that the systematic use of musical-rhythmic neuropractices contributes to the development of voluntary attention, improvement of motor coordination, reduction of emotional tension, and formation of stable self-regulation skills in preschool children. The activation of interhemispheric interaction achieved through the synchronization of music, rhythm, and movement creates favorable conditions for harmonious psychological development.<sup>17</sup>

Musical-rhythmic neuropractices demonstrate strong developmental and preventive potential, as they not only stimulate children's creative self-expression but also help prevent emotional overstrain, increased anxiety, and difficulties in behavioral regulation. Their integration into the educational process of kindergartens contributes to the creation of an emotionally supportive environment and enhances the overall effectiveness of pedagogical work.

Thus, musical-rhythmic neuropractices can be recommended for systematic implementation in preschool educational institutions as an innovative tool aimed at the harmonious development of the child's personality. Prospects for further research are associated with refining the methodological content of neuropractices, expanding diagnostic tools, and studying their long-term effects on preschool children's development.

<sup>17</sup> Konurova Leyla Ruslanovna. Methods for developing the creative abilities of preschool children

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