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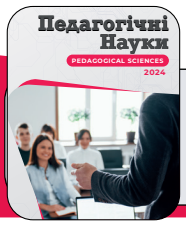

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Research on the state of resilient teaching at Ukrainian universities

Abstract. In the context of the full-scale invasion of Ukraine by russia in 2022, educational approaches that ensure not only the quality of teaching and learning but also adaptability and support for participants in the educational process have gained particular relevance. The aim of the article was to investigate and assess the level of awareness among teachers and students of Tavria State Agrotechnological University regarding the principles of sustainable teaching and to determine the necessity of their implementation in the educational process. The research methodology combined the analysis and synthesis of scholarly sources to establish a theoretical foundation with an empirical stage that involved an anonymous remote survey of teachers and students conducted via Google Forms. The survey included 29 thematic questions covering social issues, psycho-emotional state, institutional support, and readiness for innovation. The majority of respondents reported a significant negative impact of current crisis situations on the quality of teaching and learning (62%) and on their psycho-emotional state (55%). 90% of respondents indicated the importance of integrating psycho-emotional resilience into the university teaching and learning process. Over 70% of respondents expressed a desire to participate in the trauma-sensitive teaching training, particularly in the "Resilient Teaching" programme. The survey identified the most pressing issues that need to be addressed for the effective implementation of trauma-sensitive education at the university. It was revealed that the concept of "Education for Sustainable Development" and the pedagogy of resilience provide a holistic approach to the formation of a responsible, conscious and resilient citizen. The need for an ascertainment study on the state of readiness of participants in the educational process to implement resilient, trauma-sensitive teaching was emphasised. The practical significance of the study lies in the possibility of using the obtained results to develop and implement trauma-informed and resilient teaching programs within the educational process of higher education institutions in Ukraine

Keywords: education for sustainable development; psychology of resilience; educational process; innovative approaches; trauma-sensitive teaching

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INTRODUCTION

The development of education in Ukraine takes place in conditions of long-term social, economic and security challenges that significantly affect the organisation and quality of the educational process. Full-scale-invasion of russia against Ukraine in 2022 have necessitated rethinking traditional pedagogical approaches and seeking learning models that ensure not only high educational outcomes but also the sustainable development of educational practices. In wartime conditions, approaches, which are focused on the long-term perspective, adaptability and support of participants in the educational process are of particular importance. This is why the concepts of resilient teaching, in particular, education for sustainable development (ESD) and sustainability pedagogy, are considered as a new methodological basis for responding to modern challenges. Despite the growing interest in this approach worldwide, implementing sustainability strategy in Ukrainian higher education institutions face several problems, such as insufficient teacher training, limited resources and a lack of a systematic approach to assessing the effectiveness of such practices. In this regard, empirical research on the state of resilient teaching is an important step toward modernising Ukrainian higher education content and creating an educational environment capable of meeting the needs of modernity.

Issues of educational development in the context of sustainable development and social transformations are widely discussed in the works of Ukrainian scientists. In particular, O.V. Harashchuk & V.I. Kutsenko (2019) considered education a key factor in the country's socio-economic development, analysed the components of educational quality, and justified directions for improving specialist training. The theoretical principles of educational transformation to achieve the sustainable development goals (SDGs) were highlighted in the works of N. Vnukova & H. Sotska (2023), who emphasised the need to reorient content and learning outcomes in line with sustainability principles. The methodological aspects of implementing ESD in Ukraine were analysed by I.M. Koreneva (2018), who established the conceptual kinship between the approaches "New Ukrainian School" and ESD and identified the main directions of SDG development across different institutional types and forms of ownership. O.M. Khmelevska (2018) justified the role of educational institutions in the transition to the principles of sustainability and the implementation of the SDGs in Ukraine. Practical aspects of implementing the SDGs in higher pedagogical education were examined in works of H. Chaikovska (2023), which focused on preparing future teachers to implement sustainable development tasks in professional activities.

The issue of stress resistance among teaching staff has been studied by researchers across psychological, pedagogical, and interdisciplinary contexts. In particular, N.Yu. Tsybuliak & A.Ye. Bondarchuk (2019) and A. Antonova (2025) clarified the essence of the concepts of "stress resistance of a teacher", "professional stress resistance", analysed the influence of stress factors on the professional activity of a teacher, outlined a number of practical techniques aimed at overcoming negative manifestations of stress. S. Kuzikova & T. Shcherbak (2022) focused on the theoretical analysis of the concepts of "resilience" and "stress resistance", investigated the features of their manifestation, taking into account the specifics of pedagogical activity. N. Trofaila (2020) in her studies revealed the essence of the concept of "emotional stability" and substantiated its importance for ensuring the professional effectiveness of a teacher. In works of O. Tashkinova & L. Ponomarova (2024), the psycho-emotional state of teachers in the context of modern challenges to the educational process is analysed, and the results of implementing the author's advanced training programme were presented. At the same time, international scholars emphasise the importance of developing socio-emotional skills as a broader framework for strengthening resilience in education. These skills enable individuals to regulate their emotional states and build effective relationships among participants in the educational process (Velmurugan *et al.*, 2026). The systematic assessment of learning outcomes and the development of internal quality assurance mechanisms are important components of improving the effectiveness of the educational process in higher education institutions (Sharova *et al.*, 2023).

Despite the importance of the principles of resilient teaching and ESD, the practice of their implementation at Ukrainian universities remains insufficiently studied. At the same time, the principles of resilient teaching are relevant for improving the quality of higher education and developing innovative pedagogical strategies. This is especially true for relocated higher education institutions, particularly the Dmytro Motornyi Tavria Agrotechnological State University (TSAU), which are constantly in crisis yet continue to deliver high-quality education in line with society and the state requirements. The purpose of the article was to assess the organisation of the TSAU educational process in wartime conditions and to determine the university's level of readiness to implement sustainable, trauma-sensitive teaching, as well as to assess the level of awareness of teachers and students of the principles of sustainable teaching and the need to implement them in the educational process.

MATERIALS AND METHODS

This study was designed as empirical survey-based research, supported by theoretical analysis of scholarly literature. The analysis and synthesis of scholarly literature made it possible to identify the essence of sustainable teaching and to generalise existing research on this topic, thereby establishing a theoretical foundation for the empirical stage of the study. A questionnaire survey was conveyed to determine the level of awareness of the principles of sustainable teaching and the perceived need

for their implementation in the educational process at TSAU, as this method enables the collection of data from a broad group of participants in the educational process. The survey of respondents was conducted in December 2025 remotely using Google Forms to ensure accessibility and facilitate participation under current conditions. One month prior to the survey, the Google Forms link was distributed among participants in the educational process. The survey was anonymous in order to ensure the confidentiality of personal data. The total sample of respondents was 391 people. Among them were students (309 respondents, 79% of the total) and teachers (82 respondents, 21%). This is due to the fact that the quality of the educational process is influenced by all its participants, including both instructors and students. The respondents were distributed territorially as follows: 50.4% of respondents at the time of the survey were in Ukraine in front-line areas; 32.3% were in safer regions of Ukraine; 8.4% of respondents were abroad; 4.5% lived in the area where hostilities were taking place, 4.3% lived in the occupied territory. Among the total sample of respondents, 298 people (76.2%) were men, 93 people were women (23.8%). The gender imbalance in the sample is linked to the specifics of individual educational fields in which training is provided at TSAU. The study was conducted in accordance with the ethical principles of The Declaration of Helsinki (1964), ensuring voluntary participation, anonymity, and confidentiality of the respondents.

The questionnaire contained 29 questions related to the psycho-emotional state of respondents in war conditions, adaptation of the educational process and the university's readiness to implement trauma-sensitive teaching. Structurally, the items were organised into four blocks:

- Block 1. General information (5 questions).
- Block 2. Level of awareness of the trauma-sensitive approach (3 questions).
- Block 3. Educational environment and challenges (12 questions).
- Block 4. Readiness of educational institutions to implement trauma-sensitive teaching (9 questions).

The publication draws on respondents' answers to the questions in Block 1 (type of educational institution, gender, role within the institution, teaching experience), Block 3 (occurrence of stressful situations, emotional instability during the educational process, etc.), and Block 4 (the readiness of the higher education institution and participants in the educational process to implement trauma-sensitive teaching in the university's educational activities).

RESULTS

The survey results allowed to outline the current state of sustainable practice in teaching and identify the most relevant topics for teachers regarding sustainable teaching at the university. The majority of respondents reported a significant negative impact of current crisis situations on the quality of learning and teaching (Fig. 1).

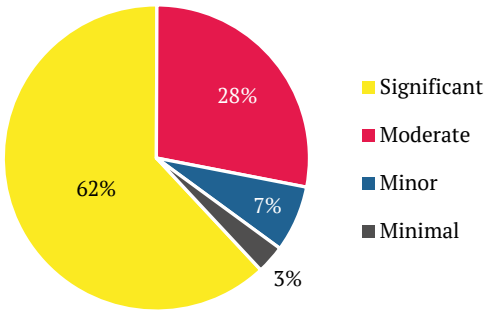

Figure 1. The level of negative impact of war on the quality of teaching and learning
Source: developed by the authors based on the analysis of the survey results

As shown in Figure 1, 62% of the respondents (242 people out of 391) reported a significant negative impact of the war on learning and teaching. 28% of respondents (110 people) noted a moderate negative impact. 7% respondents (27 people) indicated a slight impact of the war on learning and teaching. Only 3% (12 people) noted that the war did not affect learning and teaching at the university. Respondents located outside active hostilities more often reported a minimal or moderate impact; however, the territorial factor was not the primary focus of the analysis.

While the impact of war on the quality of teaching and learning is substantial, it is closely intertwined with the psycho-emotional condition of participants in the educational process. Therefore, it is important to examine how crisis situations affect respondents' psychological well-being. The distribution of responses to the question about the impact of crisis situations on respondents' psycho-emotional state is shown in Figure 2.

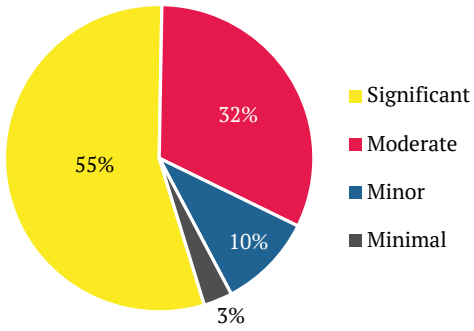

Figure 2. The level of negative impact of war on respondents' psycho-emotional state
Source: developed by the authors based on survey results

As can be seen from Figure 2, the war significantly affected the psycho-emotional state of 215 people, which is 55% of the total number of respondents. The moderate impact of war on psycho-emotional state was reported by 125 respondents, which is 32% of the total number of respondents. It can be concluded that the vast majority of respondents (87%) testify to the negative psycho-emotional impact of war on the personality, which creates

conditions for chronic stress, which, without support, transforms into burnout, decreased motivation, etc. A small part of respondents noted that the war had almost no impact (10%, 39 people) or did not affect at all (3%, 12 people) on their psycho-emotional state. This can be partly explained by survey results on the reasons for the temporary interruption of the educational process, including anxiety, shelling, power outages, and other negative factors. This is especially true for those respondents who live in dangerous areas. Thus, 68% (266 respondents) reported that they constantly encounter negative factors that interrupt the educational process and, accordingly, lead to stressful conditions. 86 respondents (22%) reported that interruptions to the educational process occur periodically. Only 10% of respondents have the opportunity to study and teach without interrupting the educational process (27 respondents – rarely; 12 respondents – almost never). In addition, educational activities at TSATU are carried out in distance and blended formats, in the mode of permanent crisis digital education (Sharova & Sharov, 2024). In the absence of specifically adapted methods, this leads to increased fatigue and psychological stress among participants in the educational process (Smirnova *et al.*, 2022), reducing student engagement and increasing the risk of academic losses.

According to the respondents, it is necessary to integrate the principles of psycho-emotional resilience into the university's educational process. This task is considered very important (266 respondents, 68%) or important (86 respondents, 22%). That is, 90% of respondents recognise the importance of integrating psycho-emotional resilience into teaching and learning. At the same time, 10% of respondents noted that integrating the principles of psycho-emotional resilience into the educational process is an almost unimportant (7%) or unimportant (3%) task. The distribution of responses regarding the perceived necessity of integrating psycho-emotional resilience principles into the university's educational process is presented in Figure 3.

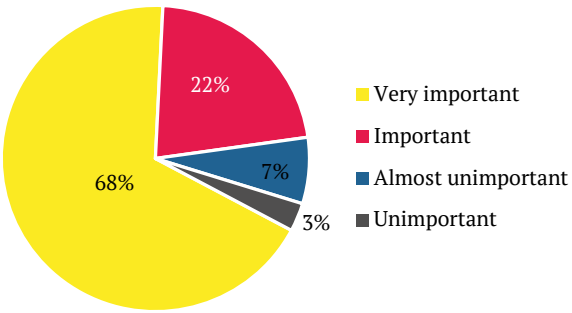

Figure 3. Assessment of necessity to integrate the principles of psycho-emotional resilience into the university's educational process
Source: developed by the authors based on survey results

As illustrated in Figure 3, the overwhelming majority of respondents (90%) recognise the importance of integrating psycho-emotional resilience into teaching and learning, with 68% considering it very important and 22% important. Only a small proportion of respondents expressed a neutral or negative attitude toward this initiative. These results demonstrate a strong institutional demand for resilience-oriented educational transformation.

The question regarding respondents' readiness to study the "Resilient Teaching" training programme elicited a high level of interest. Over 70% of respondents expressed a desire to participate in training sessions on trauma-sensitive teaching. 78 respondents (20% of the total) were considering professional development under this programme. Only 39 respondents, or 10% of the total, did not express a desire to participate in the "Resilient Teaching" training programme. The detailed distribution of responses concerning readiness to participate in the programme is shown in Figure 4.

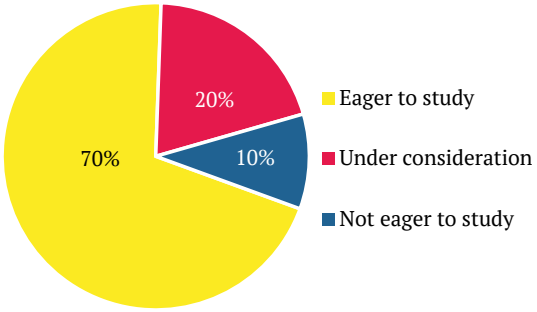

Figure 4. The respondents' readiness to study the "Resilient Teaching" training programme
Source: developed by the authors based on survey results

Figure 4 confirms a high level of motivation among respondents to enhance their professional competencies in resilience-based teaching. The majority demonstrate either a clear intention or openness to participation, while only a limited number of respondents remain uninterested. This indicates favourable conditions for implementing structured training initiatives within the university. Respondents were asked about TSAU's readiness to implement a trauma-sensitive approach during training and teaching. The distribution of responses regarding the university's institutional readiness is presented in Figure 5.

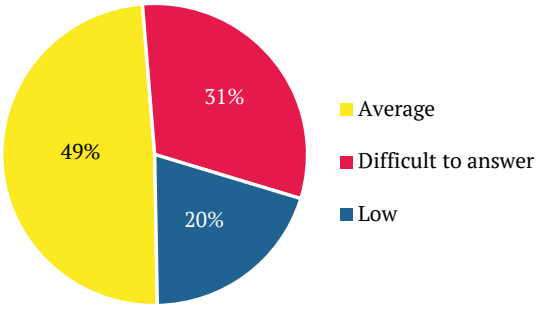

Figure 5. The TSAU's readiness to implement a trauma-sensitive approach
Source: developed by the authors based on survey results

As shown in Figure 5, almost half of the respondents (49%) assess the university's readiness to implement a trauma-sensitive approach as average. At the same time, 20% evaluate it as low, while 31% found it difficult to answer. The high percentage of respondents who selected "difficult to answer" may indicate insufficient awareness of institutional strategies and practices related to trauma-sensitive education. Overall, the results suggest the need for clearer communication, capacity-building, and systematic institutional support to strengthen readiness for implementing resilience-based teaching. Respondents were asked about TSAU's readiness to implement a trauma-sensitive approach during training and teaching. A quantitative analysis of responses to this question indicates an average level of university readiness, as reported by 49% of respondents. The answer "difficult to answer" was chosen by 31% of respondents (121 respondents), indicating low awareness among participants in the educational process about trauma-sensitive education and resilience-based teaching. At the same time, 79 respondents (19%) assessed the university's readiness to implement a trauma-sensitive approach as "low". Respondents were asked to select several basic needs of the university, the satisfaction of which will allow raising trauma-sensitive education to the proper level (Table 1).

Table 1. Needs requiring resolution for the effective implementation of trauma-sensitive education at the university

Need	Number of respondents	Percentage of the total, %
Teacher training	273	69.8
Methodological recommendations	254	64.9
Administrative support for staff	191	48.8
Access to external experts	99	25.1
Technological resources	157	40.1

Source: developed by the authors based on survey results

According to respondents, the most important need is the training of qualified teachers who understand the principles of resilience-based teaching and apply them in the educational process. This was reported by 273 respondents, or 69.8% of the total. The preparation of relevant methodological recommendations is also a high priority, as noted by 64.9% of respondents. Almost half of respondents (48.8%) indicated the importance of support for resilience-based teaching from the university administration and access to technological resources (40.1% of respondents surveyed out of the total number of respondents). The significance of administrative support is also highlighted in the study by C. Blanco Fontao *et al*. (2026). The survey results indicate a high level of demand for systematic training and support in sustainable teaching, and the target audience's readiness to actively participate in implementing changes. This approach creates favourable conditions for implementing the project "Supporting Adaptive and Flexible Education for War-Affected Students in Ukraine" (SAFE LEARN).

Overall, the survey results demonstrate a strong interconnection between the negative impact of war on the educational process, respondents' psycho-emotional state, and the perceived necessity of institutional transformation. The data indicate not only a high level of stress and disruption but also a clear recognition of the importance of resilience-oriented teaching and a substantial willingness among respondents to engage in professional development. At the same time, the assessment of the university's readiness reveals structural and organisational gaps that require systematic support, training, and strategic coordination. These findings create an empirical foundation for implementing comprehensive resilience-based educational initiatives within the university.

DISCUSSION

Resilient teaching is based on the concept of ESD, which combines the responsible behaviour of individuals with the sustainable functioning of society. According to J.A. Vargas-Merino *et al*. (2024), its conceptual provisions are interdisciplinarity, system thinking, orientation to the long-term perspective and active student participation in the educational process. ESD contributes to the development of socio-emotional, cognitive and behavioural skills necessary to solve specific tasks of each of the SDG, which, in turn, increases the effectiveness of their achievement (Vnukova & Sotska, 2023). An important place in the concept of resilient teaching is occupied by the development of critical thinking, decision-making skills and awareness of one's own responsibility for the consequences of human activity. In this way, ESD prepares the younger generation to overcome modern challenges and contributes to the long-term sustainable development of society (Chaikovska, 2023; Wahl & Rudinger, 2025).

M. Laufer *et al*. (2025) in their work emphasised that recent global crisis situations have intensified the need to reconsider existing procedures for organising the educational process, including the re-evaluation of long-established teaching practices in light of new technological advances. In the context of the implementation of the SDG (Cohen *et al*., 2025), the informatisation of education and improvement of the quality of the educational process are of particular importance in Ukraine (Kurylo *et al*., 2025), support for educational agents of change, creation of sustainable learning environments, improvement of coordination and integration between educational levels, as well as updating the content of educational reforms (Khmelevska, 2018). Researchers distinguish two main directions of ESD in

Ukraine, depending on the leading driving forces and the institutional centres of its implementation. The first direction concerns the implementation of the SDGs within the framework of formal education, primarily at higher education institutions during the professional training of pedagogical personnel, as well as in the sphere of informal education through the activities of out-of-school education institutions and public organisations. As I.M. Koreneva (2018) noted, the second direction focuses on the activities of non-governmental public organisations, which, on a voluntary basis, unite citizens around the values of sustainable development and civil society, laying the foundation for socially significant decisions.

Pedagogy of resilience (PR) complements the concept of ESD and focuses on the content of education, the ability of educational systems and participants in the educational process to adapt to changes and crisis situations. In the context of PR, scientists emphasise the importance of developing an integrated quality of the teacher's personality, often called "stress resistance", "emotional resistance", "teacher's resistance", or "professional resistance". It is embodied in the ability to overcome difficulties (Antonova, 2025), maintain dynamic balance (Trofaila, 2020), resist the negative impact of stress factors (Tsybuliak & Bondarchuk, 2019), effectively perform one's professional duties while maintaining emotional and psychological balance (Tashkinova & Ponomarova, 2024), etc.

This is quite logical, because the quality of training of the younger generation and their impact on ensuring sustainable development of society largely depend on teachers who transfer their experience and prepare graduates for professional activity (Koreneva, 2018; Harashchuk & Kutsenko, 2019). At the same time, the professional activity of a teacher is often accompanied by stress factors (Kuzikova & Shcherbak, 2022), and is often oversaturated with stressful situations, including a high level of responsibility for teaching and educating students (Trofaila, 2020). At the same time, the teacher's mental resources do not have time to fully recover before the start of a new working day, which leads to psychological discomfort and negatively affects physical, mental and professional health (Antonova, 2025).

The PR considers the educational space as an environment that supports psychological, social, and academic resilience. This allows teachers to provide psychological support and to develop emotional literacy and skills in managing stress and negative psycho-emotional states. In particular, through the implementation of the author's professional development programme for teachers "Resilient teaching in wartime conditions", developed by O. Tashkinova, & L. Ponomarova (2024); the use of practical methods that can help completely get out of a state of stress or alleviate its course (Antonova, 2025). At the same time, the selection and application of the most relevant and effective methods and approaches should be based on the current state of the problem under study, which is possible only through the implementation of the appropriate empirical research.

CONCLUSIONS

Thus, in the context of globalisation and rapid socio-technological changes, traditional teaching models need to be rethought. One of the promising areas is resilient teaching – an approach that integrates the principles of long-term effectiveness, social responsibility and environmental awareness into the educational process. The study enabled a comprehensive assessment of the state of sustainable teaching at Dmytro Motornyi Tavria State Agrotechnological University under wartime conditions.

The results of the empirical study indicated a systemic negative impact of military actions on learning and teaching at the university. The vast majority of respondents noted a decrease in motivation and academic performance, as well as a high level of psycho-emotional exhaustion. At the same time, respondents demonstrated a high level of readiness to implement adaptive and human-centred educational approaches and to participate in professional development programmes in resilient teaching. The obtained results provide a convincing evidence base for the implementation of international and Ukrainian projects aimed at developing sustainable, trauma-sensitive teaching. The implementation of such initiatives has the potential to become an important tool for preserving the quality of higher education, supporting the psycho-emotional well-being of the university community and forming sustainable educational systems in conditions of a prolonged crisis. The findings confirm that the integration of trauma-informed and resilience-oriented approaches is not merely desirable but objectively necessary under conditions of prolonged crisis. The results highlight the strategic role of higher education institutions in fostering psychologically safe and sustainable learning environments. Future research prospects involve the development and testing of sustainable teaching methods, along with the formulation of recommendations for integrating sustainability and trauma-sensitivity principles into the educational practices of Ukrainian universities.

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CONFLICT OF INTEREST

None.

REFERENCES

[1] Antonova, A. (2025). Formation of stress resistance in the professional activity of a teacher. *Problems of Engineering and Pedagogical Education*, 84, 403-413. doi: 10.26565/2074-8922-2025-84-35.

[2] Blanco Fontao, C., Ferreira, C., Arias-Gago, A.R., Marin, A., Bernardi, A.M., & Vidal, J. (2026). The inclusion of Education for Sustainable Development in universities: A comparison between Spain and France. *Revista Española de Educación Comparada*, 49, 263-282. doi: 10.5944/reec.49.2026.45168.

[3] Chaikovska, H. (2023). Integration of education for sustainable development in a higher education institution: Problems and prospects. *Social Work and Education*, 10(1), 123-133. doi: 10.25128/2520-6230.23.1.11.

[4] Cohen, S., Mamakou, X.J., Manes Rossi, F., & Brusca, I. (2025). Connecting the dots: From SDGs to well-being. *Journal of Public Budgeting, Accounting & Financial Management*, 37(6), 393-412. doi: 10.1108/JPBAFM-01-2025-0016.

[5] Harashchuk, O.V., & Kutsenko, V.I. (2019). Quality education – a tool for sustainable development (foreign experience and Ukrainian realities). *Scientific Bulletin of Uzhhorod National University. Series: International Economic Relations and the World Economy*, 23(1), 49-55.

[6] Khmelevska, O.M. (2018). Education for sustainable development: Content and institutions. *Demography and Social Economy*, 1(32), 29-42. doi: 10.15407/dse2018.01.029.

[7] Koreneva, I.M. (2018). Education for sustainable development: The realities of Ukraine. *Bulletin of the Oleksandr Dovzhenko Glukhiv National Pedagogical University: Pedagogical Sciences*, 36, 17-25.

[8] Kurylo, O., Kryvylova, O., Zhyhir, V., Peregudova, V., Bielova-Oleynik, Yu., Onyshchenko, S., & Revutska, O. (2025). The role of educational institutions in transformations to achieve sustainable development. *Problems and Perspectives in Management*, 23(2), 38-53. doi: 10.21511/ppm.23(2-si).2025.04.

[9] Kuzikova, S., & Shcherbak, T. (2022). Theoretical and empirical analysis of the problem of resilience and stress resistance in pedagogical activity. *Psychological Journal*, 8, 39-46. doi: 10.31499/2617-2100.8.2022.258313.

[10] Laufer, M., Schäfer, L.O., Kuper, F., & Deacon, B. (2025). Building resilient and creative universities: Exploring the new normal for eight universities across Europe. *Discover Education*, 4(1), article number 171. doi: 10.1007/s44217-025-00580-w.

[11] Sharova, T., Zemlianska, A., Sharov, S., Prosiankina-Zharova, T., & Kavun, L. (2023). Independent evaluation of learning outcomes as a tool of the internal quality assurance system. *TEM Journal*, 12(2), 700-709. doi: 10.18421/TEM122-13.

[12] Sharova, T., & Sharov, S. (2024). Distance learning in Ukraine: Risks and potential solutions. *Youth & Market*, 4(224), 11-16. doi: 10.24919/2308-4634.2024.299893.

[13] Smirnova, O.V., Mitina, N.B., & Harmash, S.M. (2022). Psychophysiological factors of hazards during training in wartime conditions. *Ukrainian Journal of Construction and Architecture*, 4(010), 89-94. doi: 10.30838/J.BPSACEA.2312.250822.89.882.

[14] Tashkinova, O., & Ponomarova, L. (2024). Professional resilience of teachers of Ukrainian higher education institutions during the war: Ways of support and development. *Social Work and Social Education*, 2(13), 120-129. doi: 10.31499/2618-0715.2(13).2024.316717.

[15] The Declaration of Helsinki. (1964). Retrieved from https://www.wma.net.

[16] Trofaila, N. (2020). Emotional resilience is the key to successful professional activity of teachers. *Current Issues in the Humanities*, 5(27), 125-128. doi: 10.24919/2308-4863.5/27.204500.

[17] Tsybuliak, N.Yu., & Bondarchuk, A.Ye. (2019). The structure of professional stress resistance of a special education teacher. *Theory and Practice of Modern Psychology*, 6(2), 154-158. doi: 10.32840/2663-6026.2019.6-2.27.

[18] Vargas-Merino, J.A., Rios-Lama, C.A., & Panez-Bendezu, M.H. (2024). Critical implications of education for sustainable development in HEIs-A systematic review through the lens of the business science literature. *The International Journal of Management Education*, 22(1), article number 100904. doi: 10.1016/j.ijme.2023.100904.

[19] Velmurugan, R., Sudarvel, J., Jothi, K., & Senthilkumar, S. (2026). Training and resources for teachers on SEL. In *Teacher strategies for addressing social-emotional needs of P-12 students* (pp. 399-418). Hershey: IGI Global Scientific Publishing. doi: 10.4018/979-8-3373-1067-1.ch013.

[20] Vnukova, N., & Sotska, H. (2023). Transformation of education to achieve the Sustainable Development Goals – 2030: A new pedagogical paradigm. *UNESCO Chair Journal Lifelong Professional Education in the XXI Century*, 1(7), 7-21. doi: 10.35387/ucj.1(7).2023.7-21.

[21] Wahl, K., & Rudinger, B.A. (2025). Sustainability educational system: From pedagogy to competencies. *Journal of Sustainability Education*, 31.

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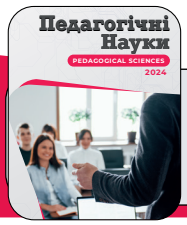
Дослідження стану стійкого викладання в університетах України

Анотація. В умовах повномасштабного вторгнення росії на територію України у 2022 році набули актуальності підходи до освіти, що забезпечують не лише якість навчання та викладання, а й адаптивність та підтримку учасників освітнього процесу. Метою статті було дослідити та оцінити рівень обізнаності викладачів і студентів Таврійського державного агротехнологічного університету щодо принципів сталого навчання та визначити необхідність їх упровадження в освітній процес. Методологія дослідження поєднувала аналіз і синтез наукових джерел для формування теоретичної основи з емпіричним етапом, що передбачав анонімне дистанційне анкетування викладачів і студентів за допомогою Google Forms. Опитування включало 29 тематичних запитань, що охоплювали соціальні питання, психоемоційний стан, інституційну підтримку та готовність до інновацій. Більшість опитаних повідомили про суттєвий негативний вплив сучасних кризових ситуацій на якість навчання та викладання (62 % опитаних) та їх психоемоційний стан (55 %). На важливість інтеграції психоемоційної стійкості у процес викладання та навчання в університеті вказало 90 % респондентів. Понад 70 % респондентів висловили бажання брати участь у тренінгах з травмачутливого викладання, зокрема у тренінговій програмі «Resilient Teaching». Під час опитування були виявлені найбільш актуальні питання, що потребують вирішення для ефективного впровадження травмочутливого підходу в освітній процес університету. Виявлено, що концепція «Освіта для сталого розвитку» та педагогіка стійкості забезпечує цілісний підхід до формування відповідального, свідомого та життєстійкого громадянина. Наголошено на необхідності констатувального дослідження щодо стану готовності учасників освітнього процесу до впровадження стійкого, травмачутливого викладання. Практичне значення дослідження полягає у можливості використання отриманих результатів для розробки та впровадження програм травмачутливого та стійкого викладання в освітній процес закладів вищої освіти України

Ключові слова: освіта для сталого розвитку; психологія стійкості; освітній процес; інноваційні підходи; травмочутливе викладання



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Pedagogy of partnership as the basis for humanising professional education for law enforcement officers

Abstract. This article examined the problem of humanising professional education for law enforcement officers in the context of social transformations and building a democratic state. The aim of the study was to comprehensively examine the pedagogy of partnership as a humanistic basis for the professional training and practical activities of police officers, as well as to clarify the peculiarities of understanding and perception of partnership interaction between law enforcement officers and the community. The methodological basis consisted of theoretical methods (analysis, synthesis, comparison, generalisation, classification) and empirical methods – questionnaires for employees of various police departments (patrol, prevention, duty units, district officers). The study showed that most of the police officers surveyed have a positive attitude towards the idea of partnership with the community and recognise its importance for increasing public trust. At the same time, barriers to the implementation of such cooperation were identified: insufficient awareness of modern humanistic models of cooperation; limited experience in applying partnership practices in everyday service; lack of measures to promote the consolidation of cooperation skills; and the presence of an authoritarian style of communication. The survey data showed varying levels of readiness among employees for humanistic interaction: some respondents demonstrated a high level of awareness of the values of partnership, while others needed additional training and clarification on practical tools for cooperation with the community. The results obtained made it possible to form a comprehensive picture of the real state of perception of humanistic principles in the police environment and to identify areas for improvement in training. The study emphasised the need to combine legal competencies with humanistic ones – the ability to engage in dialogue, empathy and partnership, which are the basis for effective interaction between the police and the community in a democratic society. The practical significance of the study lies in the possibility of using the results obtained to improve professional training programmes and upgrade the qualifications of law enforcement officers with a view to developing partnership-based, humanistic-oriented interaction with the public

Keywords: law enforcement officers; partnership-based interaction; humanistic principles; legal competencies; professional training; socio-psychological skills

INTRODUCTION

The humanisation of professional education is a leading priority in modern specialist training, driven by transformational processes in Ukrainian society a nd the transition to a service-oriented model of public administration. The focus on respect for human rights and freedoms places new demands on law enforcement agencies and necessitates a paradigm shift in police training. This requires updating management approaches, educational content and the professional outlook of employees. One such approach is partnership pedagogy, which is based on mutual respect,

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trust and subject-subject interaction. It promotes the transition from an authoritarian model of education to a dialogical one and ensures the formation of competencies and value orientations necessary for the humane activities of law enforcement officers.

The relevance of the issue raised is confirmed by significant scientific interest, which is reflected in fundamental research, dissertations and publications. Thus, in the monograph by A.V. Sakun *et al.* (2020), devoted to a thorough theoretical consideration of the phenomena of humanisation and humanisation of education, the authors analysed the strategic foundations of the modernisation of the educational space and explored the historical genesis of these processes. They paid particular attention to the sociocultural phenomenon of the unity of education and science in the context of humanisation. O.V. Ursol (2021) defined the essence of the humanisation of the pedagogical process in higher education institutions, revealed the meaning and structural components of the humanisation of the educational space, and emphasised the expediency of transitioning to a socio-cultural educational system and the importance of introducing humanistic principles into the pedagogical process of higher education institutions. The author studied ways of implementing humanistic principles in the educational process with the aim of training specialists at a new level who will combine professional and humanitarian training.

In the study by H.O. Usatenko (2024), the formation and development of humanistic ideas in the countries of the European space and in Ukraine were analysed from a historical perspective, various practices were presented, and the peculiarities of implementing humanistic principles in the education system were identified. Particular attention was paid to the period of the 20th and 21st centuries, and the challenges of implementing a humanistic position in the education system were identified. O. Horishna (2025) emphasised that the trends and key features of the humanistic paradigm of education, in particular human-centredness, subject-subject interaction and the orientation of the individual towards humanistic values, directly influence the content and quality of the modern educational space. On this basis, the researcher outlined the main advantages of developing a humanistic approach, as well as the challenges accompanying its implementation. Pedagogy of partnership has been identified as an effective tool for humanistic education in numerous studies. Thus, T.L. Kovbasyuk (2023) emphasised that partnership interaction is an effective factor in creating a democratic educational environment and actively involving all participants in the educational process. Based on an analysis of contemporary challenges and trends in education, the author defines the conditions and principles for the effective implementation of partnership pedagogy. Having considered cultural, social, technological and financial barriers, the researcher proposed scientifically sound ways to overcome them and emphasised the need for systematic support for the successful implementation of the partnership approach.

The study by V. Radkevych (2023) demonstrated an examination of the partnership model of interaction in vocational education in European countries. Studying the problem of public-private partnerships in vocational education, the author identified effective communication between participants for the exchange of experience and shared use of resources as one of the important conditions for the functioning of such partnerships. An approach based on the principles of transparency, accountability and efficiency combines the resources of different education sectors to solve specific problems in vocational education, improves its quality and, importantly, contributes to the growth of each country's national competitiveness.

Contemporary research by European scholars emphasises the significance of the humanistic and partnership paradigm in education and professional training. Within higher education, the concept of "students-as-partners" demonstrates the effectiveness of cooperation between lecturers and students as equal participants in the educational process, which transforms the academic environment (Mercer-Mapstone & Abbot, 2020). Such an approach is relevant in various spheres of human activity. Humanistic education, as noted by L. Chen *et al*. (2023), aims to develop empathy, moral sensitivity and ethical competencies that are necessary in modern society. A similar approach is implemented in community-based research practices, where partnership pedagogy proves its effectiveness in establishing interaction between educational institutions and communities (Engel-Hills *et al*., 2023). In the context of law enforcement training, these principles resonate with the contemporary model of community policing, which emphasises building trust and partnerships between the police and the community (U.S. Department of Justice, 2023). Thus, humanistic education and partnership pedagogy form the value basis for the development of models of socially oriented interaction in various spheres.

A separate layer of research concerns the training of law enforcement specialists and models of partnership between the police and the community. Thus, in an article by V.O. Anishchenko (2021) devoted to the problem of improving the professional training of future law enforcement officers, a model of professional competence for specialists in this field has been constructed through the prism of the latest approaches. The article analysed the features of professional training determined by the specifics of future activities and regulatory requirements, and proposes the introduction of cooperation between teachers and students as an effective method of improving professional training.

Despite significant scientific achievements, the issue of forming a modern humanistic-oriented model of professional education for law enforcement officers remains relevant and requires research and systematic review. In this regard, the aim of the article was to conduct a comprehensive study of the pedagogy of partnership as a humanistic basis for the professional training and practical activities of law enforcement officers, to clarify the peculiarities of understanding, perception and attitude of employees of

the National Police of Ukraine to partnership interaction with the community based on the analysis of the results of a questionnaire. In accordance with the stated aim, the following objectives were set: to substantiate the importance of partnership pedagogy in the formation of professional and humanistic values of law enforcement officers based on the analysis of scientific approaches to partnership pedagogy as a component of the humanisation of their professional education; to investigate the initial level of understanding of the essence of partnership pedagogy by employees of the National Police of Ukraine and their attitude towards partnership with the community and, based on these data, to identify the key difficulties that complicate the implementation of the partnership model in the practice of Ukrainian law enforcement agencies; to propose a set of educational measures aimed at forming and deepening partnership interaction between law enforcement officers and the community.

MATERIALS AND METHODS

To achieve the research objective, complementary theoretical and empirical methods were comprehensively applied. Theoretical methods – analysis of scientific and pedagogical sources, synthesis, comparison, classification and generalisation – formed the basis for a systematic analysis of the problem. These methods made it possible to reveal the essence and content of partnership pedagogy, systematise the principles of the partnership approach (dialogue, trust, subjectivity, interaction) and form a conceptual vision of partnership interaction in the police profession. For an objective analysis of the level of awareness among police officers of the essence of humanistic interaction, its place in professional activity and the readiness of law enforcement officers to cooperate with the public, an online questionnaire survey of employees of the National Police of Ukraine was conducted between July and September 2025. The survey involved 137 employees of police agencies and units of the National Police of Ukraine in the Sumy and Kharkiv regions, including patrol police officers, prevention officers, duty officers, and district officers. The age of the respondents ranged from 26-35 years (45%), 36-45 (37%) and 46+ (18%). The percentage of respondents with higher education, incomplete higher education and secondary specialised education was 71%, 21% and 8%, respectively. The study ensured compliance with the basic ethical principles set out in The Declaration of Helsinki (1964), in particular voluntary participation, informed consent, confidentiality, and respect for the dignity, rights and freedoms of each respondent. The anonymous format of the survey ensured the sincerity of the respondents' answers. The survey was conducted online using Google Forms and was titled "Study of the attitude of National Police employees towards humanistic interaction with the public". The results were processed using quantitative and qualitative methods – by counting the frequency of responses, percentage distribution and content analysis of responses, with multiple responses allowed. The participants in the study were asked to answer the following questions:

- What personal qualities do you think are most important for a modern police officer?
- Do you consider humanistic interaction to be an important component of a police officer's professional competence?
- What forms of interaction with the public do you use most often in your official activities?
- What factors, in your opinion, hinder humanistic interaction between the police and the public?
- Are there any measures in place to develop humanistic interaction, in particular with regard to interaction with the public?
- How would you assess your own readiness for humanistic interaction aimed at professional self-improvement?
- Do you apply the principles of humanistic interaction (respect, trust, dialogue, etc.) in your work, and how often?
- What motivates you most to cooperate with the public?
- What skills do you think are most necessary for effective police work with the public?
- What forms of training do you consider most effective for the development of humanistic interaction?
- What can contribute to improving humanistic interaction between the police and the public (transparency, improving communication culture, raising the level of education, etc.)?
- In your opinion, what personal or professional qualities are most lacking in modern police officers?

In order to deepen understanding of the ideas of partnership pedagogy and to foster a positive attitude towards partnership interaction with the public among representatives of prevention units whose activities are directly related to constant interaction with the population, a set of targeted educational and practical measures was developed. These activities were implemented in the form of training sessions and practical sessions at the territorial police departments of the Sumy and Kharkiv regions, in which 37 employees of the prevention departments took part. The content of the sessions included interactive mini-lectures, situational exercises, group discussions and modelling of professional situations aimed at developing a culture of communication, partnership skills, empathy, tolerance and constructive dialogue with the public. The methodological basis for the activities was provided by the principles of community policing, partnership pedagogy and modern approaches to the social and emotional development of adults. A comprehensive combination of theoretical and empirical methods made it possible to obtain an objective picture of the state of police officers' awareness of the latest trends in humanistic interaction and to identify internal contradictions between the value orientations of law enforcement officers and the practical problems of interaction with the community. This combination ensured

the scientific reliability of the results and their practical significance.

RESULTS

The results of the survey conducted as part of this study, shown in Figure 1, showed that respondents consider responsibility (82%) and professional competence (76%) to be the most important personal qualities of a modern police officer. This indicates that police officers consider basic professional standards to be key in their work. High scores were also given to politeness, humanity and openness to dialogue (63%, 58% and 54% respectively), indicating a gradual shift towards a service-oriented model of policing focused on people's needs. The presence of characteristics such as communication and behaviour culture, which received slightly lower scores, highlights police officers' expectations regarding the improvement of their own social competence.

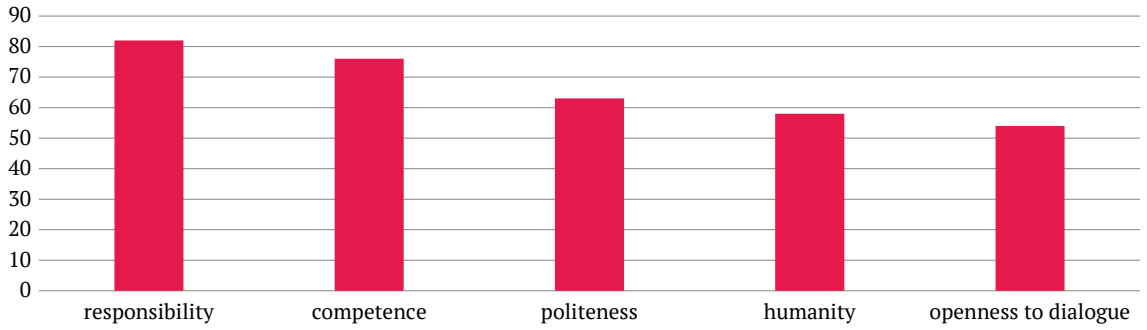

Figure 1. Results of ranking personal qualities of modern police officers, %
Source: developed by the authors

The clarification of the view on the question "Is humanistic interaction an important component of professional competence?" revealed the following attitude among respondents: the overwhelming majority of those surveyed recognise humanistic interaction as necessary for professional activity (67%). This forms a general trend of understanding that police work can no longer be based solely on force or administrative functions; instead, it requires partnership and mutual respect. A small proportion of those who do not consider it important or only partially important (33%) indicates the existence of a certain conservative core that needs additional training or a rethinking of the role of the police.

The survey results shown in Figure 2 indicate that the most common forms of interaction between law enforcement officers and the public are preventive measures and conversations (44% and 52%, respectively), which indicates the priority of preventive work, a central element of modern community policing. Social initiatives and volunteering are used less frequently, which may indicate excessive workloads. The category "other", chosen by 12% of respondents, characterises isolated or situational forms of cooperation.

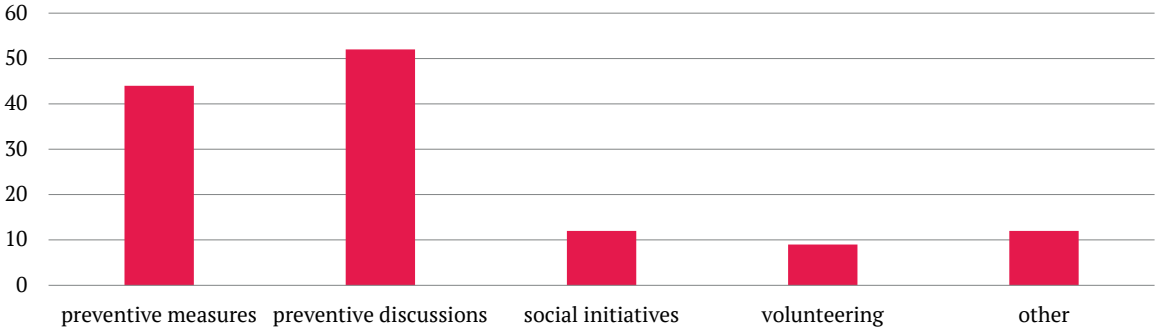

Figure 2. Most common forms of interaction between law enforcement officers and the public, %
Source: developed by the authors

The main obstacle to effective cooperation by police officers was identified as public mistrust: 68% of respondents gave this answer (Fig. 3). This indicates a possible social distance between the police and citizens. Other options included a lack of communication skills and bureaucracy, excessive workload and difficult working conditions. A significant proportion of respondents (25%) said that they do not receive or only occasionally (53%) receive training for professional self-improvement. In other words, measures to help consolidate cooperation skills are rare and unsystematic. This gap needs to be addressed in the professional development system for law enforcement officers.

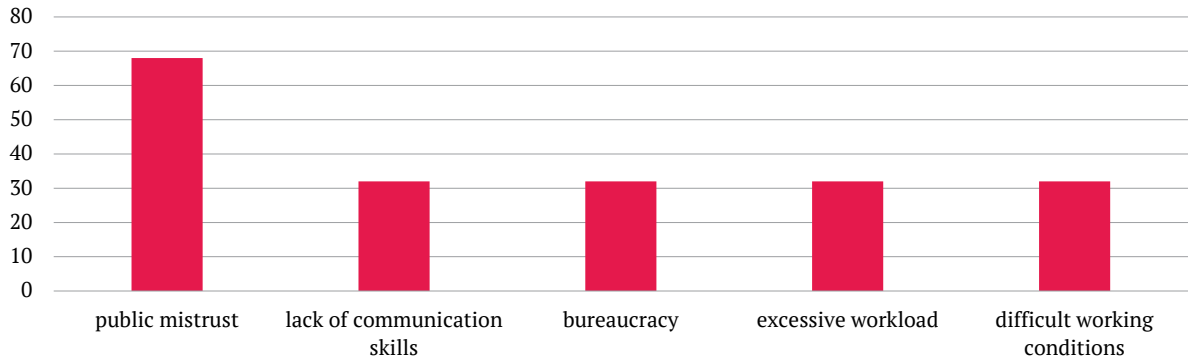

Figure 3. Barriers to the implementation of effective interaction by police officers, %

Source: developed by the authors

It is noteworthy that most respondents rated their readiness to interact with the public as high or medium (46% and 44%), which indicates internal motivation and awareness of the importance of interaction with the community. In support of this statement, it was found that most employees responded that they often apply the principles of interaction with citizens in the form of friendliness and empathy in their work. A small percentage of those who rate their readiness as low (10%) indicate a need for additional training programmes and individual support. At the same time, the main motives for cooperation are crime prevention (62%), while 33% of respondents chose personal development. Among the most important skills needed by police officers to work with the community, respondents chose communication and conflict management, as these are the skills that enable police officers to interact effectively in complex or tense situations. However, skills such as empathy and ethics scored slightly lower (37% and 32%), which needs to be addressed in professional training programmes.

Responses to questions about readiness for partnership (Fig. 4) indicate significant internal potential among respondents, but systematic support is needed to realise it. In this regard, respondents ranked training and situational exercises first, confirming the importance of practice-oriented learning. International programmes received lower ratings due to complexity of access and logistical constraints (22%). In other words, employees prefer forms of training that allow to practise their skills directly (78%).

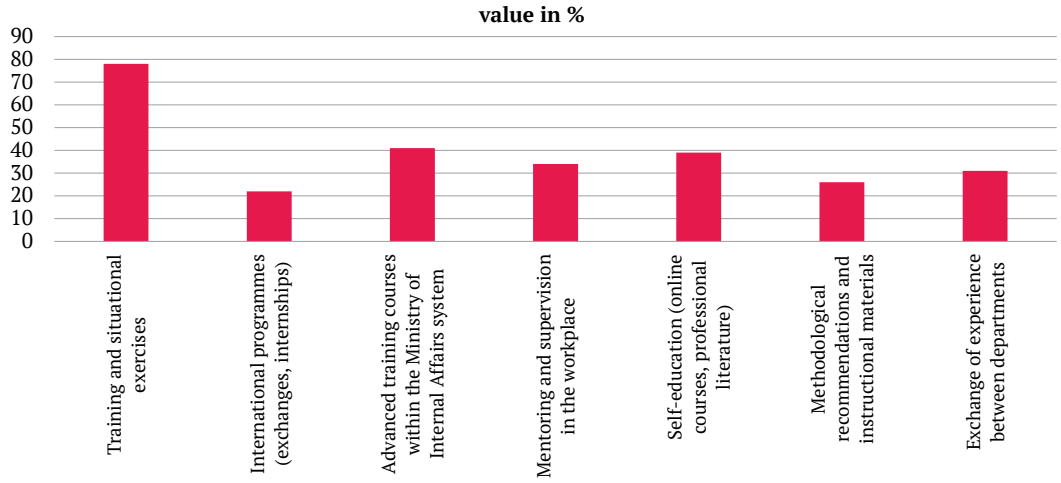

Figure 4. Forms of support or training that police officers consider most effective for developing readiness for partnership with the public

Source: developed by the authors

Respondents consider improving communication culture to be the key area for improving interaction with the public, with 72% of respondents giving it priority (Fig. 5). Transparency and openness in police activities are also of great importance, as they build public trust (61% and 53%, respectively). Respondents recognise the need for humanistic education and training of personnel, as well as for improving the legal framework. As can be seen, accessibility of communication and transparency of work are identified by respondents as the main indicators of interaction. This means that citizens should be able to interact with the police without barriers, and the activities of law enforcement officers should be understandable and open. Preventive measures are important but are perceived as

a secondary indicator. Responses to questions about the qualities most lacking in modern police officers showed a preference for characteristics such as stress resistance and the ability to explain, while tolerance and the ability to listen ranked low in respondents' answers, which requires separate attention.

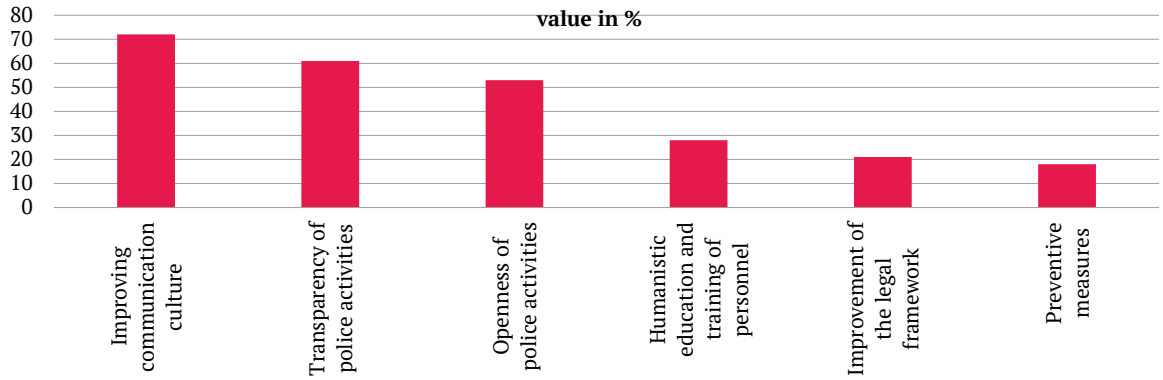

Figure 5. Priority areas for improving police-public relations

Source: developed by the authors

The survey results show that employees of the National Police of Ukraine generally demonstrate a fairly high level of awareness of the essence of partnership-based, humanistic interaction and recognise it as an integral part of the modern model of law enforcement. For most respondents, partnership with the community is not a formality, but a real component of daily work based on dialogue, respect, openness and prevention of offences. Police officers clearly understand that the effectiveness of their work depends largely on the level of public trust, and that trust, in turn, is built through transparency, accessibility, courtesy and a professional culture of communication. The vast majority of respondents recognise that humanistic principles, such as respect for human dignity, the ability to listen and the ability to engage in dialogue, are just as important as professional competence. At the same time, the respondents' answers reveal certain difficulties and challenges. First and foremost, these are insufficient communication skills, bureaucratic restrictions, and low levels of trust on the part of certain population groups. Police officers recognise the need for systematic training and the development of empathy, conflict management, stress resistance, and cultural competence skills. This indicates a realistic and self-critical attitude of employees towards their professional role.

Overall, the results of the survey show that the police have the potential for partnership-based interaction with the public, but this potential has not yet been fully realised. Police officers recognise the importance of the partnership model, acknowledge its advantages and declare their readiness for greater openness and cooperation with the community. At the same time, the effective realisation of this potential requires systematic support, in particular through regular training events, institutionally established mechanisms for interaction, the reduction of bureaucratic barriers and the development of transparent professional communication. After a series of activities, there were noticeable changes in the views and professional attitudes of prevention unit staff towards partnership-based interaction with the public. During the course of the work, there was an increase in attention to the ideas of partnership pedagogy, as well as a deeper understanding of its role in modern law enforcement. During the training activities, there was also an increase in attention to understanding the importance of communication culture and humanistic qualities such as listening skills, empathy, tolerance and willingness to consider the position of others. The results confirm the need to introduce partnership pedagogy into the system of professional training and advanced training of law enforcement officers and demonstrate the feasibility of further developing such educational practices in the context of humanising law enforcement activities.

DISCUSSION

The results of a survey of employees of the National Police of Ukraine confirm the existence of a demand for a partnership-based, humanistic model of law enforcement based on a culture of communication, openness and transparency in interactions with the public. At the same time, the data recorded indicate a contradiction between the declared readiness for such interaction and the institutional conditions of professional training, which largely retain the features of a command-administrative and hierarchical model. This can be explained by the fact that the traditional system of training law enforcement specialists is still based on the principles of unquestioning subordination, strict discipline and a command-and-control model, which does not meet the requirements of a democratic state. The result of such a training system is that law enforcement officers are not sufficiently focused on the needs of society and the population has a low level of trust in the police.

In a context where Ukraine is seeking to integrate into the European community, which is based on the principles of the rule of law and respect for human rights, the professional training of law enforcement officers must

become humanistically oriented. It should be noted that the humanisation of law enforcement is not simply a change in external forms or an update of existing approaches, but a profound transformation of the fundamental principles of the entire system. Unlike humanisation in other areas, it has its own unique and important features and should permeate all aspects of the professional behaviour of specialists, as it is an indicator of the transition from an authoritarian model to a model of service and legal partnership between the state and society. The results of the study show that areas such as humanistic education and systematic updating of the regulatory and legal framework, although recognised as necessary, remain secondary for a significant proportion of respondents. This is consistent with the conclusions of researchers who point out that in the context of the dominance of the traditional disciplinary paradigm, humanistic values are often perceived as an additional rather than a basic component of the professional training of law enforcement officers.

At the same time, the priority given to factors such as improving communication skills, developing communication skills and practice-oriented training, which were identified by the majority of respondents, is consistent with the findings of recent studies in the field of community policing and service-oriented policing. Similar conclusions can be found in the works of Ukrainian and international scholars, who emphasise that the effectiveness of law enforcement in democratic states directly depends on the level of public trust, which is formed not through administrative control, but through dialogue, respect for human dignity and partnership. These principles are interrelated and together form a new paradigm of law enforcement that meets the demands of a democratic and legal society. Researchers K.V. Hromovenko & Ya.O. Titska (2021) emphasised that since law enforcement agencies constitute the "core" that ensures the realisation of constitutional human rights and freedoms, the modernisation of these bodies is impossible without rethinking their interaction with communities and moving away from outdated models of relations with the population. The authors emphasised that building lasting trust among the population is only possible through humane and sensitive interaction. Thus, according to T.A. Pluhatar *et al*. (2024), humanism should be the foundation of all the work of the National Police of Ukraine, as it directs the activities of law enforcement officers towards the real protection of human rights and freedoms, as enshrined in Article 3 of the Constitution of Ukraine (1996).

T. Slippenko (2022), based on an analysis of the experience of European countries, studied a model of law enforcement based on partnership between the police and the community and considered the possibilities of its application in Ukraine. O.M. Voluyko (2020) analysed Community Policing strategies – interaction between the police and the population. The author concluded that the model of interaction has its own philosophy and certain organisational principles and reveals the philosophical and semantic foundations of such interaction. V.V. Bondar (2024), addressing the issue of establishing cooperation between the National Police of Ukraine and the population in conditions of martial law, noted the duality of this process: for law enforcement officials, it provides an opportunity to identify and analyse shortcomings in their work in order to prevent problems in their professional activities in the future; for the public, it will contribute to raising the level of awareness and legal literacy, which will encourage the population to cooperate, resulting in the prevention of some offences.

In the context of research on police-community partnerships, it is worth mentioning the academic work of A. Da Costa (2024), which analysed how representatives of different groups – police officers, teachers, school administrators, students and the media – shape the discourse of "building relationships" between the police and young people, using it as a key framework for defining the role and significance of school resource officers in Canada. The author demonstrated that it is through the rhetoric of partnership, trust and support that a positive image of the police officer is created in the school community and the social value of the presence of law enforcement officers in educational institutions is defined. At the same time, the work points out the hidden problems that may arise in this issue. The works studied are relevant in the context of this research, since the format of cooperation between the police and the population is also a model of partnership based on trust, mutual respect, dialogue and cooperation. A critical analysis of existing models of interaction allows for a deeper understanding of approaches to law enforcement training focused on humanistic values and effective cooperation with the community.

A key element of the humanistic model of professional education is the pedagogy of partnership, based on the principles of mutual respect, trust, cooperation and shared responsibility. In her scientific work L.V. Tkachuk (2021), devoted to the study of the historical development of partnership pedagogy, the author concludes that such pedagogy arose as a response to the socio-economic and educational needs of society – to prepare successful citizens. After all, the main goal of such pedagogy is to promote the comprehensive development of a person through equal interaction and dialogue between all participants in the educational process. This creates favourable conditions for the development of critical thinking, empathy and responsibility, which are crucial for the effective and ethical performance of professional duties. It can be argued that partnership pedagogy is the fundamental basis for organising the educational process in any educational institution that meets the modern requirements of a democratic society.

As noted in this regard by T. Motuz *et al*. (2024), professionalism in partnership pedagogy is today an indispensable condition for the existence and development of the educational system. Such competence is the foundation on which trust and mutual understanding are built, allowing all participants in the educational process – from teachers and students to administrators and parents – to work as a

single, well-coordinated mechanism. It goes beyond simple knowledge, encompassing skills of dialogue, empathy, cooperation and conflict resolution, which are key to creating a truly humanistic educational environment. Only through the development of this competence is it possible to ensure the sustainable development and adaptation of the educational system to the challenges of contemporary society. At the same time, as noted by T.L. Kovbasyuk (2023), the implementation of partnership pedagogy requires not only theoretical understanding, but also a deep willingness of all participants in the educational process to interact and adhere to the principles of partnership. The willingness of teachers, students and administrators to cooperate is the basis of this approach. It involves moving away from the traditional hierarchy and transitioning to a model where everyone is an equal partner. Such cooperation is based on key principles of partnership, such as respect for everyone, trust, dialogue and equality. These principles form the basis for creating an open and supportive environment where everyone can freely express their thoughts and ideas. Vocational training involves collective work on projects, problem solving and group discussions. This approach helps to develop teamwork and communication skills, as well as teaching how to find compromises and respect the opinions of others.

The principle of equality means that the teacher and the learner are equal partners in the educational process. The relationship between them is based on mutual respect, not subordination. The teacher is a mentor and facilitator who helps the learner to acquire knowledge and develop independently. This helps to increase the motivation, initiative and responsibility of learners. In addition, the successful implementation of partnership pedagogy depends on all participants having the relevant professional skills and abilities (Kovbasyuk, 2023). For teachers, this means the ability to facilitate discussions, manage projects and mediate conflicts. For learners, it means developing teamwork skills, critical thinking and independent problem-solving. Together, these skills and principles create an effective educational system that promotes not only the acquisition of knowledge, but also the formation of a well-rounded and responsible personality.

Equally important in partnership pedagogy is the principle of dialogue. The educational process should be based on open dialogue and involve subject-subject interaction. Each participant has the right to express their opinion, ask questions and participate in the discussion. This contributes to the development of the ability to argue one's position and make informed decisions. Dialogue also helps the teacher to better understand the needs and interests of learners. Another of the most important principles in partnership pedagogy is the principle of mutual responsibility for learning outcomes, which is shared among all participants in the educational process. The teacher is responsible for organising the process and creating conditions, while the learner is responsible for their active participation and personal development. This principle shapes the understanding that success depends on one's own efforts rather than external factors.

The author agrees with the statement by researcher N. Yasinska (2024) that partnership pedagogy is a priority of the modern education system, as this approach transforms the educational process into a joint creative activity where each participant is active and equal. The partnership model allows teachers and students to jointly solve real professional problems by integrating theoretical knowledge into practical activities. This makes learning more meaningful and applicable, which is especially important for training specialists whose work requires constant decision-making in complex situations. Based on an analysis of the key principles of partnership pedagogy, it can be concluded that these principles are the foundation for creating a safe educational environment where everyone feels valued and protected, which is the basis for personal growth.

In the context of modern law enforcement training, security is particularly relevant. When the educational process is based on mutual trust, students feel psychologically secure. This allows to freely express their opinions, ask questions, and discuss complex ethical dilemmas. Since partnership pedagogy is based on dialogue and cooperation, it naturally contributes to reducing conflicts. All problems and misunderstandings are resolved through discussion. This helps participants in the educational process to develop mediation and compromise skills, which are indispensable for safe and harmonious interaction both in the classroom and beyond. The author believes that the application and observance of these principles in educational activities for the training of law enforcement officers influences the change in the worldview of future specialists in this field, teaches them to work in a team, and develops empathy and responsibility. Such training leads to a humanistic attitude of future law enforcement officers towards the population; they will communicate with citizens as equal partners, cooperate with society, and resolve conflicts through constructive dialogue.

In this work, the pedagogy of partnership is seen as a key factor in the humanisation of professional training for law enforcement officers, creating the basic conditions for the formation of a new culture of interaction in the law enforcement system. It ensures the development of dialogue skills, tolerance, responsibility and the ability to work in an environment of mutual trust in future specialists. However, the significance of partnership pedagogy is not limited to the educational process alone. Its principles must continue to function in the professional activities of police officers, because only by transferring partnership models of interaction into the real social environment is it possible to form a modern service-oriented law enforcement system.

CONCLUSIONS

The generalisation of the research results shows that the humanisation of professional education for law enforcement officers is not just another stage of reform, but an important requirement of the times that meets the

demands of a democratic society. This process goes beyond the formal assimilation of legal norms and is aimed at a profound transformation of the consciousness of future specialists. The humanistic paradigm in education shifts the focus from strict discipline and unquestioning obedience to the individual, their rights and dignity, shaping law enforcement officers' awareness of their mission as protectors. The results of the survey showed that the practical implementation of partnership pedagogy as the basis for the humanisation of professional education for law enforcement officers is a relevant and timely task that meets both the demands of society and current scientific trends in the field of pedagogy and law. Specialists who are aware of their social role are able to interact effectively with citizens, resolve conflicts through dialogue, and promote trust in law enforcement agencies. The implementation of partnership pedagogy is a strategic step towards building a constitutional state where serving the people is the highest value. Further research requires the development of clear methodological recommendations and the implementation of systemic solutions that would ensure a sustainable combination of the humanistic paradigm and educational practice in law enforcement agencies. A further direction for scientific research could be a comparative study of the experience of applying partnership pedagogy in the training of law enforcement officers in different countries (the United States, Canada, European countries), which would allow the best practices to be identified and adapted to Ukrainian realities.

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CONFLICT OF INTEREST

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REFERENCES

[1] Anishchenko, V.O. (2021). Improving the professional training of master's students – future law enforcement officers. *Bulletin of the National University "Chernihiv Collegium" named after T.G. Shevchenko*, 168(12), 157-163. doi: 10.5281/zenodo.4769544.

[2] Bondar, V.V. (2024). Cooperation between the National Police of Ukraine and civil society on the basis of partnership under martial law. *Scientific Bulletin of Uzhhorod National University. Series: Law*, 81(2), 63-68. doi: 10.24144/2307-3322.2024.81.2.10.

[3] Chen, L., Zhang, J., Zhu, Y., Shan, J., & Zeng, L. (2023). Exploration and practice of humanistic education for medical students based on volunteerism. *Medical Education Online*, 28(1), article number 2182691. doi: 10.1080/10872981.2023.2182691.

[4] Constitution of Ukraine. (1996, June). Retrieved from https://zakon.rada.gov.ua.

[5] Da Costa, A. (2024). "Relationship-building" and the normalization of police in schools. *Critical Education*, 15(3), 21-42. doi: 10.14288/ce.v15i3.186790.

[6] Engel-Hills, P., Ibsen, H., & McDonald, L. (2023). Exposing the benefits of a pedagogy of partnership in health professions education. *Health SA Gesondheid*, 28, article number a2329. doi: 10.4102/hsag.v28i0.2329.

[7] Horishna, O. (2025). Individual strokes and trends of humanistic development education paradigms in the context of changing the management vector. *Dnipro Academy of Continuing Education Herald. Series: Public Management and Administration*, 8(1), 20-29. doi: 10.54891/2786-698X-2025-1-2.

[8] Hromovenko, K.V., & Titska, Ya.O. (2021). The role of law enforcement agencies in ensuring human rights: Theoretical and legal aspects. *State and Regions. Series: Law*, 2(72), 120-125. doi: 10.32840/1813-338X-2021.2.19.

[9] Kovbasyuk, T.L. (2023). Pedagogy of partnership: Current challenges and trends. *Bulletin of Science and Education*, 10(16), 640-649. doi: 10.52058/2786-6165-2023-10(16)-640-649.

[10] Mercer-Mapstone, L., & Abbot, S. (Eds.). (2020). *The power of partnership: Students, staff, and faculty revolutionizing higher education*. Elon: Elon University Center for Engaged Learning.

[11] Motuz, T., Lukyanchenko, S., & Piskovenko, A. (2024). Pedagogical partnership as a strategic component of professionalism development in education. *Dnipro Academy of Continuing Education. Series: Philosophy. Pedagogy*, 1(6), 78-85. doi: 10.54891/2786-7013-2024-1-9.

[12] Pluhatar, T.A., Lelet, S.M., & Hyra, Ya.M. (2024). Implementation of the principle of humanism in the activities of the National Police of Ukraine. *Science and Law Enforcement*, 3-4(65-66), 60-76. doi: 10.36486/np.2024.3(65).

[13] Radkevych, V. (2023). Public-private partnerships in vocational education in European countries: Leading trends in development. *Professional Pedagogy*, 2(27), 14-28. doi: 10.32835/2707-3092.2023.27.14-28.

[14] Sakun, A.V., *et al*. (2020). *Processes of humanisation and humanisation of education: Monograph*. Kyiv: KNUTD.

[15] Slippenko, T. (2022). Community policing as a partnership between the police and the community: A European experience. *Actual Problems of Law*, 2, 154-158. doi: 10.35774/app2022.02.154.

[16] The Declaration of Helsinki. (1964, June). Retrieved from https://zakon.rada.gov.ua.

[17] Tkachuk, L.V. (2021). Historical aspect of the formation and development of partnership pedagogy. *Psychological and Pedagogical Problems of Modern Schools*, 2(6), 193-201. doi: 10.31499/2706-6258.2(6).2021.248212.

[18] U.S. Department of Justice. (2023). *Office of Community Oriented Policing Services*. Retrieved from https://www.justice.gov.
[19] Ursol, O.V. (2021). Essential characteristics of pedagogical process humanization in a higher educational establishment. *Scientific Bulletin of the Flight Academy. Series: Pedagogical Sciences*, 9, 100-105. doi: 10.33251/2522-1477-2021-9-100-105.
[20] Usatenko, H.O. (2024). *Humanistic approach in education: Continuity of tradition and challenges of today*. Retrieved from https://skovoroda.man.gov.ua.
[21] Voluyko, O.M. (2020). Community policing strategy: Philosophy, essence, basic principles, and forms of implementation. *Juris Europensis Scientia*, 4, 122-126. doi: 10.32837/chern.v0i4.141.
[22] Yasinska, N. (2024). Pedagogical partnership as a priority of modern pedagogical education. *Pedagogical Search*, 2(122), 33-35.

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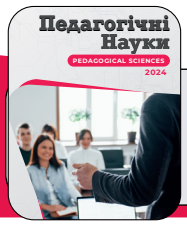
Педагогіка партнерства як основа гуманізації професійної освіти правоохоронців

Анотація. Стаття присвячена дослідженню проблеми гуманізації професійної освіти працівників правоохоронних органів в умовах суспільних трансформацій і розбудови демократичної держави. Мета дослідження полягала у комплексному вивченні педагогіки партнерства як гуманістичної основи професійної підготовки та практичної діяльності поліціянтів, а також у з'ясуванні особливостей розуміння й сприйняття партнерської взаємодії між правоохоронцями та громадою. Методологічну базу становили теоретичні методи (аналіз, синтез, порівняння, узагальнення, класифікація) та емпіричні методи – анкетування працівників різних підрозділів поліції (патрульної, превенції, чергових частин, дільничних офіцерів). Дослідження показало, що більшість опитаних поліціянтів позитивно ставляться до ідеї партнерської взаємодії з громадою та визнають її важливість для підвищення довіри населення. Водночас виявлено бар'єри впровадження такої взаємодії: недостатня обізнаність із сучасними гуманістичними моделями взаємодії; обмежений досвід застосування партнерських практик у повсякденній службі; відсутність заходів, які б сприяли закріпленню навичок співпраці; наявність авторитарного стилю комунікації. Дані анкетування засвідчили різну готовність працівників до гуманістичної взаємодії: частина респондентів продемонструвала високий рівень усвідомлення цінностей партнерства, інші потребують додаткової підготовки та роз'яснень щодо практичних інструментів співпраці з громадою. Отримані результати дозволили сформувати комплексне уявлення про реальний стан сприйняття гуманістичних принципів у поліцейському середовищі та визначити напрями удосконалення підготовки. Дослідження наголосило на потребі поєднання правових компетентностей із гуманістичними – здатністю до діалогу, емпатії та партнерства, які є основою ефективної взаємодії поліції та громади в умовах демократичного суспільства. Практичне значення дослідження полягає у можливості використання отриманих результатів для вдосконалення програм професійної підготовки та підвищення кваліфікації працівників правоохоронних органів з метою розвитку партнерської, гуманістично орієнтованої взаємодії з громадськістю

Ключові слова: співробітники правоохоронних органів; партнерська взаємодія; гуманістичні принципи; правові компетентності; службова підготовка; соціально-психологічні навички



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Formation of competence in future psychologists within the domain of psychosexual education for children and adolescents

Abstract. The aim of the study was to describe the concept of professional competence in the field of psychosexual education of children and adolescents, as well as to empirically verify its structure. The study employed an analysis of international frameworks for psychosexual education, as well as the collection of both quantitative and qualitative data on four components of professional competence of future psychologists, using questionnaires and tasks. The cognitive component of competence was found to be generally well-developed within the future psychologists' candidates, as indicated by the percentage of respondents who scored at either high (34.9%) or intermediate (46.5%) levels within that component. However, an analysis of the tasks component of competence revealed fewer future psychologists who exhibited the required abilities to execute practical actions within their field; only 37.4% of respondents scored at a high level within the operational-practical component of competence, and only 28.0% scored at the highest level within that component. Finally, while the majority of future teachers scored within the intermediate level (58.0%) within the component of value-ethical competence, a majority of those who scored within the highest level (41.8%) within that component revealed contradictions in their application of those values and ethics to their tasks. The reflective component was characterised by the highest variability and the largest proportion of low indicators (24.4%), evinced by fragmented self-analysis and difficulties in forecasting professional actions. Correlation analysis confirmed the existence of statistically significant relationships between value-ethical orientations and practical readiness (r = 0.58), as well as between the reflective and practical components (r = 0.49), indicating their function as regulators of behavioural decisions. The obtained results facilitated the interpretation of professional competence as an integrative system wherein individual constituents operated asymmetrically and required targeted alignment. The practical significance lies in the potential application of these findings for the development of educational programmes and training modules aimed at instructors of psychological disciplines and developers of academic courses in the domain of psychosexual education

Keywords: cognitive component; communicative barriers; operational-practical component; reflective component; supervisory practices; value-ethical component

INTRODUCTION

The heightened relevance of the issue concerning the formation of competence among future psychologists in the sphere of psychosexual education for children and adolescents is precipitated by the transformation of the educational and sociocultural milieu, wherein sexuality is no longer regarded exclusively as a biological phenomenon but has acquired the status of a complex psychosocial construct. The increase in risky behaviours by adolescents, the growing complexity of the process of the formation of identity, and the influence of the digital environment on the perception of sexuality all contribute to the demand for specialists capable of engaging with these issues at a professional level. Yet, the training of psychologists in this area is fragmented, focusing mainly upon providing

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theoretical knowledge of sexuality rather than providing training in the ethical and reflective aspects of the profession. A need, therefore, exists for an analysis of the professional competence of future psychologists in relation to these issues.

K. Fanchang (2025) conducted a synthesis of theoretical approaches to psychosexual development. As a result of the study, the researcher was able to explain how psychoanalytic theory could help to understand how the experiences of children and adolescents have an influence upon the formation of their personalities. Furthermore, the researcher was also able to discuss how psychosexual development has an influence upon the behavioural strategies exhibited by individuals. Another study was performed by T.T.W.A. Yeung *et al.* (2026), who investigated the specific aspects of the experience of sexuality among young individuals with autism spectrum disorders. The researchers found that these young individuals experienced higher levels of anxiety in romantic and sexual relationships due to difficulties in communicating with others. Based upon these findings, recommendations were made regarding the type of educational formats that should be implemented in sexual education programs for these individuals.

A systematic review was performed by B. Ragaglia *et al*. (2023), who investigated the effectiveness of psychosexual interventions for individuals with developmental disabilities. As a result of the research, the authors established that most sexual education programs for these individuals had a focus upon transmitting knowledge of sexuality to the individuals with developmental disabilities, but neglected to incorporate elements to facilitate the development of behavioural skills in these individuals. Consequently, the researchers concluded that most of these interventions were ineffective. Another study investigates the attitudes of professionals towards sexual education. L.L. Wolford & K.L. Jansen (2024) analysed the attitudes of practitioners towards sexual education. As a result of the study, the researchers documented contradicting attitudes towards the role of practitioners in sexual education programs. Based upon these findings, the practitioners lack professional guidelines on sexual education. Another objective was to investigate sexual competence. The study conducted by P. Tomaszewska *et al*. (2023) aimed to analyse sexual competence. The researchers established the components of sexual competence, and that a deficiency in these components led to risky behaviour in adolescents. As a result of this study, the researchers were able to conclude the necessity of developing an integrative model of sexual competence.

An analysis of the difficulties of sexual education professionals was performed by F. Shibuya *et al*. (2023). The researchers established that sexual education practitioners often encounter difficulties related to cultural and religious factors related to sexual education. For instance, the professional must define their role in sexual education, and this creates conflicts for practitioners. These difficulties underscore the complexity of the transition from sexual education using traditional models towards more comprehensive approaches. Finally, the researchers underscore the importance of ethical and value-based training for specialists in sexual education. In a study by L. Jämiä *et al*. (2025), the professional requirements for teaching sexual education was systematised. The researchers discovered that many skills related to classroom management and communication skills with adolescents are required of teachers who deliver sexual education programs. Furthermore, many attitudes towards sexual education were found to be positive. For instance, many sexual education teachers want to be openly communicative and supportive of their students. These findings enable the researchers to provide an interpretation of the competence of teachers in sexual education as a requirement of the integration of knowledge, skills, and values. Lastly, a review of the concept of psychosexual development was performed by K. Dobrzeniecki *et al.* (2026). The researchers integrated biological and psychological aspects of psychosexual development. Furthermore, the researchers established that these aspects are interdependent of one another. As a result, sexual education can be seen as an integral part of a comprehensive plan of personality development. Finally, the researchers concluded that an interdisciplinary approach to sexual education is required.

Despite the number of research studies that have been performed on the topic of sexual education, an elucidation of the structure of the professional competence of future psychologists in this area, and the interrelationship among the components of that structure, has been lacking. The aim of the study was to provide a theoretical and empirical understanding of the structure of the professional competence of future psychologists in the field of psychosexual education for children and adolescents. To achieve this aim, it was necessary to undertake a series of analyses of the theoretical approaches to sexual education, the components of professional competence, and the level of formation of such components among students of psychology.

MATERIALS AND METHODS

The methodological construct of the study was designed as a staged procedure for integrating normative-conceptual provisions, empirical generalisations, and quantitative-qualitative assessment of the level of professional competence formation among future psychologists in the field of psychosexual education. At the first stage, the operationalisation of the basic conceptual field was carried out through a comparative analysis of the content parameters of psychosexual education as stipulated in international normative documents, notably the UNESCO *et al.* (2018) and the WHO Regional Office for Europe and BZgA (2010). The selection of these specific documents was determined by their status as unified framework benchmarks for the educational systems within the European area and their practical implementation in the 2020s. Methodologically, this was achieved through the content-structuring of domains and conceptual blocks with the subsequent

identification of indicators suitable for empirical measurement. In parallel, a normative-legal operationalisation of the ethical requirements governing the practice of a psychologist was conducted. The main sources of information that were utilised in the accomplishment of the purpose of the study included the publication of the American Psychological Association (2021) on psychological practice with sexual minority persons, as well as the Council of Europe (2007). These publications enabled the establishment of specific criteria to assess the value-ethical component of the competence of future psychologists to work with children within the area of psychosexual education, such as criteria regarding non-discrimination against children of any sexual orientation, the need to maintain the confidentiality of their clients, the child rights orientation of those future psychologists, as well as their abilities to interact with those children in a way that is sensitive to their cultural backgrounds.

The main aim of the empirical study that was conducted was to provide a comprehensive evaluation of the level of formation of the professional competence component among future psychologists that will work with children within the area of psychosexual education. The competence component to be evaluated included the cognitive, value-ethical, operational-practical, and reflective components of such future psychologists. The study that was conducted was of the descriptive-analytical type. Thus, between October and December of 2025, at Polissia National University, an assessment was performed of 86 students that were enrolled in the "Psychology" programme within the Bachelor's level of education. These participants were selected according to accessibility in the field of psychology, though inclusion criteria for the participants in the study specifically required that they were enrolled in the "Psychology" speciality within the university, and that they provided their consent to participate in the research study. Participants that were excluded from the study included those without any training in psychology (to ensure the validity of the assessment of their cognitive component), those who did not completely complete the questionnaire, and those who withdrew from the study at any stage.

Questionnaires were used to collect data from each psychologist regarding the future psychologists' knowledge of psychosexual education of children. These questionnaires contained both closed and open-ended questions. Some questionnaires were distributed on paper, and others distributed online via Google Forms. Each questionnaire took between 20 and 25 minutes to complete. The questionnaire included four main blocks of questions. The first block assessed the future psychologists' knowledge of psychosexual education of children, and contained 15 questions with only one correct answer. The second block contained 12 statements regarding value-ethical considerations in the psychosexual education of children, and asked the future psychologists to rate each statement on a five-point Likert scale (from 1 for "strongly disagree" to 5 for "strongly agree"). The third block contained 10 tasks (with situational case studies) that asked the future psychologists to select the behavioural model that they would employ in their responses to such situations. The fourth block contained a series of open-ended questions, such as: "How do you understand the content of psychosexual education?", "What difficulties do you anticipate in working with adolescents on topics related to sexuality?", and "What knowledge or skills do you lack for such work?".

For each component of the competence of future psychologists to provide psychosexual education to children, scores were calculated for each future psychologist according to the answers that they provided on the questionnaire (both closed and open-ended), and these scores were normalised to percentages. According to these percentages, the psychologist could be classified as having a low, medium, or high level of formation of their competence in providing psychosexual education to children. Furthermore, each open-ended answer was coded according to a qualitative model; that is, the answers were analysed for their meanings, and were categorised according to those meanings. Furthermore, those categories were verified by two teachers to ensure that each psychologist was coded accurately according to their answers on the questionnaire. The answers to the closed questions were coded numerically (on a five-point or one-point scale). Thus, each future psychologist was coded according to their knowledge, value-ethical considerations, operational-practical skills, and reflective components regarding the area of psychosexual education to children. Each component was categorised according to a percentage of psychologists who responded with each level of formation (low, medium, high). Thus, each future psychologist was assessed for their competence in each of these four components, and categorised according to the percentage of other participants that indicated similar levels of competence. Finally, the answers on the open-ended questions were also coded according to a qualitative model. Each answer was coded according to its semantic units and meanings (1 – present in answer, 0 – not present in answer), which enabled the formation of integral scores (as percentages of the maximum possible score for that component). Thus, the answers provided by each future psychologist were represented according to the percentage of future psychologists that indicated that they also possessed such a level of formation of those components of competence.

In addition to the coding of the answers from the future psychologists to the questionnaire, the ethical aspects of the study were also in compliance with international standards for psychological research studies. Each future psychologist was informed of the aim of the research study, as well as that their participation in the study was both voluntary and they could exit the research study at any time. Furthermore, the information that was collected from each psychologist was to remain both anonymous and confidential. Such ethics were adhered to in compliance with both the WMA Declaration of Helsinki (2024), as well as to the Ethical principles of psychologists and code of conduct (American Psychological Association, 2017).

RESULTS

Theoretical foundations for preparing psychologists for psychosexual education. Psychosexual education can be regarded as an interdisciplinary phenomenon formed at the intersection of various subjects. Such an interpretation of the subject is enshrined in various international approaches to the subject. According to the UNESCO (2018), psychosexual education should aim to develop the knowledge and the skills that will allow individuals to make decisions, form relationships and utilise their rights in the area of sexuality. Similar principles are described within the standards of the WHO Regional Office for Europe and BZgA (2010). The psychosexual education component of schools is aimed at developing behavioural strategies within adolescents. As a result of the implementation of sexual education programs in schools, levels of knowledge regarding sexuality have increased, adolescents have developed intentions towards more responsible behaviours, and there have been reductions in risky sexual practices by those adolescents. The factors that contribute to the effectiveness of sexual education within schools includes the integration of components that relate to the cognitive, social, and emotional knowledge of adolescents. As a result of the implementation of sexuality education in schools, adolescents have not developed knowledge and skills regarding sexuality but also lacked the formation of behavioural strategies that are necessary for their safe and effective socialisation within society. The content of the educational programs relates to and are determined by the age-related development of adolescents.

Within the age range of childhood, adolescents begin to form perceptions regarding their bodies. According to the Federal Centre for Health Education (2021), sexuality education during the childhood years should include education regarding the bodies of adolescents. Such education is essential for the development of safe social interactions by adolescents during these age ranges. Furthermore, educational interventions regarding the formation of adolescents of their personal boundaries contribute to the prevention of sexual violence against those adolescents. Adolescents who participate in such education exhibit protective behaviour towards themselves and do not tend to be victimised by sexual abuse. During the adolescence age range, adolescents form their identity and begin to interact with others. Sexuality during these ages is related to emotional aspects of adolescents, their culture and their lived experiences (Costa *et al.,* 2001). The World Health Organization recognises the importance of teaching adolescents of specific skills regarding their sexuality, interactions with others, and their ability to make decisions regarding their sexual activities (WHO Regional Office for Europe and BZgA, 2010).

The psychologist has to act within a framework of guidelines that are established internationally, nationally and through professional codes of ethics. The American Psychological Association (2021), for instance, indicates that psychologists should be culturally sensitive, non-discriminatory towards populations of different ethnicities, sexualities and cultures, and employ evidence-based techniques when addressing issues related to sexuality. Additionally, the legal framework for the inclusion of sexual education within schools is established through the Council of Europe (2007). Article 6 of this convention indicates that each state within the council must implement sexual education within schools to allow children to become aware of the risks of sexual exploitation and abuse, as well as how to protect themselves from these situations in their lives. Additionally, the information that is to be taught within schools should relate to the concepts of sexuality, as well as to the risks to which they may be exposed (especially in relation to the use of information and communication technologies).

The activity of a psychologist within the area of psychosexual education has to consider the various interests of the child, the parent and the school within which the psychologist functions. In many cases, the interests of the parent in relation to sexuality within schools may conflict with both the scientific approaches to sexuality education and the requirements of the educational systems. Furthermore, many of the Eastern European countries do not offer systematic sexuality education to their adolescents, leading to lower levels of awareness of sexuality and forcing those adolescents to learn of sexuality from peers or from digital media. The psychologist's role in these countries is more complex than in other portions of the world, and requires skills in communication with various individuals involved in the education of these adolescents.

Therefore, the training of future psychologists must include more than the acquisition of knowledge. Psychologists must develop a range of competencies within their areas of practice. According to Mulder (2012), competency-based education in fields related to sexuality education requires that individuals gain an understanding of how to effectively act within specific situations and environments, despite the uncertainties that may surround those situations. The competencies that are specifically required of psychosexual educators include knowledge of how to act with a range of attitudes, emotions towards sexuality, and an understanding of the social contexts in which they must act. Such skills can be developed through both the theoretical knowledge of the content of sexuality education as well as through the development of specific practice-related skills. The models that relate to psychosexual education, as presented in Table 1, can be constructed to determine the requirements for knowledge and skills of students, as well as to develop instruments for the assessment of these competencies. An analytical examination of the structure of competence in the field of psychosexual education reveals its non-linear nature. Knowledge without the required skills to apply that knowledge effectively can lead to ineffective delivery of psychosexual education to patients. Furthermore, the lack of a value-ethical component to the competence can lead to the application of knowledge and skills in ways that are unethical, especially regarding sensitive topics within psychosexual education. The

reflexive component of the structure is crucial for ensuring that knowledge, values and skills are appropriately applied within specific professional situations. Thus, each component of the structure of competence is essential for effectively delivering psychosexual education; the deformation of any of these components has the potential to negatively impact the professional competence of an individual delivering such education.

Table 1. Structure of the future psychologist's competence in the field of psychosexual education

Component	Content	Indicators of development
Cognitive	Knowledge of psychosexual development; understanding of risks (abuse, early debut); awareness of legal norms.	Accurate reproduction of theoretical provisions; ability to identify risks in case studies; knowledge assessment outcomes.
Operational-practical	Counselling skills; psychoeducation; age-appropriate adaptation of information; group facilitation.	Communication effectiveness; ability to establish trusting rapport; evaluation of practical case studies; behaviour in role-play scenarios.
Value-ethical	Tolerance; non-discrimination; confidentiality; orientation towards children's rights.	Absence of stigmatising attitudes; adherence to ethical standards; results of value-based questionnaires.
Reflexive	Self-awareness; emotional regulation; understanding of professional boundaries; capacity for self-correction.	Level of reflexivity; ability to analyse one's own actions; indicators of emotional burnout; participation in supervision.

Source: compiled by the author based on C.A. Collier-Harris & J.D.G. Goldman (2017), R. Maasoumi *et al*. (2024), M. Hytti & N. Sandström (2025)

The development of competence among future psychologists within higher education institutions can be determined by various factors. The structure of the educational programmes within these institutions is of paramount importance. In most countries within the EU, specialists in the field of sexual health are prepared through education that integrates sexual health into other disciplines rather than creating a stand-alone sexual health module within psychology programmes. Research conducted within the framework of the Love Act Project across eight European countries (Italy, France, Greece, Lithuania, Belgium, Cyprus, Spain, and the Basque Country) demonstrated that the systematic training of teachers and educators in matters of comprehensive sexuality education necessitates the use of specially designed tools to enhance both the awareness and practical skills of professionals (Idoiaga & Legorburu, 2024).

Concurrently, the integration of international guidelines into national educational systems serves as a mechanism for standardisation and quality enhancement in professional preparation. The UNESCO (2018) defines comprehensive sexuality education as an interdisciplinary process encompassing eight key concepts (relationships; values, rights, culture, and sexuality; understanding gender; violence and staying safe; skills for health and well-being; the human body and development; sexuality and sexual behaviour; sexual and reproductive health) and three learning domains (knowledge, skills, attitudes). The Guidance emphasises scientific accuracy, age-appropriateness, a human rights orientation, gender equality, and the imperative to develop critical thinking and interpersonal skills.

Despite the outlined possibilities, the development of competence is accompanied by systemic constraints. One of these is the deficit of structured training courses, as documented in research within the European context. Specifically, in Spain, an analysis of 132 primary teacher training programmes revealed that specialised courses or modules on affective-sexual education are exceedingly rare, and the relevant content is integrated only into isolated disciplines, leading to the fragmentation of knowledge (Fernández *et al.,* 2025). In Greece, research involving educational policy stakeholders confirmed that the current teacher training system fails to provide systematic coverage of comprehensive sexuality education topics, and curricula remain limited and fragmented (Katsarou & Pliogou, 2026). This engenders cognitive gaps and diminishes readiness for practical engagement. An additional constraint lies in the insufficient level of educator preparation. A proportion of teachers demonstrate a moderate or low level of confidence and knowledge, particularly in addressing sensitive topics such as the rights of sexual minorities, consent, and sexual rights. The absence of such preparation restricts the utilisation of interactive methods and reduces the efficacy of the educational process. In a study conducted in English secondary schools as part of the evaluation of the Positive Choices intervention, it was found that the contextual factors influencing the effectiveness of educational interventions are precisely the level of teacher training, their skills, and their commitment to teaching (Ponsford *et al*., 2026).

One of the contributing factors is the influence of students' individual attitudes. A study involving 458 prospective early childhood educators confirmed that attitudes towards sexuality education act as a mediator between the level of knowledge and self-assessed teaching efficacy, with this mediated effect being more pronounced in women (Ding *et al*., 2026). A synthesis of the presented data allows for the assertion that the formation of competence among future psychologists in the domain of psychosexual education is the result of a complex interplay among institutional structures, sociocultural conditions, and individual psychological factors. The efficacy of this process is contingent upon the systematic nature of educational programmes, the level of instructor preparation, the utilisation of practice-oriented methods, and the capacity for the integration of international standards, whereas the

principal limitations are associated with the fragmented nature of curricular content, ethical challenges, and the influence of personal attitudes.

Empirical aspects and pedagogical conditions for the formation of competence in future psychologists. During the first two decades of the 21st century, the implementation of European standards for the country of Ukraine, particularly in the area of mental and reproductive health, has led to the development of a lack of a comprehensive strategy for the introduction of sexuality education into the country's educational programmes (Shevtsova, 2025). As a result, the training of psychologists within Ukraine on psychosexual issues has been up to date through various initiatives within the country's higher education institutions. The role of the psychologist within Ukraine is beginning to gain significance within the nation due to the growing psycho-emotional burden upon the children and adolescents of the country as a result of the war. For instance, a study performed by the Rating Group (2025) in October of 2025 reported that 37% of children between the ages of 10 and 18 in Ukraine have developed a high level of stress within the period of the past year, with 40% of girls between the ages of 10 and 13 experiencing such stress levels during that same time period. Thus, sexuality education in Ukraine is now integrated with mental health services provided by psychologists for the prevention of risky behaviours by those children and adolescents, as well as for the development of their personality. The findings from this research will allow for a comprehensive analysis of the degree of formation of professional competence in the area of psychosexual education among future psychologists. Such analysis will allow for an examination of each of the following aspects of such competence: cognitive, values-ethical, operational-practical, and reflexive competence. The results of such analysis are presented in Table 2.

Table 2. Distribution of proficiency levels across competence components (%)

Component	Low	Medium	High
Cognitive	18.6	46.5	34.9
Values-ethical	21.0	37.2	41.8
Operational-practical	19.7	52.3	28.0
Reflexive	24.4	44.2	31.4

Source: compiled by the author

The analysis of the distribution of proficiency levels across the competence components revealed an uneven profile of professional readiness among future psychologists. The highest indicators for the high level were recorded for the values-ethical component, which may signify students' awareness of the moral and ethical foundations of professional activity; however, this value orientation is not underpinned by an adequate level of operational-practical readiness, where the medium level predominates and the proportion of the high level is the lowest among all components. Conversely, the cognitive component demonstrated a balanced structure with a share of the high level indicating a sufficient assimilation of theoretical knowledge, yet the transformation of this knowledge into practical skills appears to be hindered. The reflexive component is distinguished by the highest proportion of the low level, which may indicate an insufficient development of the capacity for self-analysis and the correction of one's own professional conduct.

Quantitative substantiation of these levels was carried out through the calculation of integral scores for each component, followed by normalisation and quartile distribution. The lowest mean indicators were recorded for the operational-practical component (M = 58.6%, median 56.0%), which correlates with its smallest share of the high level (28.0%). In contrast, the values-ethical component demonstrated the highest mean values (M = 71.8%, median 69.0%), consistent with its largest share of the high level (41.8%). The reflexive component exhibited the highest variability (SD = 19.8), which is corroborated by the widest interquartile range (31.0 p.p.) and the largest share of the low level (24.4%). The cognitive component occupied an intermediate position with a relatively uniform distribution (M = 64.3%, SD = 15.2). This configuration of quantitative indicators provided the foundation for a detailed qualitative analysis of each component.

A primary analysis of the cognitive component demonstrated that only one-third of the students possess systematic knowledge of psychosexual development. 34.9% of the students demonstrated a high level of knowledge, 46.5% demonstrated a medium level of knowledge, and 18.6% displayed a low level of knowledge regarding psychosexual development. A more detailed analysis of the knowledge of each of the thematic blocks of psychosexual development demonstrated that knowledge regarding biological development was understood by 68% of students, yet only 42% of students possessed an understanding of the psychosocial aspects of psychosexual development. The values-ethical component of the psychosexual development of students was similarly distributed with slight contradictions within each of the levels. Students with high levels of tolerance towards diversity within the populations of adolescents were present within 41.8% of students, those with medium levels of tolerance within 37.2% of students, and those with low levels of tolerance and acceptance of diversity represented 21.0% of student respondents. An analysis of individual statements within this component revealed that 63% of students agreed with the necessity of discussing issues related to sexuality in educational environments, yet only 48% of students indicated their readiness to discuss such topics within their professional capacities.

The operational-practical component of the psychosexual development of these student respondents was the least developed component of their knowledge. Only 28.0% of students represented a high level of readiness to work with adolescents with sexual issues, 52.3% of students displayed an intermediate level of readiness to discuss such topics in their professional careers, and only 19.7% of student respondents represented a low level of readiness to treat adolescents with sexual issues. Furthermore, students were more likely to correctly answer questions about the provision of information (61%) compared to answering complex ethical questions about treating adolescents within sexual risk situations (39%). The component of the study that relates to the sexual development of these students and their readiness to treat sexual issues among adolescents was an unevenly developed component altogether. A high level of self-awareness was demonstrated by 31.4% of respondents, who are capable of identifying their own limitations and emotional reactions. The intermediate level (44.2%) is characterised by partial reflection, while the low level (24.4%) indicates a lack of awareness of one's own attitudes and their influence on professional practice.

In responses to questions concerning the content of psychosexual education, a proportion of students (57%) narrowed it down to biological aspects or risk prevention (pregnancy, infections), indicating a reduction of the comprehensive approach to a biomedical-informational model. Only 26% of respondents included elements of emotional development, interpersonal relationships, and identity formation in their open-ended statements. This directly impacts the limitations of future practice, as the psychosocial component of development is overlooked. Responses to questions about difficulties in working with children and adolescents revealed a predominance of communicative barriers. Approximately 62% of students explicitly indicated a "fear of saying the wrong thing" or "uncertainty about adolescents' reactions", suggesting an insufficient level of professional role formation. Furthermore, 48% of respondents noted that they lack clear conceptions of the boundaries of appropriateness in communication on topics related to sexuality.

Regarding the assessment of students' attitudes towards various aspects of sexuality, particularly regarding gender identity and sexual orientation, it became possible to establish the presence of latent polarisation within the group of students. In particular, while the majority of students displayed tolerant attitudes towards these aspects of sexuality within the context of the closed questions, their open-ended responses reflected contradictory judgements about the need to discuss these aspects within their future professional activities. The analysis of the students' responses about the sources of their knowledge of psychosexual development indicated that only 31% of the students indicated that they learned about such topics through courses within their university, 52% from informal sources (the Internet, social media), and 17% from their own experience. In relation to the component of students' readiness to participate in the psychosexual education activity, the majority of students indicated a lack of knowledge regarding how to communicate with the adolescents who would participate in the activity, a lack of confidence in their understanding of the psychosexual boundaries between themselves as psychologists and the students who would participate in these activities, and a lack of experience in any actual psychosexual education activities with these types of students. However, 44% of the students expressed the need for additional training in these topics, particularly in the form of workshops and supervision.

A comprehensive evaluation of the open-ended questions enabled the identification of several systemic patterns within the answers of the students. Thus, it is possible to identify that the students have a discrepancy between their knowledge and their comprehension of these topics, that they have emotionally uncertain reactions towards the topics of sexuality and gender identity, indicating a lack of development of the operational component, and that their attitudes towards sexuality are influenced by the sociocultural stereotypes present within their society and culture. As a result of such analysis, it is possible to identify the typical knowledge, skills and competencies gaps within the training of these future psychosexual education psychologists. A lack of integration of the knowledge components into their practical activity is identified, as are deficiencies in their communication skills with adolescents regarding these topics, as well as in their knowledge of professional boundaries and ethical standards. Another identified issue is the insufficient level of reflection that the students exhibit regarding their own attitudes towards sexuality and their potential influence upon their professional activities with these future students.

Based on the results of this survey, it was also possible to delineate the profiles of the typical students who participated in the survey. Thus, it is possible to determine that approximately 29% of the students are "cognitively oriented" in their approach to their future profession, indicating a high level of knowledge of the topics of sexuality with insufficient readiness to participate in the activity. Around 34% of the students are "value-oriented" in their approach to their future profession, indicating that they have tolerant attitudes towards sexuality but a lack of confidence in their ability to act upon those attitudes within their future professional activities. Another 27% of the students are "integrated" in their approach to their future profession in that they exhibit high levels in each of the components of their competence. Finally, 10% of the student group is "at-risk" in relation to their development of competence in the area of psychosexual education.

The correlational relationships between the various components of the competence enabled the specification of directions for educational intervention. Thus, the high level of correlation between the value-ethical component of competence and the component of readiness to participate in practical activity indicates the necessity for the targeted cultivation of attitudes of tolerance and ethical sensitivity

towards those with different sexual characteristics or attitudes. The moderate level of correlation between the component of knowledge and the component of readiness to participate in practical activity indicates the limitations of the traditional methods of educating these future psychosexual education psychologists. The summarised results of the correlational analysis of the competency components are presented in Table 3.

Table 3. Correlational relationships between competence components (Pearson's r)

Component	Cognitive	Value-ethical	Reflective	Practical readiness
Cognitive	1.00	0.27*	0.33*	0.41**
Value-ethical	0.27*	1.00	0.45**	0.58***
Reflective	0.33*	0.45**	1.00	0.49**
Practical readiness	0.41**	0.58***	0.49**	1.00

Source: *p < 0.05; **p < 0.01; ***p < 0.001

Source: compiled by the author

Considering the results of the correlational analysis, it is possible to identify the aspects of competence that may be targeted during the training of future psychologists. The component of competence related to value-ethical considerations was found to have the strongest relationship with the component related to the readiness of individuals to perform practical activities; thus, indicating the role of these values in determining an individual's readiness to perform such activities. The component related to reflective aspects of competence exhibited moderate relationships with each of the value-ethical and practical components of competence; indicating its role as a mediator between these two other components of competence. Finally, the cognitive component of competence related to the weakest relationships with each of the other components of competence; suggesting the autonomisation of these cognitive aspects from those related to values and practical components of competence. Thus, these findings suggest that the cognitive component of competence should be developed in relation to the other components of competence - particularly those of value-ethical and reflective aspects – as they play a mediating role in the performance of professional actions by future psychologists.

Through generalising these findings, it is possible to suggest various potential directions for the improvement of the professional training of future psychologists. One such direction for improvement to the training of future psychologists is the adjustment of the educational programmes that are currently implemented for psychologists. According to research from the Organisation for Economic Co-operation and Development (n.d.), educational programmes that include applied modules or interdisciplinary classes for future psychologists have ensured higher levels of adaptability of those future psychologists within their future careers. Additionally, based upon the findings of this study, the integration of a compulsory educational component related to psychosexual education for future psychologists is another direction for the adjustment of the educational programmes for those future professionals. These results help to confirm the need for such an educational component for future psychologists, as the lack of knowledge of psychosexual concepts relates to low levels of readiness to perform practical activities.

The integration of psychosexual education as a compulsory element of training presupposes not only the introduction of new disciplines but also an interdisciplinary synthesis of psychological, pedagogical, and medical knowledge. Such an approach enables the formation of a holistic vision of psychosexual development as a multidimensional process extending beyond the confines of a single discipline. The development of teaching and methodological materials should be oriented towards a combination of theoretical content with practical tools. In particular, the creation of case banks reflecting real-life situations of interaction with children and adolescents, as well as the implementation of simulation scenarios and role-playing games, is advisable. Another component is the introduction of supervisory practices, which ensure the transformation of individual experience into professional knowledge.

The prospects for further research should be appropriately linked to the analysis of the long-term effects of educational interventions, which will enable an assessment of the stability of the competencies formed in professional practice. Cross-cultural comparisons acquire particular significance, as they provide an opportunity to identify the influence of the sociocultural context on the formation of professional readiness. The effectiveness of psychosexual education depends upon the cultural adaptation of both content and teaching methods. Thus, the practical implications of fostering competence in future psychologists within the domain of psychosexual education lie in the necessity for a systemic modernisation of the educational process, encompassing the institutional integration of relevant content, the development of practice-oriented teaching materials, and the reinforcement of the role of reflective and ethical components in training. It is precisely this model that allows for the overcoming of the identified empirical imbalances and ensures the preparation of specialists capable of effective and responsible professional practice.

DISCUSSION

The juxtaposition of the research findings enabled the recognition of a common trend in the study: that the effectiveness of psychosexual education and the training of specialists in this field is determined not through the individual components of such training, but through the

nature of the interaction of those components. The research results enabled the consolidation of the approaches to psychosexual education discussed in the existing literature to formulate an interpretative framework for understanding the competence of specialists in this field. Within this framework, the disproportions between the components of such competence enabled the recognition of the fact that while many training methods aim to incorporate elements of the models of psychosexual education discussed in this study, they do not account for the interaction of those elements – limiting their effectiveness in contributing to the development of competencies that can be directly applied in the field. Accordingly, the findings contribute to the scholarly literature on the topic in recognising the need to shift the focus of training efforts towards the development of these competencies in relation to each other.

The findings of E.S. Goldfarb & L.D. Lieberman (2021) correlate with the research findings obtained in this study regarding the effectiveness of psychosexual education. The authors noted that such an education can have positive effects upon the participants in relation to their risky behaviours, their interpersonal skills, their attitudes towards diversity, and their critical thinking skills. These findings are in agreement with the proposition of the study that the approach to training specialists in the field should focus upon the integration of each of these components of psychosexual education. However, the findings of the study also revealed that despite the theoretical knowledge of psychosexual concepts by many specialist students, those students did not automatically exhibit the behavioural changes in response to those changes in knowledge. This finding is suggestive of the need for the changes in educational approaches suggested by E.S. Goldfarb & L.D. Lieberman, supporting the conclusions drawn by the authors of this study.

The propositions of the study by M. Ubbiali *et al*. (2024) can be juxtaposed with the findings of this study regarding the competence of specialists. M. Ubbiali *et al.* propose that specialists in the field should not be focused upon knowledge alone, but should also develop skills in relation to the content of psychosexual education, including skills related to pedagogy, communication, and emotional regulation. The competence model proposed by the authors of this study is consistent with these suggestions. However, the findings of this study indicate that these skills are the least developed among specialists in the field, indicating a discrepancy between the model proposed by M. Ubbiali *et al.* and the actual structure of competence within specialists in psychosexual education. Thus, the findings of M. Ubbiali *et al.* act as a means of clarifying the model of competence that should exist within specialists in psychosexual education, as the research findings indicate that such a model is not yet achieved in specialists.

The study by A.P. Adekola & A.H. Mavhandu-Mudzusi (2022) enabled the interpretation of the role of the sociocultural context of the students within the effectiveness of psychosexual education. The authors determined that without taking consideration of the environmental and sociocultural factors that affect the students, the provision of psychosexual education was not associated with changes in the students' behaviours. Such findings are in accordance with the findings of this study, which determined that the cognitive component of the competence model was limited among specialists in psychosexual education. The correlation between the cognitive and practical components of the competence model indicates the lack of effectiveness of the knowledge-based component of training. In contrast, the correlation between the value-ethical component and the practical component of competence is more substantial, indicating its importance in the development of specialists in psychosexual education. Thus, the findings of A.P. Adekola & A.H. Mavhandu-Mudzusi support the findings of this study in suggesting the integration of each of these components as part of the training of specialists.

The tenets of the study by D. Mollen & D.M. Abbott (2022) are correlated with the findings of the study. D. Mollen & D.M. Abbott suggested that the topics relating to psychosexual education are lacking within many psychology curricula, leading to the lack of competence among specialists in psychosexual education. These findings are supported by the results of this study, wherein many specialists exhibit lacking knowledge of the aspects of psychosexual education beyond those relating to biomedical sciences alone. Concurrently, the results allowed for a more nuanced delineation of the consequences of such fragmentation: it manifested not only within the cognitive domain but also in diminished confidence in communication, avoidance of complex topics, and an inadequately formed professional role. Within this context, the scholars' conclusions received empirical confirmation and were extended through the inclusion of an analysis of the internal structure of competence. It was established that even when discrete elements of training are present, their insufficient integration fails to ensure the formation of holistic professional readiness.

The results obtained in the present study serve to refine the propositions set forth in the work of F.J. Plaza-del-Pino *et al.* (2021), which primarily addressed barriers to the implementation of sexuality education in primary schools. That study established that a deficit in teacher professional training and the anticipation of adverse parental reactions substantially constrain the delivery of educational programmes. In the present research, these assertions received further empirical concretisation through the identified disproportion between the value-ethical and operational-practical components of competence. Specifically, the documented high proportion of students with developed tolerant attitudes was coupled with insufficient readiness for practical interaction, reflecting an analogous mechanism of avoiding challenging communicative situations as described by the authors. Furthermore, the present study expanded upon these conclusions by demonstrating that the barriers are not confined to external factors but possess an intra-professional nature, linked to the

insufficient development of the reflective component and the ambiguity of professional boundaries.

A comparison with the findings of O. Ivanova *et al.* (2024) permits an interpretation of the empirical data obtained herein within a broader institutional context. The study demonstrated that the existence of international policies in the field of sexuality education does not guarantee their mandatory implementation, resulting in variability in national approaches and fragmentation of the educational environment. In the present research, fragmentation is also reflected at the level of training itself: only a segment of the surveyed respondents demonstrated a systemic understanding of psychosexual education, while a proportion of the participants had knowledge based on a medical-informational model alone. The fragmentation of knowledge corresponds to the effect of political ambiguity on psychosexual education, as evidenced by the authors of the article. Additionally, the sociocultural constraints on psychosexual education, as discussed by O. Ivanova *et al.,* are reflected within the attitudes of the students towards such education. Another research study that helps to shed light upon the formation of knowledge and skills within the area of psychosexual education is that conducted by G. Vinciguerra *et al.* (2022). The researchers performed a study to determine the effectiveness of various psychosexual training methods for students with intellectual disabilities. The authors found that knowledge levels increased among the students following the training sessions. As such, the authors recommend the reinforcement of the practical component of training for these students, such as through the use of case-study methods and the supervision of training sessions by educators.

Concurrently, the results obtained allowed for the clarification that an increase in cognitive indicators does not guarantee an automatic enhancement of practical readiness, given that only a moderate correlation was identified between these components. Thus, in contrast to the localised effect of knowledge enhancement recorded by the authors, the present study revealed the necessity of integrating cognitive, value-based, and reflective dimensions to achieve sustainable professional outcomes. Analysis of the provisions put forward by D. Bulgarelli & B. Ragaglia (2025) has allowed for a deeper understanding of the significance of individualisation and the duration of educational interventions. The study underscored the necessity of adapting programmes to the specific needs of autistic adolescents, as well as the importance of cooperation between professionals and families. In the present research, these ideas were reflected in the identified role of the sociocultural context and communicative barriers that influence the efficacy of future psychologists' professional practice. In particular, it was established that a proportion of respondents experienced difficulties in defining the boundaries of interaction with parents, which indirectly corroborates the necessity of developing intersubjective communication skills, as emphasised by scholars. Concurrently, the present study expanded upon these conclusions by demonstrating that individualisation should pertain not only to client groups but also to the process of professional training, taking into account the varying profiles of students' competence formation.

The synthesis of the comparative results indicated that scholarly approaches to psychosexual education converge in acknowledging its integrative nature; however, they diverge in the degree of attention afforded to the internal structure of professional competence. The conducted research enabled the specification of these approaches through the empirical identification of imbalances among discrete components and the establishment of correlational links between them. This has provided grounds for refining scientific conceptions regarding the mechanisms of transition from knowledge to professional action, which, in prior works, were predominantly examined at a conceptual level.

CONCLUSIONS

The present study has provided a theoretical substantiation and empirical verification of a structural model of professional competence among future psychologists in the domain of psychosexual education. Based on the analysis of international normative legal and scientific approaches to the problem of psychosexual education, it is possible to determine the characteristics of such a phenomenon. Psychosexual education can be considered an interdisciplinary phenomenon, the formation of knowledge of which is based on the integration of knowledge from the fields of developmental psychology, psychology of teaching, medicine, and public health. The main trend in the development of psychosexual education is the shift from providing information to forming strategies for behaviour. The effectiveness of sexuality education has been established to rely upon the integration of the cognitive, social, and emotional components of the learning process. With regard to the development of knowledge according to the age of students, it was ascertained that in younger age groups, the formation of concepts regarding the body and its boundaries is the main component of sexual education that prevents cases of sexual violence against children. Among adolescents, educational efforts should focus upon the development of communication and emotional skills. The ethical norms that must guide the activity of a psychologist involved in the field of psychosexual education are primarily constituted by international human rights and psychological ethics norms and national policies regarding such education. In addition to these international norms, students within Eastern Europe face additional barriers in the area of psychosexual education due to the limited access to systematic education and the reliance upon informal sources of information.

In the empirical component of this research, four components that constitute the professional competence of future psychologists in the area of psychosexual education were identified: cognitive, value-ethical, operational-practical, and reflexive components of knowledge. In each of these components, it was determined that students exhibited an uneven level of formation of these concepts.

In the value-ethical component, students exhibited the highest rates of formation of the knowledge within this area (41.8%). However, the same students exhibited only a medium rate of formation of the operational-practical component of knowledge (52.3% had achieved a medium level of formation for this component, compared to 28% who developed an understanding of the concept of forming a plan to prevent sexual violence against women). The cognitive component of knowledge was even in its formation rates (34.9% within the higher range of development of this component vs. 46.5% who had developed only medium levels of knowledge within this area). In the reflect on the component of knowledge among future psychologists, a higher rate (24.4%) of students lacked knowledge of strategies for preventing sexual violence against women. Within these components, correlations were found between value-ethical knowledge and the operational-practical component ($r = 0.58$). Additionally, correlations between the reflective component and both the value-ethical component ($r = 0.45$) and operational-practical component ($r = 0.49$) of knowledge were found among students. Based upon these correlations, four different groups of students within the sample can be categorised according to the formation of their professional competencies: cognitively oriented, value-oriented, integrated, and at-risk category of students. Thus, results of this research indicate that the formation of professional competencies among future psychologists who intend to work in the area of psychosexual education requires the development of both value-ethical and reflective components of knowledge as a means of developing effective professional practice in this area. A limitation of the study resides in the relatively modest sample size and its localised character, which precludes the generalisation of findings to the entire cohort of higher education institutions in Ukraine. Prospects for further research are envisaged in the analysis of the long-term effects of educational interventions and cross-cultural comparisons, which would enable an assessment of the stability of the competencies formed within professional practice.

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REFERENCES

[1] Adekola, A.P., & Mavhandu-Mudzusi, A.H. (2022). Advancing sexual and reproductive health outcomes in rural schools with the use of a sexuality education enhancement model: Learners' perspectives. *Heliyon*, 8(10), article number e11189. doi: 10.1016/j.heliyon.2022.e11189.

[2] American Psychological Association. (2021). *APA Guidelines for psychological practice with sexual minority persons*. Retrieved from https://www.apa.org/pi/lgbt/resources/guidelines.

[3] American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. Retrieved from https://www.apa.org/ethics/code.

[4] Bulgarelli, D., & Ragaglia, B. (2025). Psychosexual education interventions for autistic adolescents and youth. In G. Bennett & E. Goodall (Eds.), *The Palgrave encyclopedia of disability* (pp. 1-8). Cham: Palgrave Macmillan. doi: 10.1007/978-3-031-40858-8_101-1.

[5] Collier-Harris, C.A., & Goldman, J.D.G. (2017). Puberty and sexuality education using a learning and teaching theoretical framework. *Educational Review*, 69(4), 393-410. doi: 10.1080/00131911.2016.1225672.

[6] Costa, M.C.O., Lopes, C.P.A., de Souza, R.P., & Patel, B.N. (2001). Sexuality in adolescence: Development, experience and intervention proposals. *Journal of Pediatrics*, 77(2), 123-224. doi: 10.2223/JPED.309.

[7] Council of Europe. (2007, October). *Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse*. Retrieved from https://rm.coe.int/1680084822.

[8] Ding, Y., Bakar, K.A., Ismail, N.K., & Sun, G. (2026). Pre-service teachers' attitudes toward early childhood sexuality education as a mediator between knowledge and teaching self-efficacy: Gender as a moderator. *Frontiers in Education*, 11, article number 1756244. doi: 10.3389/feduc.2026.1756244.

[9] Dobrzeniecki, K., Poczta, Z., Kacprzak, M., Kasprzyk, A., Kolasińska, J., Mizgier, M., Pisarska-Krawczyk, M., Plagens-Rotman, K., Kędzia, W., & Jarząbek-Bielecka, G. (2026). Human sexual development in the somatic and psychosexual context. *Journal of Clinical Medicine*, 15(3), article number 1220. doi: 10.3390/jcm15031220.

[10] Fanchang, K. (2025). Psychosexual theory of development. In Z. Kan (Ed.), *The ECPH encyclopedia of psychology* (pp. 1237-1238). Singapore: Springer. doi: 10.1007/978-981-97-7874-4_503.

[11] Federal Centre for Health Education. (2021). *Comprehensive sexuality education*. Retrieved from https://surl.li/zorhvs.

[12] Fernández, A.R., Miravet, L.M., & Ansuategui, F.J.A. (2025). Affective-sexual education in teacher training: The long road ahead in Spain. *Sex Education*, 25(6), 790-805. doi: 10.1080/14681811.2024.2391303.

[13] Goldfarb, E.S., & Lieberman, L.D. (2021). Three decades of research: The case for comprehensive sex education. *Journal of Adolescent Health*, 68(1), 13-27. doi: 10.1016/j.jadohealth.2020.07.036.

[14] Rating Group. (2025). *How does punishment affect children's stress and emotional connection with their parents?* Retrieved from https://www.ratinggroup.ua/en/news/f360-mh6.

[15] Hytti, M., & Sandström, N. (2025). Reclaiming emotion and reflection in education for democracy: A transformative learning perspective on the RFCDC. *Journal of Social Science Education,* 24(4), 1-25. doi: 10.11576/jsse-8310.
[16] Idoiaga, N., & Legorburu, I. (2024). *Love act – report on teacher training in comprehensive sexuality education. Comparison of pre- and post-test results*. Retrieved from https://cesie.org/en/resources/loveact-report-training/.
[17] Ivanova, O., Kemigisha, E., Murueta, M.C., & Korri, R. (2024). Sexuality education from an international perspective. In H. Zagel (Ed.), *Reproduction policy in the twenty-first century* (pp. 68-85). Cheltenham: Edward Elgar Publishing. doi: 10.4337/9781035324163.00013.
[18] Jämiä, L., Haavisto, E., & Kylmä, J. (2025). Required skills and attitudes for sexual health education: Insights from Finnish health education teachers. *Health Education*, 125(5), 585-602. doi: 10.1108/HE-03-2024-0037.
[19] Katsarou, S., & Pliogou, V. (2026). Comprehensive sexuality education in the Greek educational system: Perspectives of stakeholders. *Education Sciences*, 16(2), article number 243. doi: 10.3390/educsci16020243.
[20] Maasoumi, R., Azin, S.A., Nedjat, S., Parto, M., Hajiabadi, A.Z., & Gelehkolaei, K.S. (2024). The effect of sexuality education based on the information, motivation, and behavioral skills model on improving the teachers' professional competence. *Heliyon*, 10(2), article number e24170. doi: 10.1016/j.heliyon.2024.e24170.
[21] Mollen, D., & Abbott, D.M. (2022). Sexuality as a competency: Advancing training to serve the public. *Training and Education in Professional Psychology*, 16(3), 280-286. doi: 10.1037/tep0000378.
[22] Mulder, M. (2012). Competence-based education and training. *The Journal of Agricultural Education and Extension*, 18(3), 305-314. doi: 10.1080/1389224X.2012.670048.
[23] Organisation for Economic Co-operation and Development. (n.d.). *Indicators of education systems programme (INES)*. Retrieved from https://www.oecd.org/en/about/programmes/indicators-of-education-systems-programme.html.
[24] Plaza-del-Pino, F.J., Soliani, I., Fernández-Sola, C., Molina-García, J.J., Ventura-Miranda, M.I., Pomares-Callejón, M.Á., López-Entrambasaguas, O.M., & Ruiz-Fernández, M.D. (2021). Primary school teachers' perspective of sexual education in Spain: A qualitative study. *Healthcare*, 9(3), article number 287. doi: 10.3390/healthcare9030287.
[25] Ponsford, R., *et al*. (2026). The mechanisms by which a whole-school intervention might improve sexual health: Qualitative realist research nested in a trial in English secondary schools. *Social Science & Medicine,* 388, article number 118461. doi: 10.1016/j.socscimed.2025.118461.
[26] Ragaglia, B., Caputi, M., & Bulgarelli, D. (2023). Psychosexual education interventions for autistic youth and adults – a systematic review. *Education Sciences*, 13(3), article number 224. doi: 10.3390/educsci13030224.
[27] Shevtsova, M. (2025). "For the sake of the kids": National security and family values in the Ukrainian sexuality education debate. In T. Altay, N. Al-Ali & K. Galor (Eds.), *Resisting far-right politics in the Middle East and Europe: Queer feminist critiques* (pp. 87-109). Edinburgh: Edinburgh University Press. doi: 10.1515/9781399526524-007.
[28] Shibuya, F., Estrada, C.A., Sari, D.P., Takeuchi, R., Sasaki, H., Warnaini, C., Kawamitsu, S., Kadriyan, H., & Kobayashi, J. (2023). Teachers' conflicts in implementing comprehensive sexuality education: A qualitative systematic review and meta-synthesis. *Tropical Medicine and Health*, 51, article number 18. doi: 10.1186/s41182-023-00508-w.
[29] Tomaszewska, P., Schuster, I., & Krahé, B. (2023). Young adults' understanding of sexual competence: A qualitative study with German university students. *Sexuality Research and Social Policy*, 20, 145-159. doi: 10.1007/s13178-022-00767-y.
[30] Ubbiali, M., Mortari, L., & Paparatto, G. (2024). Skills and competences of sexuality educators: Evidences from a qualitative research in Italy. *European Journal of Public Health*, 34(3), article number ckae144.533. doi: 10.1093/eurpub/ckae144.533.
[31] UNESCO. (2018). *International technical guidance on sexuality education: An evidence-informed approach*. doi: 10.54675/UQRM6395.
[32] Vinciguerra, G., Iacomini, S., Villani, E., Artoni, V., & Cavallini, F. (2022). Developing the psychosexual knowledge of two adolescents with Special Educational Needs through a psycho-educational training. *Journal of Clinical and Developmental Psychology,* 4(1), 1-16. doi: 10.13129/2612-4033/0110-3287.
[33] WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Participants. (2024. October). Retrieved from https://surli.cc/phrxwf.
[34] Wolford, L.L., & Jansen, K.L. (2024). Who helps children with communication disorders access sex education? Practice patterns of speech-language pathologists and psychologists. *American Journal of Speech-Language Pathology*, 33(2), 848-865. doi: 10.1044/2023_AJSLP-23-00326.
[35] WHO Regional Office for Europe and BZgA. (2010). *Standards for sexuality education in Europe: A framework for policy makers, educational and health authorities and specialists*. Retrieved from https://surl.li/iwzdmn.
[36] Yeung, T.T.W.A., Hui, M.M.C., & Kung, K.T.F. (2026). An empirical qualitative investigation into psychosexual development in and sex education for autistic youth: Insights from autistic and non-autistic young adults. *Journal of Autism and Developmental Disorders*, 56, 1131-1149. doi: 10.1007/s10803-024-06622-w.

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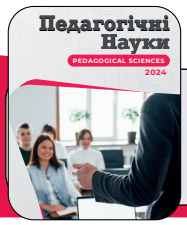
Формування компетентності майбутніх психологів у сфері психосексуальної освіти дітей та підлітків

Анотація. Метою дослідження було окреслити концептуальні засади та здійснити емпіричну перевірку структурної організації професійної компетентності майбутніх психологів у сфері психосексуальної освіти дітей та підлітків. Методологічна логіка передбачала поєднання аналізу міжнародних нормативних рамок із кількісно-якісним вимірюванням чотирьох компонентів компетентності через стандартизоване анкетування, ситуаційні завдання та тематичне кодування відповідей. Аналіз відповідей засвідчив, що когнітивний компонент демонстрував відносно збалансований розподіл рівнів сформованості (34,9 % високого та 46,5 % середнього рівнів), що показало достатній обсяг засвоєної теоретичної інформації. Водночас ситуаційні завдання виявили обмежену здатність до трансформації знань у практичні дії, що проявилося у домінуванні середнього рівня операційно-практичного компонента (52,3 %) та найнижчій частці високого рівня (28,0 %). Оцінювання ціннісно-етичних орієнтацій показало їх відносну сформованість, зокрема високий рівень було зафіксовано у 41,8 % респондентів, однак відкриті відповіді виявили наявність прихованих суперечностей у застосуванні цих орієнтирів у складних професійних ситуаціях. Рефлексивний компонент характеризувався найвищою варіативністю та часткою низьких показників (24,4 %), що проявлялося у фрагментарності самоаналізу та труднощах у прогнозуванні професійних дій. Кореляційний аналіз засвідчив наявність статистично значущих зв'язків між ціннісно-етичними орієнтаціями та практичною готовністю (r= 0,58), а також між рефлексивним і практичним компонентами (r = 0,49), що вказало на їхню функцію регулятора поведінкових рішень. Отримані результати дозволили інтерпретувати професійну компетентність як інтегративну систему, у межах якої окремі складові функціонували нерівнозначно та потребували цілеспрямованого узгодження. Практичне значення полягає у можливості використання отриманих результатів для розробки освітніх програм і тренінгових модулів, орієнтованих на викладачів психологічних спеціальностей та розробників навчальних курсів у сфері психосексуальної освіти

Ключові слова: когнітивний компонент; комунікативні бар'єри; операційно-практичний компонент; рефлексивний компонент; супервізійні практики; ціннісно-етичний компонент



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Pedagogical methods of overcoming muscle tension in vocal students at the initial stage of training

Abstract. The aim of the study was to determine the effectiveness of a set of pedagogical methods for reducing muscle tension in vocal students at the initial stage of training. The methodology involved a quasi-experimental design with pre- and post-testing, implemented over 12 weeks during the academic semester. A combination of theoretical generalisation of approaches to the nature of muscle tension and empirical testing of the impact of the pedagogical complex was used in a sample of 48 students divided into experimental and control groups. The results showed that at the initial stage, medium and high levels of muscle tension prevailed, mainly in the neck, shoulder girdle and lower jaw. During the 12-week formative stage, the experimental group showed a decrease in the overall tension index from 2.1 to 1.2 points. The most pronounced changes concerned respiratory and phonation indicators: shoulder raising during inhalation decreased by 41% compared with 12% in the control group, jaw tension by 36% compared with 10%, and neck tension by 33% compared with 9%. Students in the experimental group also corrected body position and breathing independently in 64% of cases, while this figure did not exceed 27% in the control group. Subjective tension decreased from 6.8 to 3.9 points in the experimental group and only from 6.8 to 6.1 points in the control group, while the discrepancy between self-assessment and expert assessment decreased from 1.2 to 0.4 points. The practical significance of the study lies in the possibility of using a substantiated set of methods for the systematic formation of vocal-body coordination and the development of students' self-regulation skills

Keywords: respiratory coordination; phonation; articulation; sound production; body awareness; self-regulation

INTRODUCTION

The relevance of the study is determined by the need for the stable formation of basic vocal skills in students at the initial stage of training. It is during this period that muscle tension often disrupts respiratory coordination, sound formation, the work of the articulation apparatus and general bodily freedom during singing. The problematic of the study is that in pedagogical practice, muscle tension is often eliminated situationally – through individual exercises or teacher's remarks. This approach does not always develop the students' ability to recognise and control tension on their own. The study is needed to substantiate a system of pedagogical methods that help reduce muscle tension, prevent the consolidation of ineffective vocal habits, and include work with bodily freedom in the main process of vocal training.

In the scientific literature, the problem of muscle tension in vocal singing is considered through the interaction of physiological, bodily coordination and pedagogical factors. N.P. Paolillo *et al*. (2021) showed that certain vocal phenomena, in particular inspiratory vocal fry, are associated with the anatomical and physiological organisation of the vocal apparatus and can be used to regulate voice production. This gave grounds to consider voice work not only as a technical training, but as a controlled process of coordination of breathing, phonation and muscle activity. This approach was deepened in the work of J. McGlashan *et*

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al. (2023), where the use of Complete Vocal Technique in cases of muscle tension dysphonia was associated with improved vocal function and reduced excessive tension. An important result was that structured pedagogical instructions helped to reduce compensatory muscle activity.

The importance of the pedagogical organisation of vocal work was also observed in the study by D. Kovalsky (2021). The author linked healthy vocal technique to stable voice development and emphasised that incorrect technical attitudes at an early stage can perpetuate ineffective motor patterns. At the same time, muscle tension cannot be explained by singing technique alone. In the study by T. Jeffery *et al*. (2024), singers' physical characteristics were analysed through the example of hypermobility, which was associated with pain, loss of vocal stability and restrictions in performance activity. This broadened the interpretation of muscle tension, as the singer's physical condition appeared as a factor that directly affects vocal function and must be considered in pedagogical work. The same logic was continued in the research by M. Kendüzler & S. Akkaş (2025), where a structured pedagogical model at the initial stage supported the acquisition of basic musical skills and reduced learning overload. Although not directly focused on vocal training, the results confirmed the importance of a clear sequence of activities, assessment criteria, and manageability of the learning process. A similar logic was supported by T. Fu (2025), who linked the effectiveness of vocal training to the variability of pedagogical methods. It has been shown that a combination of different strategies allows for better consideration of students' individual characteristics. The physiological dimension of the problem was specified by L. Tian (2025), who established the dependence of articulatory quality on the biomechanical coordination of the laryngeal muscles. Violation of this coordination led to increased tension and reduced accuracy of sound production. This confirmed that muscle tension does not occur in isolation, but as part of the overall motor organisation of singing. Breathing plays a special role in this system.

An analysis of the above studies showed that muscle tension was considered a multifactorial phenomenon related to breathing, posture, biomechanics, and general body condition. At the same time, most studies focused either on physiological mechanisms or on specific methods of exposure. The issue of integrating these approaches into a systemic pedagogical model focused on the initial stage of training remained insufficiently developed. The problem of developing students' ability to independently recognise and regulate muscle tension was also covered to a limited extent. The study aimed to examine the impact of a systematically organised set of pedagogical methods on reducing muscle tension in vocal students during the initial stage of professional training and to determine the conditions for their effective integration into vocal pedagogy. To achieve this goal, the following tasks were set: to summarise theoretical approaches to understanding muscle tension in vocal singing and identify pedagogical means of reducing it; to empirically test the effectiveness of a set of pedagogical methods for overcoming muscle tension in vocal students.

MATERIALS AND METHODS

The study was conducted over 12 weeks during the spring academic semester (February-April 2025) and had a quasi-experimental design with pre- and post-testing. The methodological construction combined a theoretical generalisation of approaches to understanding muscle tension in vocal singing with an empirical test of the effectiveness of a pedagogically organised set of methods for reducing it. The theoretical block included the systematisation of scientific positions on the nature of muscle tension as a consequence of impaired coordination of breathing, phonation, articulation and postural organisation. On this basis, groups of pedagogical means of influence were identified: body-oriented practices, breathing and coordination exercises, vocal and technical tasks with controlled load, and verbal pedagogical modelling. The working criteria for assessing muscle tension were also formulated: bodily, respiratory, phonation and reflexive, which ensured the integrity of the subsequent analysis.

The empirical block was implemented on the basis of three specialised art institutions in the United States: Indiana University Jacobs School of Music, The Juilliard School and Curtis Institute of Music. The choice of these institutions was based on the availability of structured vocal training programmes, a combination of individual lessons and performance practice, as well as the possibility of attracting students from different educational fields within a single professional environment. This made it possible to ensure comparability of the data and at the same time take into account the variability of pedagogical conditions. The sample included 48 1-2 year bachelor's students aged 18-22 who were studying Vocal Performance, Vocal Arts and Music Education with a vocal specialisation. Students of the Vocal Performance programme were recruited from Indiana University Jacobs School of Music and Curtis Institute of Music, Vocal Arts students from The Juilliard School, and Music Education students from Indiana University School of Education. The participants were divided into experimental and control groups of 24 people each. The experimental group worked with an additional set of pedagogical methods, while the control group continued their studies according to the standard programme. Thus, the comparison was conducted between two training models: the standard vocal training model and the standard model supplemented with targeted methods for reducing muscle tension.

The study consisted of three stages. In week 1, the study was conducted as a baseline assessment: the initial level of muscle tension was recorded using pedagogical observation, expert evaluation of video recordings and student self-assessment. Weeks 2-11 were spent on the formative stage, during which a set of methods was implemented in the experimental group: exercises on body awareness, breathing coordination, vocal tasks with a limited load,

specific verbal instructions and keeping a reflective diary. At week 12, a control phase was conducted, which involved repeating the same or equivalent vocal tasks and comparing the obtained indicators with the initial results. Muscle tension was measured using four tools: pedagogical observation on a scale of 0-3, independent expert evaluation of video materials, student self- assessment on a ten-point scale, and vocal and pedagogical diagnostics that recorded sound stability, attack pattern, respiratory coordination, and degree of independence. The general index of muscular tension was calculated as the mean score of bodily, respiratory and phonation indicators recorded through pedagogical observation and expert assessment on a 0–3 scale. To compare students' subjective perception with external evaluation, self-assessment scores were correlated with expert assessment indicators at the baseline and control stages. The results were processed by comparing the mean values, analysing the dynamics of changes, and comparing the experimental and control groups by all indicators. Compliance with ethical standards was ensured by the voluntary participation of students, anonymisation of the data obtained and the use of video materials only for research analysis in accordance with the ethical provisions of the Code of Ethics of the American Sociological Association (1997), International Code of Market, Public, and Social Research and Data Analysis (2025) and the European Commission Guidelines on Ethics and Data Protection (European Commission, 2021). The applied methodology provided an opportunity to assess both external manifestations of muscle tension and internal mechanisms of its regulation in the conditions of a pedagogically organised educational process.

RESULTS

Theoretical basis for the interpretation of muscle tension in vocal singing. The formation of vocal technique at the initial stage of training is associated with the need to coordinate respiratory, phonation and articulation processes. In this context, muscle tension is seen as an indicator of impaired internal coordination, which manifests itself in the overactivation of certain muscle groups. Its presence changes the nature of sound formation, complicates breath control and affects the stability of performance. The theoretical positions underlying the interpretation of the results made it possible to consider muscle tension not as an isolated phenomenon, but as a component of an integral system of vocal activity. Muscular tension in vocal performance is seen as a consequence of impaired coordination between breathing, phonation, articulation and postural organisation. When working optimally, these components mutually support each other: inhalation is not accompanied by shoulder raising, exhalation ensures even sound production, the articulatory apparatus remains mobile, and the position of the head and body does not create additional pressure on the vocal apparatus. If this coherence is disturbed, the student begins to compensate for the instability of the sound with excessive muscle effort. This is most often manifested in clenching the lower jaw, neck tension, fixation of the shoulder girdle, a hard attack of sound, a shallow inhalation, or uneven exhalation. For example, if there is insufficient respiratory coordination, a student may try to "hold" a phrase by straining the throat or amplifying the sound with the neck muscles. Such an action sometimes gives a short-term acoustic result, but gradually reinforces an ineffective motor pattern. At the initial stage of training, such manifestations occur more often because the student does not yet have stable skills in controlling breathing, resonance, articulation, and sound dynamics. For more trained singers, the tension usually becomes more localised: it can appear during complex interval transitions, work in the upper register, or the performance of long phrases. Thus, the level of training affects not only the intensity of the tension, but also its localisation, frequency of occurrence, and the student's ability to control it. From a pedagogical point of view, muscle tension requires not only a physiological explanation, but also methodological elaboration, as it is directly related to the formation of vocal skills (Crocco & Meyer, 2021). In this context, muscle tension is seen as a result of the learning process, not just a biomechanical phenomenon. This position allows for the integration of bodily, respiratory, and vocal technical aspects into a single system.

In the practice of vocal training, the reduction of muscle tension is achieved through a combination of several approaches, each of which is aimed at a specific component of vocal action and has its own mechanism of pedagogical influence. The body-oriented approach is based on developing the student's ability to be aware of their own bodily state while singing. Its essence lies not only in performing relaxation exercises but also in developing sensorimotor control. The student learns to fix the position of the head, the level of tension in the neck, the mobility of the jaw, the stability of the shoulder girdle, and to correlate these sensations with changes in the sound. For example, while performing the same exercise, he can deliberately change the degree of tension and compare the result. This approach forms a connection between bodily sensations and the acoustic result, which allows you to gradually move from external control to internal self-regulation. The breath-coordination approach is aimed at stabilising the interaction between inhalation, exhalation and the onset of sound. Its implementation involves systematic work with a soft, uncontrolled inhalation, avoiding shoulder raising, and forming an even and controlled exhalation (Zhang *et al*., 2022). An important element is to synchronise the beginning of the sound with the exhalation phase without an additional muscle impulse. In practice, this is achieved through short vocal phrases, long exhalation exercises, and singing on closed or semi-closed vowels. As a result, the need to compensate for the lack of respiratory support by straining the larynx or neck is reduced. The vocal-technical approach involves organising the teaching material in such a way as to avoid situations in which the student is forced to use

excessive muscle effort. Its essence lies in the gradual complication of tasks: at first, exercises in the middle register with a limited range are used, then interval transitions are added, the amplitude of sound is expanded, and dynamic variations are introduced. It is important that each new task is introduced only if stable coordination is maintained. This approach allows to form a technique without overloading the vocal apparatus and prevents compensatory stresses from becoming fixed (Friman, 2025). The combination of these approaches ensures coordinated work with the body state, breathing and sound production, which creates conditions for a sustainable reduction in muscle tension. Verbal pedagogical instruction determines how clearly the student understands the required vocal and bodily action. Generalised instructions often have limited corrective value because they do not specify the parameter that needs to be changed. More effective pedagogical guidance is based on precise indication of the relevant component of vocal action, such as posture, breathing, articulation, phonation onset or the degree of muscular effort. In this case, the teacher's verbal feedback performs a regulatory function: it focuses the student's attention on a specific element of performance and supports the transition from external correction to conscious self-control. Each approach affects a separate aspect of vocal training: body-oriented exercises develop self-observation, breathing exercises stabilise coordination, vocal-technical tasks reduce the risk of overload, and precise instructions increase the controllability of the learning action. Their combined use makes it possible to address muscle tension as a systemic pedagogical problem rather than as a set of isolated manifestations during the lesson (Crocco & Meyer, 2021).

Despite the availability of different approaches to reducing muscle tension, their use often remains insufficiently systematic. Individual breathing, relaxation, posture, or sound formation exercises are used as a reaction to a specific student's mistake, rather than as part of a consistent pedagogical programme. Because of this, tension may decrease during a particular lesson, but reappear in another vocal task: when moving to a higher register, singing a longer phrase, or increasing the volume. Another limitation is related to the lack of a clear algorithm for the initial stage of learning. A beginner student does not yet understand how breathing, phonation, articulation and body position interact. If the pedagogical actions do not have a certain sequence, the student receives individual corrections, but does not form a holistic way of vocal action. In this case, they may correct the position of the jaw but maintain neck tension; stabilise the inhalation but continue to force the sound. A significant limitation is also the predominance of external control by the teacher. The student follows the instruction during the lesson, but is not always able to independently determine where the tension has arisen and what caused it. Therefore, correction depends on the constant presence of the teacher. A separate problem is the gradual complication of vocal tasks without sufficient development of body awareness. When a student moves to a wider range, more complex dynamics, or longer phrases without self-regulation skills, tension builds up and becomes a habitual way of performing (Chapman & Morris, 2021). This highlights the need for a systematic approach that combines different methods into a single pedagogical model.

The problem of muscle tension in vocal students is considered according to four working criteria: bodily, respiratory, phonation and reflective. The bodily criterion covers the state of the neck, shoulder girdle, lower jaw, facial muscles and general posture during singing. Its indicators are shoulder lifting while inhaling, excessive neck extension or clamping, jaw fixation, body stiffness, and violation of the natural head position. The respiratory criterion reflects the quality of the interaction between inhalation, exhalation and the onset of sound. Its indicators include a sharp or shallow inhalation, uneven exhalation, breath holding before phonation, amplification of sound due to pressure, and loss of stability in longer vocal phrases. Such manifestations indicate that the student has not yet developed sufficiently stable respiratory coordination. The phonation criterion relates directly to the quality of sound production. It includes a hard attack of sound, instability of timbre, narrowing of the dynamic range, forcing of sound, violation of legato and loss of uniformity during the transition between sounds. This criterion determines the extent to which muscle tension affects the vocal and technical result. The reflexive criterion characterises the student's ability to be aware of their own bodily state while singing. Its indicators are the ability to identify the area of tension, to relate it to a specific vocal action, to adjust the body position or breathing method after pedagogical instruction. The more accurately a student recognises his or her own tension, the higher is their readiness to control their vocal technique independently. The application of these criteria makes it possible to evaluate muscle tension not only by external signs, but also by its impact on breathing, sound and the student's ability to self-regulate (Summersgill *et al*., 2023).

The totality of theoretical positions suggests that muscle tension in vocal singing is formed as a result of a disturbance in coordination between the main components of voice production and is supported by compensatory muscle activity. Existing approaches to its reduction include physical, respiratory, technical and verbal aspects, but their application is not always systematic. The identified limitations are related to the fragmentation of methods, lack of a clear pedagogical structure and insufficient development of students' independent control. The proposed system of criteria allows to integrate different aspects of muscle tension assessment and creates a basis for further analysis of empirical results.

Empirical results of the study of muscle tension in vocalists. The empirical results characterised the changes in muscle tension in vocal students at the initial stage of

professional training under conditions of targeted pedagogical influence. The study involved students from three specialised artistic institutions in the United States: Indiana University, The Juilliard School, and Curtis Institute of Music. This sample made it possible to trace the manifestations of muscle tension in different educational environments, but within related vocal and pedagogical programmes. The obtained indicators reflected the initial state of bodily, respiratory and phonation coordination, as well as the dynamics of its changes during the formative stage. The main attention was focused on how pedagogically organised methods influenced the reduction of tension in the neck, shoulder girdle and lower jaw, breathing stability, the nature of sound formation and the ability of students to independently recognise their own body clamps. The results also made it possible to compare the effectiveness of two training models: conventional vocal training and training with an additional set of methods aimed at overcoming muscle tension. This made it possible to assess not only the external reduction of certain manifestations of tension, but also changes in the way the vocal action is organised, in particular in the interaction of breathing, phonation, articulation and reflective self-control. At the initial stage, it was important to establish how widespread muscle tension is among vocal students and what level of its severity prevails. Such fixation made it possible to assess the initial state of vocal-body coordination before the implementation of the pedagogical complex and to determine whether the problem requires systemic corrective action (Fig. 1).

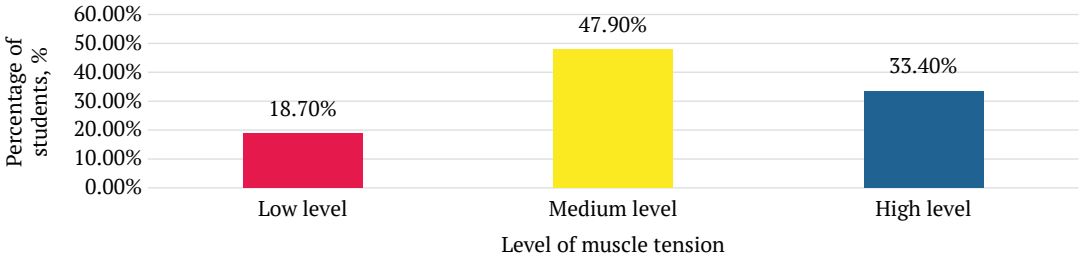

Figure 1. Distribution of students by the level of muscle tension at the baseline stage
Source: compiled by the author

The distribution also indicated that students with a medium level of muscle tension constituted the largest group (47.9%), whereas the proportion of students with a low level remained comparatively small (18.7%). This suggests that at the beginning of vocal training, balanced vocal-body coordination had not yet become stable for most participants, even in the absence of critically pronounced tension. At the same time, the relatively high proportion of students with severe manifestations of tension (33.4%) pointed to the risk of consolidating compensatory motor patterns during the early stages of skill formation. Such a distribution demonstrated that muscle tension was associated not only with isolated technical difficulties, but also with the general organisation of breathing, posture and phonation in novice singers. The localisation of muscle tension enables the identification of body regions most actively involved in compensatory activity during singing. Such a distribution makes it possible to identify typical areas of tension in students at the initial stage and correlate them with the peculiarities of respiratory and phonation coordination (Fig. 2).

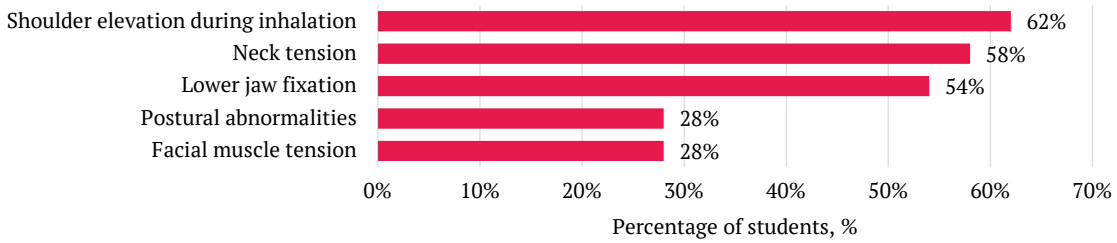

Figure 2. Localisation of the most pronounced manifestations of muscle tension at the assessment stage
Source: compiled by the author

The distribution of indicators also demonstrated that the most frequent manifestations of tension were associated with compensatory reactions occurring during the coordination of breathing and phonation. The predominance of shoulder elevation during inhalation (62%) together with high rates of neck tension (58%) and lower jaw fixation (54%) indicated that students tended to stabilise sound production through excessive muscular effort rather than coordinated respiratory support. At the same time, lower rates of postural abnormalities and facial muscle tension (28% each) suggested that global body imbalance was less pronounced than localised tension directly involved in vocal action. This pattern indicates that, at the initial stage of training, difficulties were concentrated primarily in the

mechanisms responsible for the initiation and maintenance of sound rather than in general body organisation. Comparison of muscle tension manifestations across the Vocal Performance, Vocal Arts and Music Education programmes made it possible to clarify how the type of vocal tasks and the format of training influenced the bodily organisation of singing. In Vocal Performance, tension was mainly associated with technically complex vocal tasks; in Vocal Arts, it appeared in combination with movement and stage performance; and in Music Education, it was more often expressed as generalised body tension with unstable breathing and unclear localisation (Table 1).

Table 1. Differences in the manifestations of muscle tension depending on the educational programme

Educational program	Type of muscle tension	Main manifestations
Vocal performance	Localised, technically induced	Tension in specific areas (neck, jaw) during technically complex vocal tasks
Vocal arts	Combined with motor activity	Tension arises in interaction with movement and stage performance
Music education	Generalised, diffuse	Overall body tension, unstable breathing, lack of clear localisation

Source: compiled by the author

The comparison across educational programmes also demonstrated that muscle tension developed through different compensatory mechanisms depending on the dominant learning activities and performance requirements. In the Vocal Performance programme, tension was more often localised and appeared during technically demanding vocal tasks, which indicated a direct connection between muscular overload and the pursuit of technical precision. In Vocal Arts, the integration of singing with movement and stage performance created additional coordination demands, causing tension to emerge through the interaction of vocal and motor activity. By contrast, students of Music Education more frequently demonstrated diffuse and less clearly localised tension patterns, suggesting insufficiently stabilised vocal-body coordination and a lower level of differentiation between breathing, posture and phonation processes. These differences indicate that muscle tension in beginning singers is shaped not only by vocal technique itself, but also by the broader educational and performative context in which vocal skills are formed. The correlation between students' self-assessment and external expert evaluation made it possible to determine the level of reflexive control during vocal training. Comparison of these indicators makes it possible to establish how adequately students perceive their own bodily state during singing (Fig. 3).

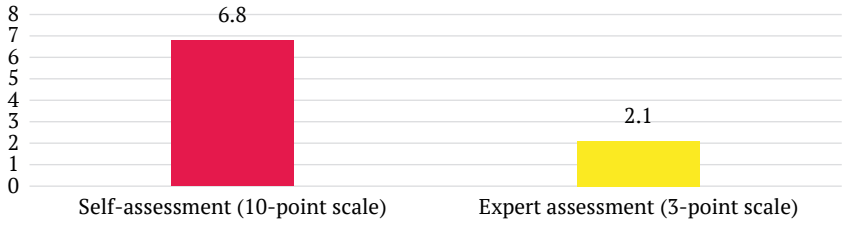

Figure 3. Correlation of self-assessment and expert assessment of muscle tension at the statement stage
Source: compiled by the author

The comparison of self-assessment and expert evaluation demonstrated a noticeable discrepancy between students' subjective perception of muscle tension and the externally observed manifestations of vocal-body imbalance. While students assessed their tension at 6.8 points on a ten-point scale, the expert evaluation reached 2.1 points on a three-point scale, which corresponded to a relatively high level of objectively recorded tension manifestations. This difference indicated that students tended to perceive muscular discomfort in a generalised way without sufficiently differentiating its localisation, intensity or connection with specific vocal actions. The results also suggested that beginning vocalists experienced difficulties in recognising compensatory muscular patterns during singing, particularly those related to breathing coordination, neck tension and jaw fixation. Such indicators point to an insufficiently developed reflective component of vocal training and confirm the importance of pedagogical methods aimed at strengthening body awareness, self-observation and conscious regulation of vocal action.

During the 12 weeks of the formative stage, the experimental group recorded a gradual decrease in the overall muscle tension index from 2.1 to 1.2 points. The dynamics of changes was not uniform, as different components of the vocal action responded to the pedagogical influence at different rates. At weeks 1-3, the most noticeable changes concerned respiratory coordination. The frequency of shoulder raising during inhalation decreased, exhalation became more even, and the beginning of the sound became less sharp. This indicated a primary decrease in the compensatory activity of the shoulder girdle and neck. At 4-7 weeks, phonation changes became more pronounced. Students started the sound more steadily, used a hard attack less often, and were better able to hold short vocal phrases without additional forceful pressure. During this

period, the overall level of tension decreased more slowly, but the changes became more stable. At 8-10 weeks, articulatory and postural indicators began to change more noticeably. There was an improvement in mandibular control, a decrease in neck tension, and stabilisation of the head and body position during vocalisations. These components took longer to develop as they were associated with habitual motor patterns. At 11-12 weeks, the results became more stable in different performance conditions. In the exercises and vocalisations, the reduction of tension was more pronounced, while in the artistic fragments some manifestations of tension were still present. The students' ability to identify their own tension increased from 3.2 to 6.9 points on the self-assessment scale, which showed the development of reflexive control and gradual coordination between the inner feeling and external manifestations of vocal action. Comparison of changes in the general muscle tension index between the control and experimental groups made it possible to evaluate the effectiveness of different approaches to the organisation of vocal training. Fixing the indicators before and after the formative stage made it possible to establish the extent to which targeted pedagogical influence affects the level of coordination and tension reduction (Fig. 4).

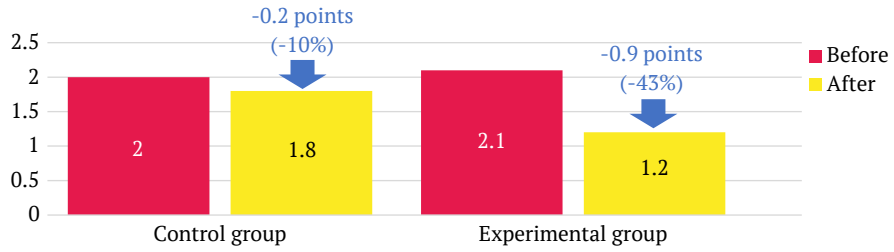

Figure 4. Dynamics of the general index of muscular tension in the control and experimental groups before and after the formative stage

Source: compiled by the author

The dynamics presented in Figure 4 showed that both groups demonstrated a decrease in the general index of muscle tension, but the scale of change was different. In the control group, the index decreased from 2.0 to 1.8 points, which amounted to a reduction of 0.2 points or 10%. In the experimental group, the decrease was considerably more pronounced: from 2.1 to 1.2 points, with a reduction of 0.9 points or 43%. Thus, the experimental group showed more than four times greater improvement than the control group. This indicates that the additional set of pedagogical methods had a stronger effect on reducing muscle tension than standard vocal training alone. Qualitative changes in vocal technical indicators reflect not only a decrease in muscle tension, but also a restructuring of the way the vocal action is organised. Comparison of these changes between the control and experimental groups made it possible to determine how different teaching models influenced the stability of sound production, the nature of the onset, and the level of student autonomy (Table 2).

Table 2. Qualitative comparison of changes in vocal and technical indicators between groups

Vocal-pedagogical indicator	Experimental group	Control group
Sound stability	Noticeable improvement; sound became more even in exercises, vocalises, and short repertoire excerpts	Improvements were inconsistent and mainly observed in simple exercises
Onset of tone (attack)	Reduced hardness of attack; onset became softer and more coordinated	Hard attack persisted in more complex tasks and at higher dynamics
Phrasing	More even phrasing with improved breath distribution	Phrasing remained dependent on continuous teacher guidance
Articulatory freedom	Reduced jaw fixation; articulation became more flexible	Jaw tension persisted, especially in more demanding vocal passages
Dependence on teacher feedback	Increased ability to self-correct posture, breathing, and jaw position	Corrections mostly occurred after direct teacher intervention

Source: compiled by the author

The comparison of vocal-pedagogical indicators demonstrated that the experimental group showed more stable and coordinated changes across all analysed parameters. Sound production became more even not only in isolated exercises but also in vocalises and short repertoire excerpts, whereas in the control group improvements remained limited mainly to simpler technical tasks. Differences were also observed in phonation quality: students in the experimental group demonstrated a softer and more coordinated onset of tone, while hard attack continued to appear in the control group during more demanding passages and increased dynamics. In phrasing, the experimental group achieved more balanced breath distribution and greater continuity of vocal lines, whereas students in

the control group still relied heavily on continuous teacher guidance. Changes in articulation also differed between the groups: jaw fixation decreased and articulatory movements became more flexible in the experimental group, while persistent jaw tension remained characteristic of the control group, especially in technically complex fragments. The data additionally showed a reduction in external pedagogical dependence. Students in the experimental group independently corrected posture, breathing and jaw position in 64% of cases, compared with 27% in the control group, where correction predominantly occurred only after direct teacher intervention.

The most pronounced initial effect was provided by breathing and coordination exercises, as they affected the basic mechanism of vocal action – the coordination of inhalation, exhalation and sound onset. The students gradually reduced the need to compensate for breathing instability by tensing the neck, shoulder girdle or larynx. The most rapid changes were in such indicators as shoulder raising during inhalation, abrupt onset of phonation, and uneven exhalation. This showed that breathing work was of primary importance for reducing the overall level of muscle tension. The body awareness method had a less rapid, but more lasting effect. Its result was manifested not only in the reduction of individual clamps, but also in a change in the way students observed themselves. They could more accurately identify the area in which tension arose, associate it with a specific vocal action, and respond more quickly to pedagogical instruction. The most noticeable effects of this method were on the control of the lower jaw, head position, shoulder girdle, and overall postural organisation. Verbal pedagogical modelling proved to be effective when the instructions were specific. Generalised instructions such as "relax" did not provide stable correction, as they did not indicate the exact action to the student. Instead, phrases such as "leave your shoulders still when you inhale", "don't lock your lower jaw", "start the sound softer" provided a clear reference point and reduced the number of repeated errors. This increased the controllability of the learning process. Vocal exercises with a low level of forcefulness helped to stabilise sound production. Short chants in the middle tessitura, humming, singing on comfortable vowels and legato in a small range allowed students to perform tasks without forcing the sound. However, their effect was most consistent when they were combined with breathing exercises and body control. The isolated use of such exercises reduced tension only within a specific task. The reflective vocal diary enhanced the students' ability to record their own changes. The post-class notes helped to track in which situations tension arose most often, which exercises produced tangible results, and which pedagogical instructions were most understandable. Thanks to this, the students gradually moved from passively following instructions to consciously controlling their own vocal and bodily state. The integrated application of the methods provided a cumulative effect. Breathing exercises reduced the primary tension, body awareness helped to recognise it, verbal instructions directed correction, vocal exercises consolidated the new way of sound formation, and the diary supported reflective control. It was the combination of these methods that proved to be most effective, as it affected not a single manifestation of tension, but the entire structure of vocal action. Self-assessment made it possible to record students' perception of their bodily state during singing and to determine the extent to which their ability to recognise muscle tension changed after the formative stage. These data complemented the results of the external assessment, as they reflected the internal level of vocal-bodily control (Table 3).

Table 3. Students' self-assessment data on muscle tension

Indicator	Experimental group	Control group	Interpretation of results
Subjective perception of tension before the formative stage	6.8 points	6.8 points	The initial level of subjective tension was the same in both groups
Subjective perception of tension after the formative stage	3.9 points	6.1 points	The reduction was more pronounced in the experimental group
Dynamics of subjective tension	-2.9 points	-0.7 points	The set of pedagogical methods contributed to a greater reduction in internal discomfort
Discrepancy between self-assessment and expert assessment	from 1.2 to 0.4 points	slight decrease	A more accurate perception of one's own condition was formed in the experimental group
Role of the reflective journal	Systematic recording of tension zones, causes, and correction strategies	Not applied	The journal supported the development of self-observation and reflective control

Source: compiled by the author

The results showed that in the experimental group the subjective feeling of tension decreased and the accuracy of self-observation increased. This confirmed that the pedagogical complex influenced not only the external manifestations of tension, but also the development of students' reflexive ability to control their own state while singing. The generalisation of the data obtained showed a decrease in the overall level of muscle tension in the experimental group, improvement of respiratory coordination and stabilisation of sound production. Respiratory and phonation indicators responded most quickly to the pedagogical influence: shoulder raising during inhalation decreased, exhalation became more even, sound onset was softer, and vocal phrases were more stable. Postural and articulatory

changes were formed more slowly. Neck tension, lower jaw fixation and unstable body position proved to be more persistent manifestations, as they were associated with fixed motor habits. Their correction required not only repetition of exercises, but also the development of body awareness and self-observation. The best results were achieved with a regular combination of several methods: breathing and coordination exercises, body awareness, vocal tasks with low strength load, specific pedagogical instructions and a reflective diary. It was the comprehensive use of these tools that ensured not a situational reduction of tension, but a gradual change in the way of vocal action. The overall dynamics showed the transition of students from dependence on external prompts from the teacher to more independent regulation of their own state. Students more accurately identified areas of tension, responded more quickly to pedagogical instructions, and more often corrected their breathing, body position, and sound production.

DISCUSSION

The obtained results made it possible to specify the pedagogical interpretation of muscle tension as a consequence of impaired coordination of vocal-body processes and to correlate it with modern approaches to vocal pedagogy. The established dominance of medium and high levels of tension at the initial stage of training was consistent with the provisions of M. Urbano & Y. Bensoussan (2025), who emphasised that muscle tension in singers is systemic and requires an interdisciplinary approach. At the same time, this study showed that even within the framework of pedagogical influence without the involvement of medical interventions, a significant reduction in tension is possible, which clarified the limits of the effectiveness of purely pedagogical means. The results, which showed a gradual decrease in tension through a combination of breathing, body and verbal methods, correlated with the findings of N. Molins-Macau (2025), who proved the effectiveness of body-mind approaches in vocal practice. However, in contrast to the generalised conclusions about the positive impact of body methods, the data obtained showed their differentiated effect: body awareness provided not a rapid reduction of tension, but stabilisation of the ability to recognise it. This made it possible to clarify the function of such approaches as a tool for long-term regulation rather than operational correction.

Observations on the localisation of stress in the neck, shoulder girdle and jaw were consistent with the results of N. Henry (2021), where these areas were identified as key in the formation of technical problems. However, the present study showed that their role changes depending on the stage of training: at the initial level, the tension is generalised, while in more trained students it becomes localised. This complemented the previous findings by introducing the factor of learning dynamics. The analysis of phonation changes, in particular the reduction of the stiffness of the sound attack, correlated with the position of J. Seesholtz (2022), who considered hyperduction as a consequence of excessive muscle effort. At the same time, the results demonstrated that the correction of this phenomenon is possible not only through work with the vocal folds, but also through changes in respiratory coordination. This conclusion expanded the understanding of cause-and-effect relationships in the formation of phonation disorders.

The revealed dependence of the effectiveness of pedagogical influence on the sequence and load of vocal tasks was consistent with the approach of K. Lawrence (2022), where vocal activity was considered through the prism of load physiology. However, the results of the study showed that the principles of gradual complication should be complemented by the development of body awareness, otherwise even an optimally constructed load can lead to the accumulation of tension. The results on the effectiveness of the combination of methods correlated with the findings of C. Gassull *et al*. (2024), where body practices were considered as an auxiliary tool for voice optimisation. However, this study showed that the isolated use of individual methods does not provide a sustainable result. This made it possible to clarify their role as components of a single pedagogical system, rather than autonomous means. The concept of functional unity of voice proposed by B.M. Doscher (2023), found confirmation in the established interdependence of respiratory, bodily and phonation indicators. At the same time, the empirical data concretised this idea by showing that the violation of unity had different intensity depending on the component, which opened up the possibility of differentiated pedagogical influence.

The comparison of the results between the experimental and control groups was consistent with J. Sear (2024), where the structured nature of vocal training was considered a condition for improving the quality of learning. In the present study, this thesis was specified: it was not the orderliness of the classes that proved to be effective, but the organisation in which breathing, body-oriented, vocal-technical and reflective methods were combined into a single sequence. In the control group, maintaining the usual programme resulted in only a slight decrease in tension, while in the experimental group, the complex impact contributed to a more noticeable restructuring of the vocal action. This made it possible to clarify the concept of pedagogical design: it should include not only the selection of exercises and repertoire, but also the logic of the transition from external teacher correction to student self-regulation. The identified role of respiratory coordination correlated with the results of Y. Wang (2024), who emphasised the importance of conscious breath control in vocal training. At the same time, the data obtained showed that breath control had a lasting effect only if it was bodily integrated. Excessive concentration on breathing without simultaneously working with the position of the shoulders, neck, jaw, and body did not completely eliminate compensatory clamps. This clarified the boundaries of cognitively oriented approaches: breathing awareness was necessary but not sufficient without sensorimotor control. The psychological aspect of muscle tension, considered by

D. Çelik (2025), was confirmed by the change in students' self-esteem. In this study, bodily tension in vocal performance was related not only to the physical state, but also to the nature of self- perception, the level of internal control, and the psycho-emotional response to performance. The results of the present study confirmed this conclusion: after the formative stage, the subjective feeling of tension in the experimental group decreased, and the discrepancy between self-assessment and expert assessment became smaller. This indicated that the pedagogical influence changed not only the external manifestations of tension, but also the students' ability to recognise their own vocal- bodily state more accurately. The inclusion of mindfulness elements in vocal training, substantiated by X. Wang (2025), correlated with the effect of the reflective diary used in this study. In previous work, the emphasis has been placed on the connection between mindfulness practices and improved performance stability and well-being. The results obtained refined this approach, as the reflective practice produced a measurable pedagogical effect: students more often associated tension with specific vocal actions, responded more quickly to instructions, and corrected their breathing, body position, and articulation more independently. Thus, mindfulness manifested itself not as a general psychological resource, but as a tool for developing vocal self-regulation.

The reduction in dependence on the teacher was consistent with the approach of M. Hoch *et al*. (2025), in which student-centred learning was associated with the development of autonomy, awareness and students' participation in managing their own vocal development. In the present study, this position was empirically clarified: autonomy was not formed only through a change in the teacher's role or through greater freedom in learning. It developed gradually through work with specific mechanisms of vocal action, including breathing, body position, jaw position, sound attack and recognition of tension. The reduced need for constant pedagogical prompts showed that a student-centred approach required not only changes in communication, but also a methodically organised system of self-regulation.

The conclusions of T.J. Clark (2024) about the need to modernise vocal pedagogy were also confirmed by the results obtained. In the previous study, modernisation was associated with updating the content, methods and principles of vocal training in accordance with the needs of modern music education. The results of the present study have specified which components of such modernisation were effective at the initial stage: breathing coordination, body awareness, accuracy of verbal instructions and reflective self-assessment. Thus, the renewal of vocal pedagogy proved to be effective when it was aimed at restructuring the way of vocal action, and not just at expanding the methodological arsenal. The problem of training future teachers, considered by M.N. Hinds (2025), received an additional explanation through the results of this study. The work emphasised the need to strengthen the vocal and pedagogical training of students who will work with the voice of other performers in the future. The findings concretised this thesis: pedagogical competence had to include not only knowledge of vocal technique, but also the ability to recognise muscle tension as a systemic phenomenon. It was about the ability to see the connection between breathing, posture, phonation, articulation, and the student's level of self-control. This clarified the content of the future teacher's training, since working with tension required not situational remarks, but a consistent selection of pedagogical methods. In general, the comparison of the results revealed that current research captures certain aspects of the problem of muscle tension, while the data obtained demonstrated it as an integrative pedagogical phenomenon. This made it possible not only to confirm the existing provisions, but also to clarify them in the direction of systematic organisation of vocal training.

CONCLUSIONS

It was established that muscle tension in vocal singing resulted from impaired coordination of breathing, phonation, articulation and posture. It appeared as compensatory tension in the neck, shoulder girdle and jaw, which initially supported sound production but later became fixed as an ineffective motor pattern. Its reduction required breathing and coordination exercises, body awareness, controlled vocal tasks, precise verbal instructions and reflective practices. The empirical test confirmed the effectiveness of the proposed complex. In the experimental group, the overall tension index decreased from 2.1 to 1.2 points, compared with 2.0 to 1.8 points in the control group. Shoulder raising during inhalation decreased by 41%, jaw tension by 36% and neck tension by 33%, while in the control group these indicators changed by 12%, 10% and 9%. Students in the experimental group independently corrected body position and breathing in 64% of cases, compared with 27% in the control group. Subjective tension decreased from 6.8 to 3.9 points, and the discrepancy between self-assessment and expert assessment declined from 1.2 to 0.4 points. It was found that the integrated use of methods ensured the greatest pedagogical effect. Breathing exercises reduced primary tension, body awareness and reflective diary entries strengthened self-observation, verbal instructions improved correction accuracy, and vocal exercises consolidated new coordination. Consequently, the overall tension index decreased from 2.1 to 1.2 points, subjective tension from 6.8 to 3.9 points, and students independently corrected body position and breathing in 64% of cases. The study was limited by the small sample of beginner students, the 12-week observation period and the absence of instrumental physiological measurements. Further research was considered promising in terms of expanding the sample, including students with different levels of training, extending the observation period and applying instrumental methods for assessing muscle activity.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

REFERENCES

[1] Çelik, D. (2025). Psychology of the vocal body. *ARTic*, 8(1), 975-986. doi: 10.34010/artic.v8i1.17624.
[2] Chapman, J.L., & Morris, R. (2021). *Singing and teaching singing: A holistic approach to classical voice*. San Diego: Plural Publishing.
[3] Clark, T.J. (2024). *Harmonizing voices: Vocal pedagogy in 21st century music education*. (Doctor's dissertation, Liberty University, Lynchburg, United States).
[4] American Sociological Association. (1997). *Code of Ethics*. Retrieved from https://www.asanet.org.
[5] Crocco, L., & Meyer, D. (2021). Motor learning and teaching singing: An overview. *Journal of Singing*, 77(5), 693-702.
[6] Doscher, B.M. (2023). *The functional unity of the singing voice*. New York: Bloomsbury Publishing.
[7] European Commission. (2021). *Guidelines on ethics and data protection*. Retrieved from https://ec.europa.eu.
[8] Friman, S. (2025). *Three approaches to singing practice.* Retrieved from https://urn.fi.
[9] Fu, T. (2025). A preliminary study on the diversified application of adult vocal teaching mode in the new century. *Journal of Sociology and Education*, 1(10). doi: 10.63887/jse.2025.1.10.33.
[10] Gassull, C., Molins-Macau, N., & González-Sanvisens, L. (2024). Bodywork and singing voice: An educational tool for voice optimization. *Voice and Speech Review*, 18(3), 321-338. doi: 10.1080/23268263.2023.2246309.
[11] Henry, N. (2021). *Common vocal technique issues and their physical approaches to their resolution.* (Master's thesis, Morgan State University, Baltimore, United States).
[12] Hinds, M.N. (2025). *Vocal pedagogy training for vocal music education students*. (Doctor's dissertation, Liberty University, Lynchburg, Virginia, United States).
[13] Hoch, M., Goffi-Fynn J., & Everett Allsup, R. (2025). *Student-centered voice pedagogy: Working with students toward developing artistry, authenticity, and autonomy*. New York: Bloomsbury Academic.
[14] International Code of Market, Public, and Social Research and Data Analysis. (2025). Retrieved from https://standards.esomar.org/assets/documents/icc-esomar-code-2025.pdf.
[15] Jeffery, T., Postavaru, G.I., Matei, R., & Meizel, K. (2024). "I have had to stop singing because I can't take the pain": Experiences of voice, ability, and loss in singers with hypermobility spectrum disorders. *Journal of Voice*, 38(4), article number 966.e19-966.e29. doi: 10.1016/j.jvoice.2021.11.017.
[16] Kendüzler, M., & Akkaş, S. (2025). Development and testing of a new pedagogical model in beginner-level solfège education. *Frontiers in Education*, 10, article number 1637884. doi: 10.3389/feduc.2025.1637884.
[17] Kovalsky, D. (2021). *Vocal pedagogy and using healthy technique to sing*. Retrieved from https://surl.li/fslahf.
[18] Lawrence, K. (2022). *Vocal athleticism: An exploration of exercise physiology principles in the voice studio*. (Master's thesis, Belmont University, Nashville, United States).
[19] McGlashan, J., Aaen, M., White, A., & Sadolin, C. (2023). A mixed-method feasibility study of the use of the Complete Vocal Technique (CVT), a pedagogic method to improve the voice and vocal function in singers and actors, in the treatment of patients with muscle tension dysphonia: A study protocol. *Pilot and Feasibility Studies*, 9(1), article number 88. doi: 10.1186/s40814-023-01317-y.
[20] Molins-Macau, N. (2025). Body-mind methods and the singing voice: A literature review. *Revista de Logopedia, Foniatría y Audiología*, 45(4), article number 100528. doi: 10.1016/j.rlfa.2025.100528.
[21] Paolillo, N.P., Carrozza, L., Osio, M., Rosa, E., & Scalabrin, M. (2021). Inspiratory vocal fry: Anatomical and physiological aspects, application in speech therapy, vocal pedagogy and singing. A pilot study. *Journal of Voice*, 35(3), 394-399. doi: 10.1016/j.jvoice.2019.10.004.
[22] Sear, J. (2024). Modern vocal pedagogy: Investigating a potential curricular framework for training popular music singing teachers. *Journal of Popular Music Education*, 8(2), 239-254. doi: 10.1386/jpme_00105_1.
[23] Seesholtz, J. (2022). Hyperadduction: A pedagogic approach for the 21st century voice instructor. *Journal of Singing*, 79(1), 13-20. doi: 10.53830/bgdz3610.
[24] Summersgill, I., Nguyen, G., Grey, C., Norouz-Knutsen, L., Merkel-Walsh, R., Katzenmeir, C., Rafii, B., & Zaghi, S. (2023). Muscle tension dysphonia in singers and professional speakers with ankyloglossia: Impact of treatment with lingual frenuloplasty and orofacial myofunctional therapy. *International Journal of Orofacial Myology and Myofunctional Therapy*, 49(1), 1-8. doi: 10.52010/ijom.2023.49.1.1.
[25] Tian, L. (2025). Articulation skills of singing based on the biomechanical coordination of throat muscles. *Molecular & Cellular Biomechanics*, 22(1), article number 974. doi: 10.62617/mcb974.
[26] Urbano, M., & Bensoussan, Y. (2025). Professional voice and muscle tension dysphonia: The art of the multi-disciplinary team. In S. Lee, S. Specter, R. Bahr, C. Burns & M. Wiranowska (Eds.), *Perspectives in performing arts medicine practice II: Occupational health, public health, arts for healing* (pp. 105-121). Cham: Springer. doi: 10.1007/978-3-032-06243-7_6.

[27] Wang, X. (2025). Integration of mindfulness practices in vocal training: Enhancing performance and well-being. *Música Hodie*, 25. doi: 10.5216/mh.v25.82852.

[28] Wang, Y. (2024). The effectiveness of innovative technologies to manage vocal training: The knowledge of breathing physiology and conscious control in singing. *Education and Information Technologies*, 29(6), 7303-7319. doi: 10.1007/s10639-023-12108-6.

[29] Zhang, X.Y., Yu, W.Y., Teng, W.J., Song, Y.C., Yang, D.G., Liu, H.W., Liu, S.H., Li, X.B., Wang, W.Z., & Li, J.J. (2022). Effect of vocal respiratory training on respiratory function and respiratory neural plasticity in patients with cervical spinal cord injury: A randomized controlled trial. *Neural Regeneration Research*, 17(5), 1065-1071. doi: 10.4103/1673-5374.324856.

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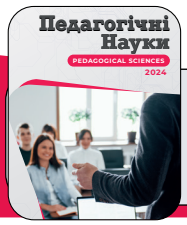
Педагогічні методи подолання м'язової напруги у студентів-вокалістів на початковому етапі навчання

Анотація. Метою дослідження було визначення ефективності комплексу педагогічних методів для зменшення м'язової напруги у студентів-вокалістів на початковому етапі навчання. Методологія передбачала квазіекспериментальний дизайн з попереднім та підсумковим тестуванням, що реалізовувався протягом 12 тижнів навчального семестру. Було використано поєднання теоретичного узагальнення підходів до природи м'язової напруги та емпіричного тестування впливу педагогічного комплексу на вибірці з 48 студентів, розділених на експериментальну та контрольну групи. Результати показали, що на початковому етапі переважали середній та високий рівні м'язової напруги, переважно в області шиї, плечового пояса та нижньої щелепи. Протягом 12-тижневого формувального етапу в експериментальній групі спостерігалося зниження загального індексу напруги з 2,1 до 1,2 бала. Найбільш виражені зміни стосувалися показників дихання та фонації: підняття плечей під час вдиху зменшилося на 41 % порівняно з 12 % у контрольній групі, напруга щелепи – на 36 % порівняно з 10 %, а напруга шиї – на 33 % порівняно з 9 %. Студенти експериментальної групи також самостійно коригували положення тіла та дихання у 64 % випадків, тоді як у контрольній групі цей показник не перевищував 27 %. Рівень суб'єктивної напруженості знизився з 6,8 до 3,9 балів в експериментальній групі та лише з 6,8 до 6,1 балів у контрольній групі, тоді як розбіжність між самооцінкою та експертною оцінкою зменшилася з 1,2 до 0,4 балів. Практичне значення дослідження полягає в можливості використання обґрунтованого комплексу методів для систематичного формування голосово-тілесної координації та розвитку навичок саморегуляції у студентів

Ключові слова: дихальна координація; фонація; артикуляція; звукоутворення; тілесна свідомість; саморегуляція



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Sensory integration and sensory-adapted environments: The inclusion of children with autism spectrum disorders in early years education

Abstract. The study aimed to compare sensory integration therapy and sensory-adapted modification of the educational environment as approaches to enhancing the participation of children with autism spectrum disorders in pre-school education. The study was conducted as a theoretical and analytical review of scientific, professional, international and regulatory-educational sources, followed by a comparison of the two approaches in terms of their impact on the child's functional participation, adaptive behaviour and educational engagement. The study established that the participation of a child with autism spectrum disorders in pre-school education cannot be equated with mere physical presence in the group, as it entails genuine inclusion in educational, play, communicative and everyday activities. The study determined that sensory difficulties acquire pedagogical significance when they affect self-regulation, behavioural stability, contact with the teacher and peers, the ability to respond to instructions, and the ability to maintain participation in group situations. The study demonstrated that sensory integration therapy acts primarily at the individual level, creating the conditions for sensory regulation, adaptive response, praxis and the organisation of behaviour. Sensory-adapted modification of the educational environment operates at the level of the educational situation: it reduces sensory barriers, increases the predictability of routines, the structure of the space, the accessibility of instructions and the flexibility of participation methods. The study established that these approaches are not interchangeable: the first creates the internal conditions for participation, whilst the second ensures the accessibility of the pre-school activity. A model of a sensory-adapted pre-school environment has been developed, covering the identification of the child's sensory needs, analysis of the physical and organisational environment, selection of pedagogical and environmental adaptations, and assessment of the child's participation in daily activities. The practical significance of the results is determined by the possibility of using the proposed model to organise an inclusive pre-school environment in which support for children with autism spectrum disorders is directed towards expanding functional participation, adaptive behaviour and educational engagement, rather than merely reducing individual behavioural difficulties

Keywords: functional participation; adaptive behaviour; educational accessibility; pedagogical support; environmental barriers; self-regulation; inclusive practice

INTRODUCTION

In modern early years education, the participation of children with autism spectrum disorder (ASD) is becoming increasingly associated not only with the availability of an inclusive group or an individual development programme, but also with the extent to which the educational environment addresses the sensory needs of the child. Sensory overload, difficulties with self-regulation, attention instability, and avoidance of tactile, auditory or visual stimuli can limit a child's inclusion in play, communication, activities, routine moments and interaction with peers.

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Therefore, the issue of sensory integration in the context of early years education goes beyond a narrowly remedial approach and concerns the organisation of conditions under which a child with ASD can functionally participate in daily activities. In this context, it becomes relevant to compare sensory integration therapy, focused on individual sensory regulation, with sensory-adapted modification of the educational environment, aimed at reducing barriers to participation in the pre-school group. The issue of sensory integration in children with ASD has already been addressed in Ukrainian studies; however, the focus in these works has been unevenly distributed.

For example, I.M. Hryhus & I.M. Kruk (2022) addressed sensory integration in children with early-onset autism as an area of rehabilitative support linked to the correction of sensory impairments and the development of functional activity. This approach highlights the individual level of sensory support, but leaves the educational context less well covered, where sensory difficulties manifest during group play, transitions between activities, communication with the teacher and contact with peers. A more comprehensive perspective is proposed in the study by O. Kasianenko (2025), where sensory integration is considered within the framework of early intervention programmes for children with ASD. In this framework, sensory support is linked to interdisciplinary collaboration, family involvement and the coordination of various forms of support; however, the focus of the analysis remains on early intervention, whereas pre-school education requires a separate consideration of sensory support as a prerequisite for daily participation in the educational environment.

Another research approach is notable in the study by O. Mamicheva & Yu. Butko (2025), in which sensory integration disorders in children with ASD are analysed in terms of causes, manifestations and intervention strategies. This approach details the behavioural manifestations of sensory disorganisation, in particular avoidance, hyper-reactivity, seeking of stimuli, or difficulties in adapting to change, but provides less insight into the link between these manifestations and barriers in the pre-school environment. The family-oriented aspect of support is highlighted in the study by L.I. Basenko & K.A. Tymruk-Skoropad (2024), in which a physical therapy programme for children with ASD is linked to family involvement, physical activity and specially organised therapeutic interaction. This approach emphasises the importance of coordination between specialists and parents, but relates more to therapeutic support than to the pedagogical organisation of a sensory-accessible environment in a pre-school education setting (PSE). The occupational therapy dimension of the issue is explored by N.R. Holod *et al.* (2026), analysing the theoretical and methodological foundations of intervention for children with ASD. This approach contributes to the research of children's functional activity and the role of professional support; however, the issue of modifying the educational environment as a daily condition for participation in a pre-school group requires further theoretical and analytical consideration.

The psycho-corrective approach to supporting children with autism in Ukraine was discussed by V.Y. Bocheliuk *et al.* (2021), emphasising corrective approaches aimed at overcoming or reducing the manifestations of autism. This logic highlights the importance of specially organised psychological support, but it insufficiently explains how the everyday educational environment can prevent sensory overload and support the child's participation without constant remedial intervention. The classification aspect of the issue is explored by V.Y. Bocheliuk *et al.* (2022), where ASD is analysed through the systematisation of its types, manifestations and diagnostic characteristics. Such a classification framework can improve precision of delineation of the diversity of autism manifestations; however, a child's educational participation requires not only classification of the condition but also an analysis of how specific sensory and behavioural characteristics interact with the early years' education environment. The sensory design of inclusive educational environments is examined in a study by H.M. Abdou *et al.* (2026), which, based on a systematic review, analyses the transition from sensory spatial organisation to regulatory environmental architecture for children with ASD, ADHD and Down's syndrome. This approach is relevant for determining the conditions for a child's educational participation, as sensory support depends not only on individual characteristics but also on the noise, spatial, visual and organisational demands within the group. The link between sensory characteristics and behavioural manifestations is explored in the study by Y. Chen *et al.* (2024), which, based on a systematic review and meta-analysis, examines the relationship between differences in sensory processing and internalised and externalised difficulties in autism. This approach highlights the significance of assessing not only individual sensory responses but also their impact on self-regulation, behavioural stability and the child's participation in everyday activities within the pre-school group.

Thus, existing research provides a foundation for analysis of sensory integration, early intervention, remedial strategies, physiotherapy and occupational therapy support for children with ASD. At the same time, the scientific field does not sufficiently distinguish between two levels of intervention: individual sensory support for the child and modification of the educational environment as a c ondition for their daily participation in the pre-school group. This necessitates a theoretical and analytical comparison of sensory integration therapy and a sensory-adapted environment, not in terms of their general therapeutic effect, but in terms of their contribution to the child's functional participation, adaptive behaviour and educational engagement. This perspective clarified which tasks fall under therapeutic support, which under the pedagogical organisation of the environment, and how these approaches can complement one another within the system of inclusive pre-school education.

The study aimed to determine the role of sensory integration therapy and a sensory-adapted environment in supporting the participation of children with ASD in pre-school education. Following the aim of the study, the following research objectives were identified: to identify the sensory factors influencing the participation of children with ASD in pre-school education; to compare sensory integration therapy and sensory-adapted modification of the educational environment in terms of their contribution to the child's functional participation, adaptive behaviour and educational engagement; to substantiate a model of a sensory-adapted pre-school environment as a condition for supporting the participation of children with ASD in the daily activities of pre-school educational institutions.

MATERIALS AND METHODS

The study was based on a theoretical-analytical design incorporating elements of applied modelling and aimed to compare sensory integration therapy and sensory-adapted modification of the educational environment as approaches to enhancing the participation of children with ASD in pre-school education. Sensory-adapted modification of the educational environment was considered as the pedagogical dimension of "sensory environmental modification", i.e. as a change in the physical, organisational and interactive conditions of the pre-school group, considering the child's sensory needs. The study was based on a qualitative categorical analysis of scientific, professional, international and regulatory-educational sources within the fields of pedagogy, special education, developmental psychology and research into neurodevelopmental disorders. The source corpus was formed as a targeted selection of works and documents addressing sensory integration, sensory processing, sensory environmental modification, the child's participation in educational activities, adaptive behaviour, engagement, and pedagogical conditions for supporting children with ASD in the pre-school environment. The units of analysis were theoretical propositions, professional recommendations, regulatory requirements, criteria for the evidence base of interventions, and approaches to sensory support for children with ASD described in the sources. The analysis addressed three outcome measures: the child's functional participation in pre-school activities, adaptive behaviour, and educational engagement.

The study was conducted in three stages. In the first stage, a theoretical and conceptual framework for the analysis was developed. Sources were reviewed that explore the basic concepts of sensory integration, sensory processing, child functioning, participation and inclusive education: A.J. Ayres (1972), World Health Organisation (2007; 2023), A. Ayres & J. Robbins (2005), Convention on the Rights of Persons with Disabilities (2016). These sources were selected because they provide the conceptual foundation for the study and can be used for an examination of a child's sensory characteristics in relation to functioning, participation, environmental barriers and the right to inclusive education. Based on these materials, the primary analytical categories were identified: sensory processing, self-regulation, adaptive behaviour, participation, engagement, environmental barriers and the accessibility of educational activities.

The second stage involved a comparative analysis of sensory integration therapy and sensory-adapted modification of the educational environment. For this purpose, professional sources and evidence-based summaries were used, which differentiated individualised support for sensory regulation, the child's sensory profile, and pedagogical changes to the conditions of educational participation: W. Dunn (2014), R. Watling *et al.* (2018), A. Bundy *et al.* (2019), National Institute for Health and Care Excellence (2013). These sources were selected as they clarify the professional interpretation of sensory support and provide a basis for evaluating approaches in terms of functional participation, adaptive behaviour and engagement. The comparison was conducted using an analytical matrix covering the approach's objective, mechanism of action, level of implementation, support providers, the role of the teacher and support specialists, level of individualisation, conditions of application, expected impact on participation, adaptive behaviour and engagement, as well as the potential for integration into the daily practice of early years education settings. The effectiveness of the approaches was compared by contrasting the effects described in the sources across three outcome measures: functional participation, adaptive behaviour, and the child's engagement in pre-school activities. This matrix was used to compare two approaches using the same criteria and differentiated therapy-oriented sensory integration and pedagogical modification of the sensory environment.

The analysis procedure involved reading the sources in sequence, identifying meaningful passages, matching them to specific categories, noting recurring themes, and comparing the two approaches against the parameters of the analytical matrix. During the coding process, aspects relating to sensory overload, sensory sensitivity, predictability of the routine, spatial organisation of the group, noise and light levels, visual richness of the environment, sensory breaks, pedagogical support, team interaction and the child's participation in pre-school activities were addressed. In the third stage, the results of the comparative analysis were interpreted in the context of the practical organisation of a sensory-adapted pre-school environment. The materials for this stage were Comprehensive Programme for the Development of Pre-school Children with Autism "Rozkvit" (2013), Division for Early Childhood (2014), Convention on the Rights of Persons with Disabilities (2016), Resolution of the Cabinet of Ministers of Ukraine No. 530 (2019), Order of the Ministry of Education and Science of Ukraine No. 33 (2021), Law of Ukraine No. 3788-IX (2024). These sources were selected as they determine the pedagogical, organisational and regulatory conditions for creating an accessible, flexible and inclusive pre-school environment.

The applied modelling aimed to construct a structure for a sensory-adapted environment in which the

child's sensory needs were matched with the barriers and resources of the pre-school group. The model comprised four interrelated components: identifying the child's sensory needs, analysing the physical and organisational environment, selecting environmental and pedagogical adaptations, and assessing the child's participation in educational, play, communication and daily living activities. Thematic coding, categorical comparison, a comparative analytical matrix and applied modelling were used as research tools. Microsoft Excel 365 was used for the technical systematisation of sources, the recording of categories and the structuring of results. Given the theoretical and analytical nature of the material, the results were analysed using qualitative methods without applying statistical hypothesis testing procedures. The reliability of the analysis was ensured by reviewing the source corpus, cross-checking categories across different groups of materials, applying uniform comparison criteria to both approaches, and verifying the alignment of the applied model with international and Ukrainian educational guidelines. The ethical foundations of the work were determined by the principles of academic integrity, the transparent use of open sources, and the accurate description of children with ASD in accordance with the European Code of Conduct for Research Integrity (2023). This ensured the reproducibility of the analytical procedure, consistency between the materials and the research objective, and the practical relevance of the results obtained.

RESULTS

Analytical framework for the factors influencing the participation of children with ASD in early years education. The participation of children with ASD in pre-school education is determined not only by access to the facility or the child's inclusion in a group. Genuine engagement is shaped by children's ability to cope with the sensory conditions of the environment, maintain self-regulation, respond to educational instructions, interact with adults and peers, and perform age-appropriate actions in play, communication, educational and everyday situations. In this context, the sensory characteristics of children with ASD are not an isolated individual trait, but a factor in the child's functioning within a specific educational environment. Therefore, an analysis of participation requires a shift from describing individual sensory reactions to identifying the conditions under which these reactions either limit or support the child's inclusion in pre-school activities. Classical sensory integration theory views sensory processing as the basis for the organisation of a child's behavioural, motor and learning responses. In the study by A.J. Ayres (1972), sensory integration was related to the nervous system's ability to organise information received through various sensory channels and use it for an adaptive response. Under this approach, difficulties in sensory processing are not reduced to increased or decreased sensitivity to a particular stimulus, but manifest themselves in the complexity of organising behaviour, attention, motor activity, and interaction with the physical and social environment.

A.J. Ayres & J. Robbins (2005) emphasised that sensory difficulties often remain hidden, as they may manifest externally as avoidance, impulsivity, resistance to new activities, emotional instability or rapid exhaustion. For early years education, this means that a child's behaviour, which is interpreted as a reluctance to participate, may be linked to being overwhelmed by noise, light, tactile stimuli, the number of people in the space, or the unpredictability of transitions between activities. The functional approach, as outlined in the World Health Organisation (2007) report, describes a child's development through the interplay of functions, activities, participation and environmental factors. Within this approach, ASD does not predetermine a child's level of participation in pre-school life. Participation depends on the extent to which environmental conditions support or hinder the child's inclusion in specific activities: play, collaborative tasks, communication, self-care, transitions between routine activities, and participation in group work. Sensory characteristics take on pedagogical significance when they interact with the organisation of space, routine, intensity of stimulation, the manner of presenting instructions, and the nature of social interaction.

The legal and educational rationale for inclusion, as stipulated in the Convention on the Rights of Persons with Disabilities (2016), views inclusive education not merely as placing a child within a mainstream educational setting, but as a transformation of educational culture, policy and practice to remove barriers to participation. For children with ASD, access to early years education cannot be limited to formal attendance in a group. An indicator of inclusion is the child's ability to participate in meaningful activities at a level appropriate to them, incorporating their sensory, communicative, behavioural and social needs. Sensory support in pre-school education should be assessed not by the number of individual adaptations, but by whether they reduce barriers to participation and enhance the stability of the child's inclusion in the educational process. The current international context for supporting children with developmental disabilities, as presented by the World Health Organisation (2023), guides education systems towards a shift from marginalisation to the participation of children in mainstream social and educational settings. The sensory characteristics of children with ASD should not be a reason for isolating them from group activities or lowering educational expectations. They require a more precise adaptation of the environment so that the pre-school group fulfils not only a care-giving function, but also developmental, communicative and socialising functions. In this sense, sensory support is regarded as a prerequisite for the accessibility of pre-school education. By combining these approaches, it is possible to identify a system of interrelated categories through which the participation of children with ASD in early years education can be effectively analysed. The first category is sensory processing, which determines how a child perceives auditory, visual, tactile, proprioceptive and

vestibular stimuli. The second is self-regulation, as sensory overload or poor sensory organisation can affect a child's ability to maintain emotional stability, attention, motor activity and readiness to interact. The third is adaptive behaviour, which manifests itself in the child's ability to adapt to routines, follow achievable instructions, transition between activities, use available means of communication, and participate in daily activities. The fourth is participation, that is, the child's actual involvement in educational, play, communicative and everyday situations. The fifth is engagement, which reflects not only presence in a situation but also activity, focus of attention, and connection with the task, the teacher, the material or peers. The sixth is environmental barriers, which include excessive noise, bright or unstable lighting, high visual stimulation, unpredictable transitions, close physical contact, complex instructions, or an insufficiently structured space. The seventh is the accessibility of educational activities, which determines whether a child can participate in an activity in a way that is compatible with their sensory and communicative abilities.

The relationship between these categories is systemic in nature. Characteristics of sensory processing can influence self-regulation: excessive noise, bright light or a large number of simultaneous stimuli increase tension, reduce stamina and make it difficult to maintain attention. Difficulties with self-regulation may manifest as avoidance of group activities, crying, motor agitation, freezing, withdrawal, a need for solitude, or a sharp decline in performance. In an educational setting, these manifestations affect adaptive behaviour: it is more difficult for the child to follow instructions, wait their turn, transition from play to a lesson, participate in group activities, or complete a task they have started. As a result, participation is limited, although the primary cause may not be a lack of interest in the activity, but rather a mismatch between the sensory environment and the child's needs (World Health Organisation, 2007; Dunn, 2014).

The environment in this system fulfils a dual role. It exacerbates difficulties when there is a high level of noise, chaotic movement of children, an excessive number of visual stimuli, sudden changes in activities, or unclear rules of conduct. At the same time, the environment reduces sensory overload and supports participation if the space has a clear structure, the routine is predictable, transitions are accompanied by visual or verbal cues, instructions are given in small doses, and the child has access to a sensory break or recovery area. Sensory support in early years education encompasses not only working with the child's individual response but also changing the conditions in which this response arises and influences behaviour. The concept of participation in the context of children with ASD is not equivalent to mere presence in the group, performing tasks that are the same for everyone, or outward compliance with the routine. For a child with sensory difficulties, participation can vary in intensity: observing activities, brief involvement, performing a single action, supported joint play, non-verbal response, choosing materials, completing a daily activity, or interacting with a teacher or peer. Engagement reflects the quality of participation: maintaining contact with the situation, reduced avoidance, stability of behaviour, and an expanded range of activities in which the child can participate. This perspective is substantial for the comparison of sensory integration therapy and environmental sensory modification, as both approaches must be evaluated in terms of their contribution to genuine pre-school participation (World Health Organisation, 2007).

The analytical framework developed encompasses three interrelated levels. The first level consists of the child's individual sensory responses: sensitivity to stimuli, the need for sensory seeking or avoidance, and difficulties with information processing and self-regulation. The second level relates to the behavioural and functional organisation of participation: the child's ability to engage in play, learning activities, communication, self-care and group situations. The third level encompasses environmental characteristics that may act as barriers or resources for participation. Within this framework, sensory integration therapy is analysed in terms of its potential to support individual sensory regulation and adaptive behaviour, whilst sensory-adapted environmental modification is analysed in terms of its ability to reduce barriers, increase predictability, and create conditions for daily participation. The analytical framework presented in Figure 1 summarises the relationship between sensory processing, self-regulation, adaptive behaviour, environmental barriers and the participation of children with ASD in early years education. As shown in Figure 1, the participation of children with ASD in pre-school education is shaped by the interaction of three levels: the child's individual sensory responses, their behavioural and functional organisation, and the characteristics of the educational environment. Sensory processing influences self-regulation; self-regulation determines the stability of adaptive behaviour; and adaptive behaviour is linked to the child's ability to participate in play, communication, activities and daily routines. At the same time, the environment can exacerbate difficulties through noise, light, unpredictability, visual overload and chaotic transitions, or mitigate them through spatial structure, sensory breaks, visual support, predictable routines and flexible ways of participating.

It is therefore appropriate to view the sensory factors affecting the participation of children with ASD as a system of interrelationships between sensory processing characteristics, self-regulation, adaptive behaviour, and the accessibility of the pre-school environment. Within this system, a child's behavioural manifestations cannot be interpreted solely as a reluctance to interact or perform tasks, as they often reflect a mismatch between the child's sensory needs and the conditions of the educational situation. Excessive sensory overload can reduce stamina, make it difficult to sustain attention, cause avoidance of activities, and reduce stability in participation in group interaction. In contrast, an adapted environment creates conditions in which the child can gradually engage in educational, play, communication and daily activities without excessive overload.

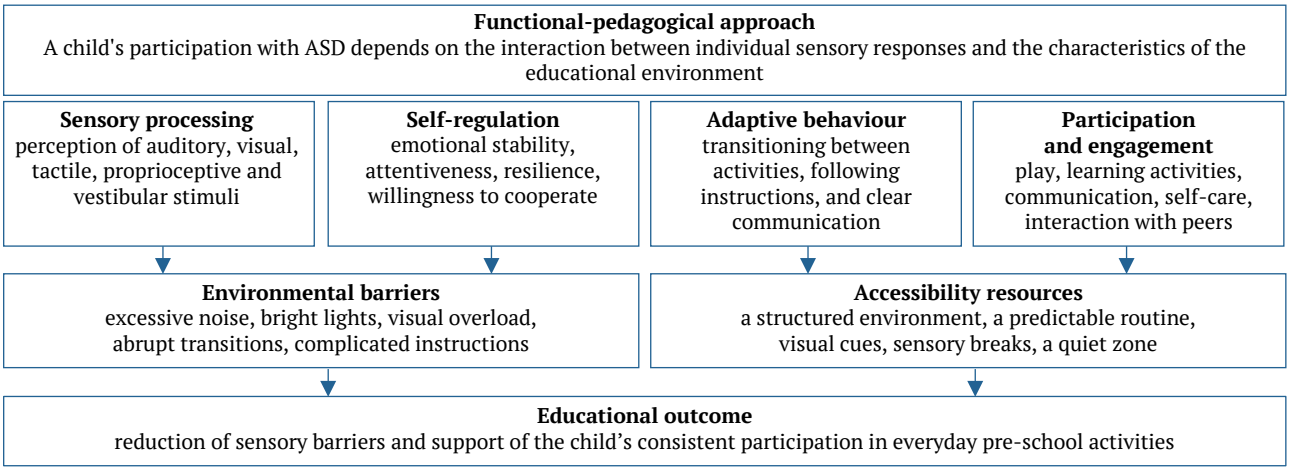

Figure 1. Analytical framework for the factors influencing the participation of children with ASD in early years education

Source: compiled by the author based on A.J. Ayres (1972), A.J. Ayres & J. Robbins (2005), World Health Organisation (2007), Convention on the Rights of Persons with Disabilities (2016), World Health Organisation (2023)

A comparative assessment of the effectiveness of sensory integration therapy and sensory modification of the educational environment. A comparison of sensory integration therapy and sensory-adapted modifications to the educational environment revealed different mechanisms of influence on the participation of children with ASD in pre-school education. Sensory integration therapy is linked to the individual level of support, as its primary focus is the child's ability to receive, organise and use sensory information for adaptive behaviour. Sensory modification of the environment belongs to the organisational-pedagogical level, as its focus is not the child's sensory reaction, but the conditions in which this reaction arises, intensifies or weakens. This distinction determines the differing effectiveness of the approaches: the first approach primarily creates the conditions for participation through sensory regulation, whilst the second directly alters the accessibility of pre-school activities. Sensory integration therapy is most significant when limitations on participation are linked to the child's insufficient organisation of sensory responses. In such cases, difficulties in joining in with play, activities or communication arise not only due to external conditions, but also due to the complexity of processing stimuli, planning actions, regulating motor activity and maintaining a consistent behavioural response.

A.C. Bundy *et al.* (2019) provide grounds for interpreting sensory integration therapy as an approach in which sensorimotor experience is used to support praxis, adaptive behaviour and functional activity. In the context of early years education, this means that the therapy's impact on participation is predominantly indirect: it does not alter the structure of group activity but may increase a child's readiness to participate through improved self-regulation, greater stamina, a reduction in disorganised reactions and a more stable response to sensory stimuli. Sensory-adapted environmental modification operates on a different logic of effectiveness. Its impact begins not with individual change in the child, but with a change in the educational situation. If noise levels are reduced in the pre-school group, the space is organised, visual overload is reduced, clear transitions between activities are provided, and visual cues and sensory pauses are introduced, then participation becomes more accessible without waiting for the child to change first. This is the key pedagogical advantage of the environmental approach: it ensures engagement of the child within a real group context, where most difficulties arise not during the isolated performance of a task, but in interaction with the space, pace, noise, other children, instructions and routine.

A comparison of the two approaches has shown that the concept of "effectiveness" in this context cannot be limited to a general assertion regarding a reduction in sensory difficulties. In early years education, only an approach that influences a child's functional participation, adaptive behaviour and engagement in specific activities can be considered effective. Sensory integration therapy can enhance functional participation by improving internal conditions: the child organises movement better, maintains attention more easily, responds more consistently to stimuli, and recovers more quickly from sensory overload. Sensory modification of the environment enhances functional participation through external conditions: activities become shorter, clearer, more predictable, less overwhelming and open to different ways of responding. Therefore, one approach works primarily by developing the child's readiness to participate, whilst the other works by altering the situation of participation itself.

Distinguishing between these mechanisms is particularly relevant for interpreting the behaviour of children with ASD in a pre-school setting. If a child avoids group play, fails to respond to instructions, leaves the session, or displays sudden agitation during transitions between activities, such behaviour does not always indicate a lack of

motivation or defiance. It may be the result of sensory overload, a lack of predictability in the situation, or a mismatch between the mode of participation and the child's sensory profile. The model by W. Dunn (2014) of sensory profiles explains that children react differently to the intensity, novelty and quantity of stimuli: some children need a reduction in stimuli, some require additional sensorimotor organisation, and some need a clearer structure and repetition. Consequently, the pedagogical effectiveness of support depends not on the number of sensory tools used, but on the suitability of these tools to the child's profile and the situation in which they are participating. Therefore, sensory integration therapy and sensory modification of the environment have varying degrees of effectiveness across different outcome measures. In terms of adaptive behaviour, sensory integration therapy is substantial for development of a more organised response to sensory information. Its effects may manifest as a reduction in chaotic motor activity, an improved ability to plan actions, reduced reactivity to stimuli, and a greater willingness to complete tasks or move on to a new activity. Environmental modification also influences adaptive behaviour, but through a different mechanism: it reduces the number of situations in which the child is forced to respond to excessive or unpredictable stimuli. If the demands of the environment become manageable, the child's behaviour stabilises without additional pressure, restrictions or constant correction from an adult.

In terms of engagement, sensory adaptation of the environment has particularly significant educational potential. Engagement in early years education depends not only on whether a child can perform a specific action, but also on whether they can maintain a connection with the situation, the materials, the adults or their peers. Even with individual sensory support, a child may remain disengaged if the environment is overstimulated, instructions are given too quickly, transitions between activities are abrupt, and group interaction requires prolonged exposure to a noisy space. Environmental adaptation directly influences these conditions: it reduces background noise, structures expectations, provides the child with points of reference for orientation, and creates the opportunity to remain engaged for longer or to join in gradually. The professional guidelines by R. Watling *et al.* (2018) are substantial for distinguishing between the therapeutic and pedagogical logic of sensory support. In early years education practice, sensory integration is often equated with individual sensory exercises, objects or brief pauses. Such an equating narrows the scope of the approach and may create the false expectation that any sensory activity automatically increases the child's participation. A comparative analysis reveals something different: sensory integration therapy requires individual assessment, the professional selection of sensorimotor activities, and an emphasis on adaptive responses; environmental modification requires an analysis of group barriers, the coordination of pedagogical actions, and the systematic organisation of the environment. Both approaches have a sensory basis, but differ in their objectives, practitioners, mechanisms and outcome measures.

The National Institute for Health and Care Excellence (2013) (NICE) guidance emphasises the significance of the environmental dimension, as the sensory characteristics of children with autism are considered a factor that must be covered in day-to-day support. In a pre-school setting, the daily routine is crucial: the child encounters repetitive transitions, noise, physical proximity, alternating activities, group instructions, waiting their turn, and sharing materials. If these situations remain sensory-unsupported, even high-quality individual therapeutic support does not always translate into educational participation. If, however, the environment becomes predictable and less overwhelming, the child's abilities – developed or supported through individual interventions – are given the space to flourish. A comparative analysis has clarified the relationship between "internal" and "external" conditions for participation. Internal conditions relate to the child's ability to regulate sensory information, maintain a state of readiness, organise actions and respond adaptively. External conditions relate to the organisation of space, routine, stimulation, instructions and interaction. Sensory integration therapy primarily addresses internal conditions of participation; sensory modification of the environment addresses external ones. For a child with ASD, these levels do not exist in isolation: even a well-developed capacity for self-regulation can be disrupted in an overstimulating environment, whilst a well-adapted environment may be insufficient in the context of significant difficulties with sensory organisation. Therefore, the effectiveness of support increases when the individual and environmental levels are not pitted against one another. In an educational context, sensory adaptation of the environment has another substantial distinction: it alters not only the conditions for a single child, but also the overall quality of the group's organisation. Clear transitions reduced excessive noise, a clear spatial layout, measured instructions, visual support and the opportunity for brief rest periods are beneficial not only for children with ASD but also for other children who experience difficulties with attention, self-regulation, speech or behavioural adaptation. Consequently, environmental modification has a broader inclusive effect: it does not single out a child as "problematic" but changes the conditions of participation for the group as a whole. Sensory integration therapy, by contrast, remains more individually focused and requires a separate professional support pathway.

The assessment of effectiveness through functional participation, adaptive behaviour and engagement helps to avoid the oversimplification whereby effectiveness is equated solely with a reduction in undesirable behavioural manifestations. A reduction in crying, avoidance or motor agitation is only meaningful when accompanied by an increase in genuine participation: the child remains active for longer, responds more frequently to prompts, transitions more easily between routine activities, participates in shared play, completes daily tasks or maintains

contact with the teacher. In this context, sensory integration therapy and sensory modification of the environment can yield different but interrelated results: the former increases the child's readiness for action, whilst the latter makes the action itself more accessible. The identified difference between the approaches is significant for organising support in early years settings. If therapeutic logic alone dominates, the responsibility for participation is effectively shifted onto the child: it is expected that, following individual work, they will cope better in a group setting. If environmental logic alone dominates, the need of individual children for deeper, individualised support with sensory regulation may be underestimated (Division for Early Childhood, 2014; Watling *et al.*, 2018; Bundy *et al.*, 2019). A balanced model suggests a different approach: sensory integration therapy is viewed as a resource for developing individual regulation, whilst environmental modification is defined as a condition for transferring this regulation into daily participation. Such interaction is consistent with the functional nature of early years education, where children's development takes place not in an isolated therapeutic setting, but within recurring situations involving play, communication, daily life and learning. The comparative effectiveness of the two approaches lies not in the superiority of one over the other, but in the different ways in which they contribute to the child's participation. Sensory integration therapy provides an individual foundation for more organised behaviour and sensory regulation. Sensory modification of the educational environment ensures accessibility of activities, reduces overload and supports stability of engagement in a group context. For early years education, the most productive approach is a combination of these levels, as the functional participation of children with ASD depends both on the child's ability to regulate responses and on the environment's ability to avoid creating excessive sensory barriers. A summary of the differences between the two approaches is presented in Table 1.

Table 1. Comparative matrix of sensory integration therapy and sensory-adapted modification of the educational environment

Comparison criteria	Sensory integration therapy	Sensory-adapted modification of the educational environment	Estimated contribution towards the child's participation	Analytical conclusion
Main focus	Child's individual sensory regulation, the organisation of an adaptive response, praxis, and the ability to use sensory information for purposeful action	Physical, organisational and interactive conditions within the group: space, noise, lighting, schedule, transitions, instructions, visual aids	Therapy creates the internal conditions for participation; adapting the environment changes the accessibility of the activity	These approaches operate at different levels: child – environment
Influence mechanism	Selection of sensorimotor activities that support adaptive responses, motor planning, arousal regulation and behavioural organisation	Reduction of the intensity of stimuli, spatial organisation, predictability of transitions, and adaptation of participation methods	The first mechanism indirectly increases participation through self-regulation; the second directly lowers the barriers to participation	Effectiveness is achieved through a combination of internal regulation and external accessibility
Level of implementation	Primarily one-to-one or small-group sessions led by a qualified specialist	Day-to-day management of the group environment by teachers, an assistant, a psychologist and the support team	Therapy supports the child either outside or alongside group settings; the environment influences daily participation in the group	An environment-based approach offers greater pedagogical integration within the early years education system
Role of an educator	The teacher addresses the specialist's recommendations, observes how skills are applied in group activities, and ensures consistency in the learning environment	The teacher directly structures the space, the pace of activities, instructions, transitions, methods of communication and recovery	In an inclusive approach, the teacher becomes the key facilitator of accessible participation	Educational practice applies sensory support to real-life educational situations
Personalisation	It is based on the child's sensory profile, the nature of their responses to stimuli, their level of praxis, and their need for sensorimotor organisation	It is based on observing the group's barriers and selecting appropriate adaptations for specific situations of participation	Personalisation of therapy relates to the child's responses; the personalisation of the environment relates to the conditions in which the child participates	It is necessary to assess not only the child, but also the situation in which the difficulties arise
Functional participation	This is due to the child's improved ability to organise their actions, tolerate stimuli, complete tasks and switch between activities	Increases due to easier access to the activity, reduced cognitive load, visual cues and alternative ways of responding	Therapy fosters a willingness to participate; the environment makes participation a real possibility within a group setting	Greatest effect is expected when individual regulation is translated into adapted activity
Adaptive behaviour	Promotes a more organised response to sensory stimuli, a reduction in chaotic motor activity, and better regulation of responses	Reduces the number of situations in which a child's behaviour becomes disrupted due to excessive or unpredictable stimuli	Behaviour stabilises through addressing child's response and by reducing the sensory complexity of the situation	Behavioural difficulties should be viewed as the interaction between a child's profile and the group environment

Table 1. Continue

Comparison criteria	Sensory integration therapy	Sensory-adapted modification of the educational environment	Estimated contribution towards the child's participation	Analytical conclusion
Educational engagement	Helps children engage with an activity, material or adult for longer by improving their self-regulation	Directly promotes engagement through a predictable routine, step-by-step instructions, sensory breaks and a reduction in background noise	Engagement depends on the child's ability to maintain contact with the situation and on how well that situation is organised	Adapting to the environment is particularly relevant for consistent participation in a group setting
Risk of oversimplification	This may be mistakenly interpreted as referring to any sensory activities or objects without professional assessment or specific objectives	This may amount to isolated adjustments without a systematic analysis of the barriers, the regime and the child's involvement	Both approaches lose their effectiveness if they are applied as a set of techniques without any connection to participation	Criterion for selecting interventions should be a change in engagement, rather than the mere presence of sensory activity
Pedagogical implementation	Requires collaboration with a specialist and the application of recommendations to the group's day-to-day situations	Can be integrated into timetables, spaces, instructions, communication, group rules and team interaction	Environmental adaptations are more practical for day-to-day use in early years settings, but they do not replace professional support	Optimal support combines professional assessment with pedagogical implementation
Scope of application	Insufficient as standalone if the group environment remains sensory-overloaded and unpredictable	Inadequate as a sole intervention for significant individual difficulties with sensory regulation	Limitations of each approach are offset by their functional complementarity	Not competition between approaches is needed, but their coordination
Overall performance	Strengthens the individual prerequisites for participation: self-regulation, adaptive response, endurance, coordination of actions	Increases accessibility: reduces barriers, structures the environment, promotes predictability and flexible ways of inclusion	Functional participation, adaptive behaviour and engagement are enhanced when individual and environmental support are combined	Support for children with special educational needs should be structured as a system comprising "the child's profile – the group environment – the outcome of participation"

Source: compiled by the author based on National Institute for Health and Care Excellence (2013), W. Dunn (2014), R. Watling *et al*. (2018), A.C. Bundy et al. (2019)

As shown in Table 1, sensory integration therapy and sensory-adapted modifications to the educational environment have varying degrees of impact on the participation of children with ASD in pre-school education. Sensory integration therapy is primarily aimed at individual sensory regulation, adaptive response and the child's ability to organise their behaviour in conditions of sensory overload. In contrast, sensory-adapted environmental modification works by altering external conditions: space, routine, noise and light levels, the predictability of transitions, and how the child is included in activities. Therefore, the first approach creates the internal conditions for participation, whilst the second ensures the accessibility of the educational setting itself.

The comparison also shows that these approaches differ in terms of their pedagogical feasibility. Sensory integration therapy requires an individualised assessment, specialist training and targeted efforts on the child's sensory profile. Environmental modification can be integrated into the daily practice of early years settings through coordinated action by teachers, teaching assistants, psychologists, support specialists and parents. Its effectiveness is demonstrated by a reduction in sensory barriers, stabilisation of behaviour, and an expansion of the child's opportunities to participate in play, communication, activities and daily living tasks. Thus, the comparative effectiveness of sensory integration therapy and sensory-adapted environmental modification does not lie in the superiority of one approach over the other, but in their different functions within the support system for children with ASD. Sensory integration therapy provides an individualised approach to sensory regulation and adaptive behaviour, whilst environmental modification creates the conditions for transferring this regulation into everyday participation within a pre-school group. To enhance the functional participation, adaptive behaviour and educational engagement of children with ASD, the most appropriate approach is to ensure that these approaches complement one another within a unified psychological and pedagogical support system.

A model of a sensor-adaptive environment as an applied outcome of a comparative analysis

A sensory-adapted pre-school environment is conceived as a system for organising the participation of children with ASD, in which sensory needs are aligned with the demands of the educational context. This model is not merely a matter of adding individual sensory aids, as it is based on a shift in the conditions of participation: from definition the child's sensory needs to assessing their inclusion in real pre-school activities. Sensory integration therapy creates individual conditions for better self-regulation and adaptive behaviour; however, the child's day-to-day

participation takes place in a group setting, where there is noise, movement, instructions, changing activities, social interactions and routine requirements. Therefore, the applied model must combine an individual interpretation of sensory needs with the pedagogical configuration of the environment. In the Division for Early Childhood (2014), support for young children is viewed through a combination of assessment, environment, interaction, instruction, team collaboration and family involvement. For a sensory-adapted preschool environment, this means that support must be integrated into the natural situations of preschool life: play, mealtimes, getting dressed, waiting, group activities, going for a walk, and interacting with peers. The Convention on the Rights of Persons with Disabilities (2016) elaborates on this approach through practices in which a child receives support within their real-life environment, rather than being removed from it to conduct tasks in isolation. In this model, sensory adaptation becomes part of the daily educational routine, rather than an additional regime separate from group life.

The principles of the Universal Design for Learning Guidelines Version 3.0 provide a basis for viewing the preschool environment as a flexible system of ways to participate, interact and respond. For children with ASD, this means that the same educational activity may be accessible or inaccessible depending on how it is organised. A child may not be able to cope with prolonged group instruction but can participate through visual cues; avoid a noisy game but join in after a short sensory break; or not respond verbally but demonstrate a choice through an object, a gesture or an action. In this context, sensory adaptation does not simplify the content of pre-school education, but changes the way it is accessed. The flexibility of the environment ensures the possibility of participation without standardising the child's ways of responding. Resolution of the Cabinet of Ministers of Ukraine No. 530 (2019), Law of Ukraine No. 3788-IX (2024), Order of the Ministry of Education and Science of Ukraine No. 33 (2021) and the Comprehensive Programme for the Development of Pre-school Children with Autism "Rozkvit" (2013) form the regulatory and pedagogical framework within which a sensory-adapted environment can be justified as a component of inclusive pre-school education. The legislative framework defines pre-school education as a space for a child's development, upbringing, learning and socialisation. The procedures for organising inclusive education in pre-school educational establishments ensure a team-based approach to supporting children with special educational needs. The core component of pre-school education focuses the educational process on activity, interaction, independence and the inclusion of children in various types of activities. The "Rozkvit" programme emphasises the importance of structure, consistency and specially organised support for children with autism. Together, these documents highlight a sensory-adapted environment not as an optional extra, but as an integral part of the accessibility of pre-school education.

The model comprises four interrelated components. The first is the identification of the child's sensory needs. In educational practice, this does not involve clinical diagnosis, but rather the identification of conditions that hinder or facilitate participation: reactions to noise, light, touch, movement, smells, close contact, visual overload, novelty of the situation, and changes in activities. Sensory needs should be identified through behavioural manifestations in specific pre-school situations: the child leaves the circle during group play, covers their ears, avoids drawing due to the tactile sensation of the materials, does not join in group activities after a loud signal, or loses focus after several transitions between zones. Such an analysis links the sensory response not to an abstract characteristic of the child, but to a specific condition affecting participation. The second component is an analysis of the physical and organisational environment. Barriers may include not only the physical parameters of the space, but also the daily routine, the sequence of scheduled activities, the pace of instructions, waiting times, the way group interaction is organised, and the number of simultaneous demands placed on the child. High visual stimulation on the walls can make it difficult to maintain attention; a sudden transition from play to an activity can intensify protest reactions; the absence of clearly defined zones can increase disorientation; prolonged exposure to a noisy group can cause fatigue and avoidance. The environmental analysis is not aimed at identifying "problematic behaviour", but at identifying the conditions under which participation becomes excessively difficult for the child (World Health Organisation, 2007; Division for Early Childhood, 2014).

The third component involves the selection of environmental and pedagogical adaptations. In the model, these are viewed as targeted solutions addressing specific barriers. If participation is limited by noise overload, appropriate measures include reducing background noise, creating a quieter area, and gradually integrating the child into group activities. If difficulties arise during transitions, support is provided by a visual schedule, warning signals, and consistent rituals for the start and end of activities. If a child loses engagement due to complex verbal instructions, short phrases, demonstrations of the action, visual cues, or a choice between two options are used. If a child becomes quickly exhausted, sensory breaks, reducing the duration of participation with a gradual increase in time, and a sensory recovery zone are appropriate. Adaptations should correspond not to the general diagnosis of ASD, but to the specific link between sensory needs, environmental barriers, and expected participation. The fourth component is the assessment of the child's participation. The result of a sensory-adapted environment cannot be considered merely a reduction in external tension or short-term calming. The indicator of effectiveness is an increase in actual participation: the child remains active for longer, responds more frequently to prompts, transitions more easily between activities, joins in play, performs age-appropriate actions, uses accessible means of communication, and

maintains contact with the teacher or peers. The assessment should record not only the child's current behaviour, but also changes following adaptation to the environment: the duration of engagement, the number of activities in which the child participates, the level of adult support, the ability to return to a task after becoming overwhelmed, and the quality of interaction with the teacher or peers.

A sensory-adapted environment does not replace individual therapeutic support, nor does it transfer the role of a therapist to the teacher. Its purpose is to create conditions in which a child's sensory regulation can be supported in everyday situations within the nursery group. Even with individual work on sensory regulation, a child needs an environment in which established or supported skills can be used in real-life interactions. At the same time, environmental adaptations should not replace professional support in cases of significant sensory integration difficulties (Division for Early Childhood, 2014). The practical significance of the model lies in combining these levels: individual support facilitates regulation, whilst an adapted environment provides the opportunity to apply it within the group. For early years settings, such a model has organisational significance. It shifts sensory support from the level of situational response to that of pedagogical planning. The teaching team can not only respond to sensory overload once it occurs but also anticipate the conditions under which it is most likely to arise. This changes the nature of the task: instead of constantly correcting the child's behaviour, a structure is created in which the need for such corrections is reduced. The child's participation is supported through a clear environment, a consistent routine, coordinated adult actions, accessible means of communication, and a regulated sensory load.

The model also has inclusive potential for the group. The structured layout of the space, predictable transitions, visual cues, flexible instructions, sensory breaks and quiet zones can be beneficial not only for children with ASD. They support children with varying rates of development, speech difficulties, attention issues, heightened anxiety or low tolerance for group activities. Consequently, this sensory-adapted environment does not isolate a child with ASD as a separate case requiring support but rather enhances the overall accessibility of the pre-school environment. This approach aligns with the logic of inclusive education, in which adapting conditions is seen as a means of expanding participation, rather than as an exception to the general organisation of the group. The developed model links the child's sensory needs, environmental barriers, adaptive solutions, and the outcome of participation in group activities. This logic is illustrated in Figure 2.

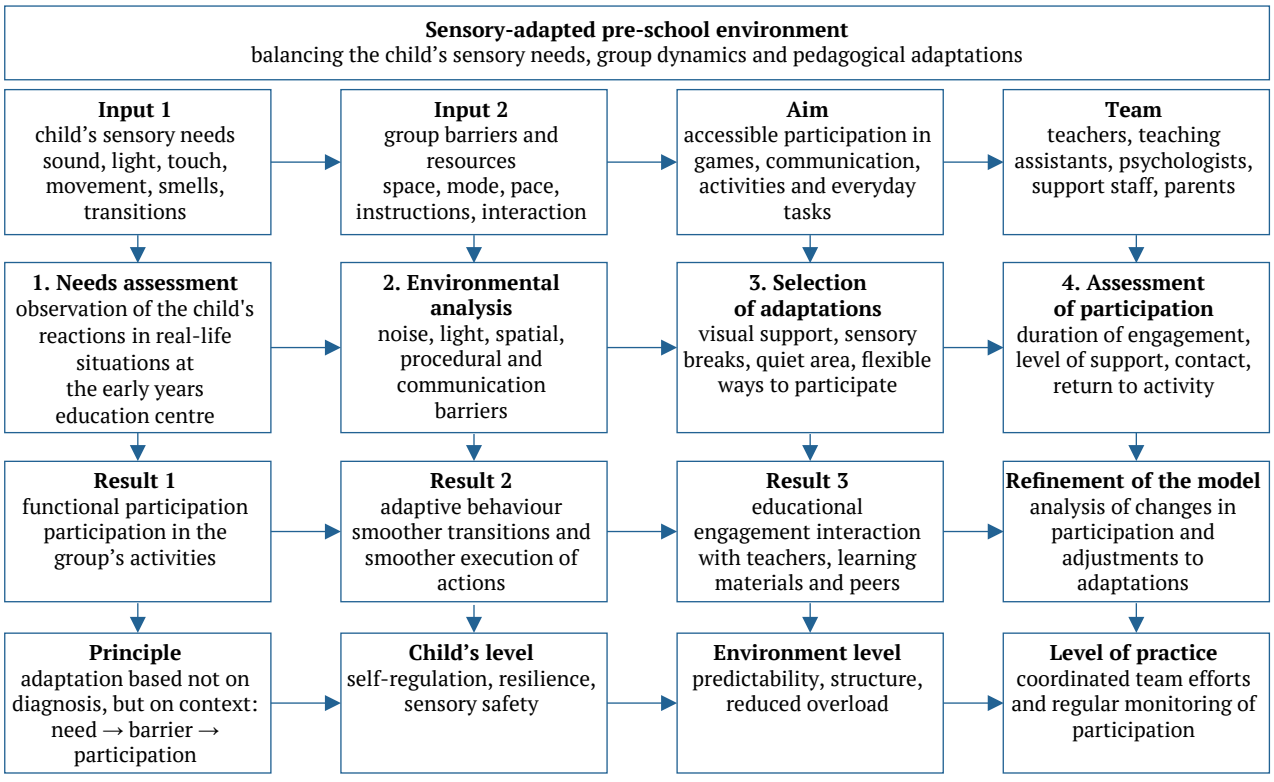

Figure 2. Model of a sensory-adapted pre-school environment to enhance the participation of children with ASD

Source: compiled by the author based on Comprehensive Programme for the Development of Pre-school Children with Autism "Rozkvit" (2013), Division for Early Childhood (2014), Convention on the Rights of Persons with Disabilities (2016), Resolution of the Cabinet of Ministers of Ukraine No. 530 (2019), Order of the Ministry of Education and Science of Ukraine No. 33 (2021), Law of Ukraine No. 3788-IX (2024)

As shown in Figure 2, the model of a sensory-adapted pre-school environment has a sequential structure: identification of the child's sensory needs, analysis of environmental barriers and resources, selection of pedagogical and environmental adaptations, and assessment of participation in pre-school activities. This structure shifts the focus from situational responses to behavioural manifestations to a preliminary analysis of the conditions in which these manifestations arise. Sensory support in this model is linked not to individual aids, but to the organisation of space, routines, instructions, transitions, communication and ways of including the child in group activities.

Thus, the model of a sensory-adapted environment puts into practice the findings of a comparative analysis of the two approaches. Sensory integration therapy provides an individualised level of support for sensory regulation, whilst environmental modification creates the conditions for this regulation to be utilised in the everyday life of a pre-school group. The practical value of the model lies in the fact that a child with ASD's participation is assessed not by formal presence or a short-term reduction in tension, but by their ability to engage in play, communication, activities, self-care and interaction with peers. In this approach, sensory adaptation takes on not a supportive but an organisational significance, as it influences the very structure of the educational situation: making it more predictable, less overwhelming, and more accessible to different ways of responding and participating. This demonstrates a sensory-adapted environment as a component of inclusive pre-school education, within which support for a child with ASD is provided not through isolation from group activities, but through changes to the conditions of their inclusion. The model also emphasises the importance of team coordination: the teacher, assistant, psychologist, support specialists, and parents should focus not only on reducing behavioural difficulties, but on expanding the child's actual participation in daily activities. Therefore, the result of a sensory-adapted environment is not merely the adaptation of the space or routine, but the child's more stable functional involvement in pre-school life.

DISCUSSION

The findings are consistent with studies in which the sensory characteristics of children with ASD are considered a factor influencing educational participation, attention and behavioural organisation. In a systematic review, C. Mallory & B. Keehn (2021) demonstrated that differences in sensory processing and attention in autism have implications for the academic environment, particularly regarding maintaining engagement in learning situations, responding to instructions and coping with sensory overload. These findings align with the results of the present study, in which a child's participation with ASD was defined as functional inclusion in educational, play, communicative and daily living activities under conditions of sensory accessibility of the environment. The conclusion regarding the need to distinguish between individual sensory support and environmental modification aligns with the results of a randomised study by E. Randell *et al.* (2022), in which sensory integration therapy for children with autism and sensory processing difficulties was evaluated as a separate structured intervention. In this study, sensory integration therapy was presented not as general sensory activity, but as a specifically organised therapeutic approach that supports the distinction between professional therapy and pedagogical environmental adaptations in a pre-school group. The findings regarding the identification of a child's sensory needs are consistent with the systematic review by N. Soler *et al.* (2023), which analysed tools for assessing sensory manifestations in children and adolescents with neurodevelopmental disorders based on adult reports. In the present study, sensory needs were also examined through observable manifestations in everyday functioning; however, the focus was shifted to pre-school settings: participation in play, response to a group environment, transitions between activities, following instructions, and interaction with the teacher or peers.

Conclusions regarding the role of sensory integration therapy are consistent with the systematic review by J. Camino-Alarcón *et al.* (2024), which summarised approaches to supporting children with ASD through sensory processing and sensory integration. In the present study, sensory integration therapy is also considered a professional approach to support; however, its role is clarified in the context of early years education: the therapeutic effect is linked to the development of the prerequisites for sensory regulation and adaptive response, whilst stable participation in the group also depends on the organisation of the educational environment. The findings regarding environmental adaptation are consistent with the brief review by K. Unwin *et al.* (2024), which formulated recommendations for supporting schoolchildren with sensory processing difficulties in educational settings. A comparison with the present study reveals a shared emphasis on the regulation of noise, lighting, spatial organisation, routine predictability and modes of participation. The difference lies in the pre-school focus of the present work, where the child's participation encompasses not only learning tasks but also play, self-care, communication and transitions between routines. The findings regarding the importance of specially organised sensory conditions align with the systematic review by S. Leonardi *et al.* (2025), which analysed the use of multisensory environments for children and adolescents on the autism spectrum. In the present study, the sensory-adapted pre-school environment is considered more broadly than a separate sensory room or an isolated recovery area. The focus is shifted to the day-to-day organisation of the group: space, routine, instructions, transitions, communication and ways of involving the child in activities. The significance of play as a space for participation corresponds to the review by L. López-Nieto *et al.* (2022), which examined play-based interventions for children with ASD. The findings of the study indicate that engagement in play depends not only on the social and communicative

structure of the game, but also on the sensory accessibility of the play situation. Noise, unpredictability, physical proximity or an overload of stimuli can limit participation even when there is an interest in the game.

The data on the experiences of autistic pupils in mainstream educational settings, summarised in the systematic review by F. Horgan *et al.* (2023), align with the findings of this study regarding the significance of environmental barriers to meaningful participation. That study demonstrated that inclusion in mainstream education does not guarantee a positive educational experience without incorporating social, sensory and organisational conditions, and the present study specifies this conclusion for the pre-school level through a model of a sensory-adapted environment. The inclusive dimension of support for children with ASD aligns with the scoping review by M.I. Vidal-Esteve & L. Kossyvaki (2023), which identified the key components of inclusive education for pupils with autism. The results of this study develop this logic in the direction of sensory accessibility, as a child's participation in a pre-school group depends not only on general inclusive principles, but also on the regulation of noise, space, routine, transitions and methods of pedagogical interaction. The issue of observing the social interactions of children with ASD in inclusive educational settings was addressed in the review by S. Tsamitrou & M.-H. Plumet (2024). This study highlighted the complexity of recording social interaction in a natural pre-school environment, which correlates with the study's conclusion regarding the need to assess participation not merely by the child's physical presence, but by the quality of their inclusion in play, communication, joint action and contact with peers. The issue of children with ASD transitioning from nursery to school, as analysed in the review by S. Chahboun *et al.* (2024), underscores the importance of predictability, consistent support and the readiness of the educational environment. The results of the present study complement this line of research in that a sensory-adapted environment in a pre-school setting is viewed as a condition not only for current participation but also for the development of more stable ways of responding to routines, instructions, transitions and group situations. The scoping review by K.L. Williams *et al.* (2024), which summarised the use of sensory adaptive environments for children with ASD, is directly relevant to the developed model. In the present study, this idea is specified through the pedagogical structure of the preschool environment: identifying sensory needs, analysing barriers, selecting adaptations, and assessing participation in educational, play, communication, and daily life activities. The issue of inclusive early education for children with autism, presented in the study by M. Siller *et al.* (2021), correlates with the findings of the present study regarding the combination of progress in inclusion with the presence of persistent barriers. The aforementioned study emphasised the need for further development of inclusive practices in early childhood, and the results obtained clarify one of the mechanisms of such development – sensory adaptation of the educational environment as a prerequisite for the functional participation of children with ASD.

The sensory parameters of the physical educational environment, summarised in the systematic review by D. Adams *et al.* (2025), correspond with the findings of this study regarding the relationship between environmental characteristics, learning and the well-being of children with ASD. In the present study, this logic is applied specifically to early years education: noise, lighting, spatial density, visual richness and routine predictability are considered not as background conditions, but as factors influencing a child's functional participation, adaptive behaviour and engagement. A systematic review by A. Piller *et al.* (2025), focusing on sensory-oriented interventions for children and young people from 2015 to 2024, aligns with the conclusion regarding the need to distinguish between different types of sensory support. In the present study, this distinction takes on pedagogical significance: sensory integration therapy is linked to individual sensory regulation, whereas sensory-adapted environmental modification is linked to the accessibility of group activities, the organisation of routines and the reduction of barriers to participation. The impact of the quality of the school environment on the behaviour of children with ASD, examined in the systematic review by R. Al Qutub *et al.* (2024), correlates with findings regarding the role of the physical and organisational environment in stabilising a child's behaviour. In the present study, this relationship is applied to the pre-school context, where behavioural manifestations are viewed not merely as an individual characteristic of the child, but as the result of the interplay between sensory input, spatial organisation, the pace of activities, and the nature of pedagogical support.

Approaches to inclusion and social participation of pupils with autism, summarised in J. Lüddeckens' (2021) review, correspond to the conclusion that the formal inclusion of a child in the educational environment is insufficient. In the present study, this approach is refined through the sensory dimension of participation: a child may be physically present in a group but remain under-engaged if noise, unpredictability, complex instructions, or an insufficiently structured space limit the possibility of interaction. The social participation of pupils with ASD in mainstream settings, analysed in the study by C. Mamas *et al.* (2021), aligns with the findings of this study regarding the distinction between presence and actual participation. For early years education, this distinction has an additional sensory dimension, as engagement in play, communication and collaborative activities depends on the environment's ability to support self-regulation, reduce sensory overload and provide the child with accessible ways to participate. The accessibility of care and early support services for children with disabilities aged 0 to 5 years, as examined in the scoping review by F. Routhier *et al.* (2025), is consistent with the findings of this study regarding the importance of the early and pre-school environment for a child's participation. In this study, accessibility is specified in terms of sensory, organisational and pedagogical

parameters: a child requires not only access to the facility, but also conditions under which participation in everyday activities is not hindered by overload, unpredictability or a lack of adapted support. The systematic review by E. Leifler *et al.* (2021), dedicated to adaptations of the learning environment for children on the autism spectrum in mainstream schools, aligns with the conclusion regarding the importance of environmental solutions for educational participation. In the present study, this logic is adapted to the pre-school level, where environmental changes should encompass not only learning tasks but also play, self-care, transitions, communication, sensory breaks and the organisation of daily group life.

A comparison with previous studies shows that sensory support for children with ASD requires analysis at two levels: individual sensory regulation and the organisation of the educational environment. The first level relates to professional support for adaptive responses, behavioural stability and functional activity. The second level relates to the modification of the space, routine, instructions, transitions and modes of participation, which reduce sensory barriers in the pre-school group.

CONCLUSIONS

The study found that the participation of children with ASD in pre-school education should be viewed as the result of the interaction between sensory processing, self-regulation, adaptive behaviour and the accessibility of the educational environment. The study determined that sensory difficulties take on pedagogical significance when they limit a child's ability to participate in play, communication, activities, self-care, transitions between routines, and interaction with adults and peers. This has made it possible to define the participation of a child with ASD not as a formal presence in the group, but as functional inclusion in everyday pre-school activities at a level accessible to them. The main sensory factors influencing the involvement of a child with ASD in pre-school education have been identified: characteristics of sensory processing, level of self-regulation, capacity for adaptive behaviour, presence of environmental barriers, predictability of the routine, spatial organisation, intensity of noise and light exposure, method of presenting instructions, and the possibility of flexible participation in activities. The study demonstrated that behavioural manifestations which may be perceived as refusal to participate or low motivation often reflect a mismatch between the child's sensory needs and the conditions of the pre-school environment. A comparative analysis has shown that sensory integration therapy and sensory-adapted modification of the educational environment have different mechanisms of influence on the functional participation, adaptive behaviour and educational engagement of children with ASD. Sensory integration therapy focuses primarily on individual support: sensory regulation, the organisation of adaptive responses, praxis and behavioural stability. Sensory-adapted environmental modification operates at the level of the educational setting: it reduces sensory barriers, increases predictability, structures the space, regulates the intensity of stimuli and creates conditions for different modes of participation.

The study confirmed that these approaches are not interchangeable. Sensory integration therapy fosters the internal prerequisites for participation by supporting individual sensory regulation, whereas environmental modification ensures the accessibility of the preschool activity itself. Individual therapeutic work can promote better self-regulation and adaptive behaviour, but its impact is limited if the group environment remains overwhelming or unpredictable. At the same time, environmental adaptations create the conditions for daily participation, but do not eliminate the need for individual children to receive specialised support for sensory regulation. The developed model of a sensory-adapted pre-school environment encompasses four interrelated components: identifying the child's sensory needs, analysing the physical and organisational environment, selecting pedagogical and environmental adaptations, and assessing the child's participation in educational, play, communication and daily living activities. The effectiveness of such a model should be assessed not by a short-term reduction in tension, but by an expansion of genuine participation: the duration of engagement, the ability to return to activity after being overwhelmed, the level of independence, the quality of contact with the teacher and peers, and participation in various types of pre-school activities.

The findings provide grounds for considering a sensory-adapted environment as a component of inclusive pre-school education, focused on planning the conditions for participation in advance, rather than merely reacting to behavioural difficulties as they arise. This approach helps to reduce sensory overload, increase the predictability of the educational process, stabilise behaviour, and expand the child's opportunities to participate in group life without being isolated from shared activities. The limitations of the study are related to its theoretical and analytical nature and the lack of empirical testing of the proposed model in early years settings. Further research on this topic should verify the model of a sensory-adapted environment in Ukrainian early years settings, developing indicators to assess the participation of children with ASD in pre-school activities, comparing the effectiveness of specific environmental adaptations, and studying the interaction between the teaching team and parents in supporting the child's sensory needs.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

REFERENCES

[1] Abdou, H.M., Elsayyad, N.A., & Hafez, H.M. (2026). From sensory design to regulatory architecture: A systematic review of inclusive early childhood learning environments for ASD, ADHD, and Down syndrome. *Architecture*, 6(2), article number 64. doi: 10.3390/architecture6020064.

[2] Adams, D., Dargue, N., Malone, S., Carroll, A., & Simpson, K. (2025). Are sensory aspects of the built school environment associated with learning or well-being outcomes for autistic students? A systematic review. *International Journal of Inclusive Education*. doi: 10.1080/13603116.2025.2589290.

[3] Al Qutub, R., Luo, Z., Vasilikou, C., Tavassoli, T., Essah, E., & Marcham, H. (2024). Impacts of school environment quality on autistic pupil's behaviours: A systematic review. *Building and Environment*, 265, article number 111981. doi: 10.1016/j.buildenv.2024.111981.

[4] Ayres, A.J. (1972). *Sensory integration and learning disorders*. Los Angeles: Western Psychological Services.

[5] Ayres, A.J., & Robbins, J. (2005). *Sensory integration and the child: Understanding hidden sensory challenges*. Los Angeles: Western Psychological Services.

[6] Basenko, L.I., & Tymruk-Skoropad, K.A. (2024). Family-oriented physical therapy program for children with autism spectrum disorders. *Art of Medicine*, 3(31), 189-195. doi: 10.21802/artm.2024.3.31.189.

[7] Bocheliuk, V.Y., Panov, M.S., & Spytska, L.V. (2022). Classification of autism spectrum disorders. *Prospects and Innovations in Science*, 9(14), 530-540. doi: 10.52058/2786-4952-2022-9(14)-530-540.

[8] Bocheliuk, V.Y., Panov, M.S., & Turubarova, A.V. (2021). Psychocorrection of autism in Ukraine. *Prospects and Innovations in Science*, 4(4), 318-329. doi: 10.52058/2786-4952-2021-4(4)-318-329.

[9] Bundy, A.C., Lane, S.J., & Murray, E.A. (2019). *Sensory integration: Theory and practice*. Philadelphia: F.A. Davis Company.

[10] Camino-Alarcón, J., Robles-Bello, M.A., Valencia-Naranjo, N., & Sarhani-Robles, A. (2024). A systematic review of treatment for children with autism spectrum disorder: The sensory processing and sensory integration approach. *Children*, 11(10), article number 1222. doi: 10.3390/children11101222.

[11] Chahboun, S., Lefstad, K.T., Pettersen, M., Åmot, I., & Thwala, S. (2024). Building bridges! Children with autism spectrum disorder and their transition from kindergarten to school: A scoping review. *Neuropsychiatric Disease and Treatment*, 20, 1823-1835. doi: 10.2147/NDT.S466108.

[12] Chen, Y., Xi, Z., Saunders, R., Simmons, D., Totsika, V., & Mandy, W. (2024). A systematic review and meta-analysis of the relationship between sensory processing differences and internalising/externalising problems in autism. *Clinical Psychology Review*, 114, article number 102516. doi: 10.1016/j.cpr.2024.102516.

[13] Comprehensive Programme for the Development of Pre-school Children with Autism "Rozkvit". (2013). Retrieved from https://surl.li/iwxmqa.

[14] Convention on the Rights of Persons with Disabilities. (2016, November). Retrieved from https://surl.li/mpmnts.

[15] Division for Early Childhood. (2014). *DEC recommended practices in early intervention/early childhood special education.* Retrieved from https://www.dec-sped.org/dec-recommended-practices.

[16] Dunn, W. (2014). *Sensory profile 2: User's manual*. Bloomington: Pearson.

[17] European Code of Conduct for Research Integrity. (2023). Retrieved from https://allea.org/code-of-conduct/.

[18] Holod, N.R., Nesterchuk, N.Ye., & Yuskevych, M.V. (2026). Theoretical and methodological foundations of occupational therapy intervention for children with autism spectrum disorders. *Art of Medicine*, 1(37), 18-24. doi: 10.21802/artm.2026.1.37.18.

[19] Horgan, F., Kenny, N., & Flynn, P. (2023). A systematic review of the experiences of autistic young people enrolled in mainstream second-level (post-primary) schools. *Autism*, 27(2), 526-538. doi: 10.1177/13623613221105089.

[20] Hryhus, I.M., & Kruk, I.M. (2022). Sensory integration of children with early autism. *Rehabilitation and Recreation*, 11, 102-110. doi: 10.32782/2522-1795.2022.11.12.

[21] Kasianenko, O. (2025). A comprehensive approach to sensory integration in early intervention programs for children with autism spectrum disorders. *Exceptional Child: Teaching and Upbringing*, 119(3), 76-96. doi: 10.33189/ectu.v119i3.266.

[22] Law of Ukraine No. 3788-IX "On Pre-school Education". (2024, June). Retrieved from https://zakon.rada.gov.ua/laws/show/3788-20#Text.

[23] Leifler, E., Carpelan, G., Zakrevska, A., Bölte, S., & Jonsson, U. (2021). Does the learning environment "make the grade"? A systematic review of accommodations for children on the autism spectrum in mainstream school. *Scandinavian Journal of Occupational Therapy*, 28(8), 582-597. doi: 10.1080/11038128.2020.1832145.

[24] Leonardi, S., Keller, R., De Domenico, C., Costanzo, V., Vicari, S., & Mazzone, L. (2025). The use of multisensory environments in children and adolescents on the autism spectrum: A systematic review. *Autism*, 29(8), 1921-1938. doi: 10.1177/13623613251320424.

[25] López-Nieto, L., Compañ-Gabucio, L.M., Torres-Collado, L., & Garcia-de la Hera, M. (2022). Scoping review on play-based interventions in autism spectrum disorder. *Children*, 9(9), article number 1355. doi: 10.3390/children9091355.

[26] Lüddeckens, J. (2021). Approaches to inclusion and social participation in school for adolescents with autism spectrum conditions (ASC): A systematic research review. *Review Journal of Autism and Developmental Disorders*, 8(1), 37-50. doi: 10.1007/s40489-020-00209-8.

[27] Mallory, C., & Keehn, B. (2021). Implications of sensory processing and attentional differences associated with autism in academic settings: An integrative review. *Frontiers in Psychiatry*, 12, article number 695825. doi: 10.3389/fpsyt.2021.695825.

[28] Mamas, C., Daly, A.J., Cohen, S.R., & Jones, G. (2021). Social participation of students with autism spectrum disorder in general education settings. *Learning, Culture and Social Interaction*, 28, article number 100467. doi: 10.1016/j.lcsi.2020.100467.

[29] Mamicheva, O., & Butko, Yu. (2025). Sensory integration disorders in children with autism spectrum disorders: Causes, manifestations and correctional strategies. *Exceptional Child: Teaching and Upbringing*, 120(4), 188-206. doi: 10.33189/ectu.v120i4.296.

[30] National Institute for Health and Care Excellence. (2013). *Autism spectrum disorder in under 19s: Support and management*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK571989/.

[31] Order of the Ministry of Education and Science of Ukraine No. 33 "Core Component of Pre-school Education (State Standard for Pre-school Education): New Edition". (2021, January). Retrieved from https://zakon.rada.gov.ua/rada/show/v0033729-21#Text.

[32] Piller, A., McHugh Conlin, J., Glennon, T.J., Andelin, L., Auld-Wright, K., Teng, K., & Tarver, T. (2025). Systematic review of sensory-based interventions for children and youth (2015-2024). *Frontiers in Pediatrics*, 13, article number 1720179. doi: 10.3389/fped.2025.1720179.

[33] Randell, E., *et al.* (2022). Sensory integration therapy for children with autism and sensory processing difficulties: The SenITA RCT. *Health Technology Assessment*, 26(29). doi: 10.3310/TQGE0020.

[34] Resolution of the Cabinet of Ministers of Ukraine No. 530 "On the Approval of the Procedure for the Organisation of Inclusive Education in Pre-school Institutions". (2019, April). Retrieved from https://zakon.rada.gov.ua/laws/show/530-2019-%D0%BF#Text.

[35] Routhier, F., *et al.* (2025). Accessibility of childcare services for children with disabilities aged 0 to 5 years: A scoping review of promising solutions. *Child: Care, Health and Development*, 51(3), article number e70087. doi: 10.1111/cch.70087.

[36] Siller, M., Morgan, L., Wedderburn, Q., Fuhrmeister, S., & Rudrabhatla, A. (2021). Inclusive early childhood education for children with and without autism: Progress, barriers, and future directions. *Frontiers in Psychiatry*, 12, article number 754648. doi: 10.3389/fpsyt.2021.754648.

[37] Soler, N., Cordier, R., Perkes, I., Dale, R.C., & Bray, P. (2023). Proxy-reported sensory measures for children and adolescents with neurodevelopmental disorders: A systematic review. *Developmental Medicine & Child Neurology*, 65(2), 185-199. doi: 10.1111/dmcn.15367.

[38] Tsamitrou, S., & Plumet, M.-H. (2024). The importance and challenges of observing social interactions in autistic preschoolers during inclusive educational settings: A scoping review. *Autism & Developmental Language Impairments*, 9. doi: 10.1177/23969415241227077.

[39] Unwin, K., Wales, K., Johnson, T., Lane, A.E., Brooks, R., & Brown, T. (2024). Evidence synthesis and clinical recommendations for supporting school students with sensory processing challenges: A rapid review. *American Journal of Occupational Therapy*, 78(6), article number 7806205010. doi: 10.5014/ajot.2024.050766.

[40] Vidal-Esteve, M.I., & Kossyvaki, L. (2023). The pillars of inclusive education for students with ASD: A scoping review based on the case of Spain. *International Journal of Developmental Disabilities*, 70(8), 1333-1342. doi: 10.1080/20473869.2023.2173837.

[41] Watling, R., Miller Kuhaneck, H., Parham, L.D., & Schaaf, R. (2018). *Occupational therapy practice guidelines for children and youth with challenges in sensory integration and sensory processing*. Bethesda: AOTA Press.

[42] Williams, K.L., Dumont, R.L., Schiano, N.R., Lawlor, K.F., Greaney, K., Kim, R., Duryea, E., Rios-Vega, L., Simms, K.D., & Schaaf, R.C. (2024). Use of sensory adaptive environments with autistic children: A scoping review. *Research in Autism Spectrum Disorders*, 114, article number 102362. doi: 10.1016/j.rasd.2024.102362.

[43] World Health Organization. (2007). *International classification of functioning, disability and health: Children and youth version: ICF-CY*. Retrieved from https://iris.who.int/server/api/core/bitstreams/81e04699-2930-4da2-ac97-76725c7dcc07/content.

[44] World Health Organization. (2023). *Global report on children with developmental disabilities: From the margins to the mainstream*. Retrieved from https://www.who.int/publications/i/item/9789240080539.

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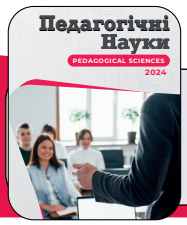
Сенсорна інтеграція та сенсорно-адаптоване середовище: залученість дітей з розладами аутистичного спектру до дошкільної освіти

Анотація. Метою дослідження було порівняння сенсорної інтеграційної терапії та сенсорно-адаптованої модифікації освітнього середовища як підходів до підвищення участі дітей з розладами аутистичного спектру в дошкільній освіті. Дослідження виконано як теоретико-аналітичне опрацювання наукових, професійних, міжнародних і нормативно-освітніх джерел із подальшим зіставленням двох підходів за їхнім впливом на функціональну участь, адаптивну поведінку й освітню залученість дитини. Встановлено, що участь дитини з розладами аутистичного спектру в дошкільній освіті не може ототожнюватися з формальною присутністю у групі, оскільки вона передбачає реальне включення в освітні, ігрові, комунікативні й побутові активності. Визначено, що сенсорні труднощі набувають педагогічного значення тоді, коли впливають на саморегуляцію, поведінкову стабільність, контакт із педагогом і однолітками, здатність реагувати на інструкції та підтримувати участь у групових ситуаціях. Показано, що сенсорна інтеграційна терапія діє переважно на індивідуальному рівні, формуючи передумови для сенсорної регуляції, адаптивної відповіді, праксису й організації поведінки. Сенсорно-адаптована модифікація освітнього середовища діє на рівні освітньої ситуації: зменшує сенсорні бар'єри, підвищує передбачуваність режиму, структурованість простору, доступність інструкцій і гнучкість способів участі. Встановлено, що ці підходи не є взаємозамінними: перший формує внутрішні передумови участі, другий забезпечує доступність самої дошкільної активності. Сформовано модель сенсорно-адаптованого дошкільного середовища, що охоплює визначення сенсорних потреб дитини, аналіз фізичного й організаційного середовища, добір педагогічних і середовищних адаптацій, оцінювання участі дитини в щоденних активностях. Практична значущість результатів полягає в можливості використання запропонованої моделі для організації інклюзивного дошкільного середовища, у якому підтримка дитини з розладами аутистичного спектру спрямовується на розширення функціональної участі, адаптивної поведінки й освітньої залученості, а не лише на зменшення окремих поведінкових труднощів

Ключові слова: функціональна участь; адаптивна поведінка; освітня доступність; педагогічна підтримка; середовищні бар'єри; саморегуляція; інклюзивна практика



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Readiness of students in artistic specialities for interpretative activities in the process of vocal and choral training

Abstract. The study aimed to identify the characteristics of how students in arts-related degree programmes develop their readiness for interpretative activities during vocal and choral training. The research methodology was based on a pedagogical experiment involving 72 second- to fourth-year students at Dragomanov Ukrainian State University, divided into a control group and an experimental group. Assessment was conducted by five experts on a 10-point scale based on seven practical tasks that tested the students' technical, analytical, performance and reflective skills. The results of the study showed that at the baseline stage, the control and experimental groups had comparable initial scores: the difference between the average scores across all practical tasks did not exceed 0.1-0.2 points. The study determined that students were dependent on an external performance model, lacked sufficient integration of score analysis with practical performance, and had difficulty justifying interpretative decisions. Following the introduction of a system of interpretation-oriented tasks, the experimental group recorded a higher increase in scores compared to the control group. The greatest improvement was observed in the justification of performance decisions and reflective commentary after performance – 3.1 points each; in the varied performance of a fragment – 2.9 points; and in the analysis of a score fragment and comparison of performance versions – 2.6 points each. In the control group, the improvement remained moderate, at 0.6-0.7 points, whereas in the experimental group it ranged from 2.1 to 3.1 points. The results confirmed that interpretative analysis of the score, comparison of performance versions, varied performance, group discussion, work in small ensemble groups and reflective analysis after performance contributed to the development of students' interpretative independence, analytical justification of performance decisions and ensemble coordination. The practical significance of the study is determined by the possibility of using the developed recommendations for organising vocal and choral training for students of arts specialisations in higher education institutions

Keywords: artistic expression; ensemble interaction; phrasing; reflective commentary; dynamic flexibility

INTRODUCTION

The research relevance is determined by the need to update the vocal and choral training of students in arts disciplines. In professional music education, performance skills can no longer be limited to the technically accurate reproduction of the musical score. For future specialists, the ability to comprehend the artistic content of a work, select convincing means of expression, justify interpretative decisions and convey the expressive content of music during

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collective performance became crucial. The research problem lay in the need to ascertain how students' readiness for interpretative activity is formed within vocal and choral training. Exploration of this topic was relevant to determine which components of such readiness required targeted development, which pedagogical conditions facilitated the transition from reproductive performance to independent artistic interpretation, and how technical, analytical, performance and reflective training could be combined into a single educational model.

Certain aspects of developing interpretative readiness among students of arts disciplines have been explored in studies focusing on practice-oriented arts education, vocal and choral training, musical analysis, and the development of independent performance skills. Of particular relevance to this issue was the position of R. Nelson (2022) and R.D. Stewart (2021), who substantiated the value of practice as a means of exploratory learning in the arts. In the context of this study, this position was fundamental, as readiness for interpretative activity was viewed not as a body of declarative knowledge, but as a skill manifested in practical performance, analysis, justification of performance decisions, and reflection following performance. Directly relevant to the research topic was the work by X. Xiaolu (2023), which examined the assessment of the development of interpretative skills among arts faculty students in the process of vocal and choral education. The author emphasised the need to assess not only vocal-technical skills, but also students' ability to interpret the artistic content of a piece, analyse musical material and realise interpretative intent in performance. The issue of students' initial readiness for music education and choral activities was raised in studies by D.A. Boylan (2024) and R. Nethsinghe *et al.* (2025). The author analysed school choir teachers' perceptions of the level of preparedness of music education students for professional training. Within this context, it became necessary to recognise that a future specialist's readiness is not limited to the possession of basic performance skills. It also encompasses the ability to work independently with musical material, professional communication, aural control and conscious participation in ensemble performance. The development of the artistic and creative experience of future music teachers was highlighted by H. Jingyi (2022). The study emphasised that the training of future music specialists requires pedagogical conditions that stimulate not the passive reproduction of teaching material, but the active creation of artistic concepts. The significance of musical-stylistic and dramaturgical analysis for performance interpretation was explored in depth in the work by B. Almén (2008), devoted to the theory of musical narrative. The author considered a musical work as a structured artistic process in which meaning is formed through the development, tension, contrasts and interaction of musical elements. The contemporary context of choral performance was outlined in the studies by O. Batovska *et al.* (2023) and H. Jiang & W. Wu (2025). The authors demonstrated that the development of choral art is linked to increasing demands on artistic mobility, ensemble cohesion, stylistic sensitivity and the collective's ability to deliver a cohesive performance. The issue of combining vocal technique with artistic expression was explored in detail by Y. Dai (2024). The author demonstrated that the quality of a vocal performance depends on the integration of technical training with a conscious, emotionally and artistically informed interpretation of the musical content. Within the scope of this study, this perspective was particularly significant, as the initial assessment of students revealed a gap between the technical accuracy of performance and the ability to create an artistic image in a reasoned manner. The practical aspect of vocal and choral training was also highlighted in the study by M. Bertrand (2022), dedicated to vocal pedagogy in choral rehearsals. The author emphasised the importance of systematic work on vocal skills without detaching them from ensemble sound, rehearsal interactio n and the artistic result. The issue of artistic and pedagogical communication in vocal and choral activities was explored by L. Vasylevska-Skupa *et al.* (2022). The authors viewed vocal and choral activities as an environment for the development of professional skills among future music teachers, where not only vocal skills were relevant, but also the ability to convey artistic content, interact with the group and establish pedagogically appropriate communication. O. Batovska *et al.* (2022) examined vocal and choral art through the prism of the relationship between tradition and innovation. The authors defined this phenomenon as a multi-faceted process encompassing the preservation of classical principles of academic vocal performance, their synthesis with new artistic practices, and the renewal of the genre and technological means of contemporary choral art.

Despite a significant body of research, the issue of art students' readiness for interpretative activities within the context of vocal and choral training has remained insufficiently systematised. Existing works have predominantly focused on individual aspects of professional training: the development of creative thinking, artistic and communicative skills, vocal and performance skills, or pedagogical competence. At the same time, the structure of interpretative readiness specifically within the context of vocal and choral activity, as well as the pedagogical conditions for its development based on a combination of motivational, analytical, performance and reflective components, had not been sufficiently explored. The relationship between the artistic and analytical interpretation of a work and the practical realisation of the interpretative concept in a student's performance also required further clarification.

The study aimed to identify the characteristics of developing students' readiness for interpretative activities in the field of arts during vocal and choral training. To achieve this aim, the following research objectives were set: to develop a set of practical tasks for assessing students' readiness for interpretative activity; to determine the initial level of development of students' technical, analytical, performance and reflective skills; to test the effectiveness of a system of interpretation-oriented teaching techniques

in the process of vocal and choral training; to develop practical recommendations for the development of interpretative skills among students of arts disciplines.

MATERIALS AND METHODS

The study was organised as an educational experiment conducted at Dragomanov Ukrainian State University. It involved 72 second- to fourth-year students specialising in 014.13 Secondary Education (Music) and 025 Music, divided into control (CG) and experimental groups (EG). The participants included 50 female students and 22 male students. The study included students from arts education programmes with basic vocal and choral training and a willingness to perform diagnostic and educational-creative tasks throughout the experiment. Students with no experience of vocal and choral performance, who had missed more than a third of classes, or who had not taken the retake assessment, were not included. Participation in the study was voluntary, and the results were analysed in aggregate form whilst maintaining confidentiality in accordance with the standards of the World Medical Association (2013). The sample was divided into a control and an experimental group of 36 people each, taking into account the course, prior training and experience in vocal and choral activities. The control group studied using the traditional model, whilst the experimental group was given a system of tasks aimed at developing interpretative readiness.

The assessment phase was conducted with the aim of determining the students' initial level of readiness for interpretative work and to establish the baseline level of their performance and interpretative skills. To this end, a set of seven practical diagnostic tasks was developed, designed to assess not the students' subjective attitude towards interpretation, but the actual level of development of the relevant skills. The set of diagnostic tasks covered seven areas: performance of a vocal-choral excerpt, analysis of the score, justification of performance decisions, varied performance of a single excerpt, comparison of two performance versions, small vocal group work, and a brief reflective commentary following the performance. This structure was used for the assessment of technical readiness, artistic and analytical thinking, flexibility of interpretation, ensemble interaction, and the student's ability to relate the result of the performance to the chosen artistic concept. The assessment was conducted by five experts – lecturers in specialist music disciplines with experience in vocal and choral training. Each task was assessed independently, after which an average mark was determined. A 10-point scale was used: 1-3 points corresponded to a low level, 4-7 points to an average level, and 8-10 points to a high level. The assessment criteria were technical quality of performance, artistic expressiveness, interpretation of work's genre and style, the soundness of interpretative choices, dynamic flexibility, phrasing logic, ensemble interaction and self-awareness. Next was the formative phase. The control group trained according to the traditional model of vocal and choral training, focused on repertoire learning, intonation and rhythmic accuracy, diction, breathing, ensemble cohesion and following the conductor's instructions. Interpretative decisions were predominantly dictated by the teacher or conductor. In the experimental group, a system of techniques aimed at developing interpretative skills was added to the traditional work: score analysis, comparison of performance versions, modelling of interpretative concept, varied phrasing, dynamic reinterpretation of fragments, collective discussion and reflective analysis after performance. Students identified the artistic content of the piece, analysed its dramaturgy, justified their choices regarding dynamics, tempo, articulation and timbral balance, worked in small vocal groups and, after the performance, assessed how well the result matched the chosen interpretative concept. Next was the control phase. The re-assessment was conducted using the same seven practical tasks, criteria and 10-point scale as in the baseline phase. It was conducted by the same panel of experts, which ensured that the results of the control and experimental groups could be compared accurately.

Data analysis involved calculating average scores, comparing pre- and post-training indicators, and determining improvements in specific tasks. The effectiveness of the formative influence was assessed based on changes in technical quality of performance, artistic expressiveness, analytical justification of performance decisions, dynamic flexibility, phrasing, ensemble interaction and reflexivity. Based on the results obtained, practical recommendations for the organisation of vocal and choral training were developed, aimed at combining technical performance, interpretative analysis, ensemble interaction, and reflective interpretation of the musical work.

RESULTS

Developing students' interpretative skills in vocal and choral training. As part of an educational experiment, an assessment was conducted to determine the level of preparedness of art students for interpretative activities within the context of vocal and choral training. The study comprised diagnostic, formative and summative stages and involved students completing a set of practical tasks designed to assess the technical, analytical, performance and reflective components of interpretative training. Analysis of the results obtained made it possible to trace the dynamics of changes in the control and experimental groups, identify the characteristics of the development of students' performance and interpretative skills, and assess the effectiveness of the pedagogical techniques applied in the vocal and choral training system. During the descriptive phase of the study, an initial assessment was conducted to determine the level of students' readiness for interpretative activity within the context of vocal and choral training. The assessment was based on seven practical tasks designed to evaluate the technical, analytical, performance and reflective components of the students' interpretative training. The initial assessment

aimed to determine the baseline level of interpretative skills and to establish the comparability of the control and experimental groups before the start of the formative intervention (Table 1).

Table 1. Results of the initial assessment of students in the control and experimental groups on practical tasks

Practical task	CG (average score)	EG (average score)	Difference
Performance of a vocal and choral piece	6.2	6.1	0.1
Analysis of a musical excerpt	5.7	5.5	0.2
Reasons for the enforcement order	5.4	5.2	0.2
Different interpretation of the passage	5.3	5.1	0.2
Comparison of live versions	5.8	5.6	0.2
Ensemble interaction	6.4	6.3	0.1
Reflective commentary following the performance	5.1	5.0	0.1

Note: the assessment was conducted on a 10-point scale, where 1-3 points corresponded to a low level of development of the indicator, 4-7 points to an average level, and 8-10 points to a high level

Source: compiled by the authors

The results of the initial assessment showed that the control and experimental groups achieved similar scores across all practical tasks. The difference between the mean scores did not exceed 0.2 points, which was used to consider both groups comparable at the start of the pedagogical experiment. The highest results in both groups were recorded in tasks related to ensemble interaction and the direct performance of a vocal-choral excerpt. This indicated that the students possessed basic performance training and practical experience of participating in choral performance. At the same time, the results of other tasks revealed that the interpretative component of professional training was not sufficiently developed. The lowest scores were recorded in tasks relating to reflective analysis of performance, varied interpretation of musical material, and justification of performance choices. Students predominantly focused on reproducing the proposed performance model and less frequently demonstrated the ability to independently reinterpret the work artistically. When performing the task of analysing a score fragment, most students correctly identified the genre of the piece, its general character and individual means of musical expression, but had difficulty explaining the dramatic development of the musical material. The analysis was often limited to a description of formal characteristics without establishing a connection between the structure of the piece and its artistic content. This indicated a lack of integration between the analytical and performance levels of musical thinking. In the task involving the justification of a performance decision, students mostly provided general explanations regarding the choice of tempo or dynamics, but were not always able to argue how these elements influenced the creation of the musical image. In many cases, the answers were based on the conductor's instructions or traditional performance practice, rather than on an artistic interpretation of the piece itself. This revealed the students' dependence on an external performance model. Difficulties also emerged during the varied performance of a musical excerpt. A significant proportion of students altered certain dynamic or emotional nuances merely in form, without making any substantial changes to the artistic concept of the performance. This indicated a lack of flexibility in their interpretative thinking and limited experience of independent interpretative exploration. The results of the task comparing performance versions showed that students generally noticed differences between interpretations, but were not always able to explain how these differences affected the emotional perception of the piece. Most often, the analysis boiled down to a description of tempo or volume without further awareness of the dramaturgical logic of the performance. The students' reflective skills also proved to be underdeveloped. After their performance, they mostly characterised the result using general phrases, without analysing specific difficulties related to intonation, phrasing or ensemble coordination. Self-assessment was often emotional in nature and was not accompanied by a professional analysis of the quality of the performance. Thus, the results of the diagnostic phase showed that the control and experimental groups had a similar level of readiness for interpretative activity. At the same time, the study established that analytical independence, performance variability and reflective assessment were insufficiently developed, which provided the basis for the implementation of the formative phase of the pedagogical experiment.

During the formative stage, an interim assessment of the experimental group's results was conducted. It aimed to determine the dynamics of the development of interpretative skills and to identify those components of training that changed most significantly under the influence of the proposed system of teaching techniques. To identify the characteristics of the development of students' interpretative readiness during the formative stage, interim and final assessments of the experimental group's results were carried out. Analysis of the dynamics of the indicators made it possible to trace the gradual development of performance and interpretative skills, identify changes in students' ability to engage in artistic and analytical work, and determine those components of training that changed most significantly under the influence of the implemented pedagogical techniques. The results of the assessment of students in the experimental group at various stages of formative influence are presented in Table 2.

Table 2. The progression of the experimental group's results throughout the formative stage

Practical task	Initial stage	Intermediate stage	Control stage
Performance of a vocal and choral piece	6.1	7.0	8.2
Analysis of a musical excerpt	5.5	6.7	8.1
Reasons for the enforcement order	5.2	6.6	8.3
Different interpretation of the passage	5.1	6.5	8.0
Comparison of live versions	5.6	6.9	8.2
Ensemble interaction	6.3	7.2	8.4
Reflective commentary following the performance	5.0	6.3	8.1

Note: the assessment was based on a 10-point scale, where 1-3 points corresponded to a low level of development of the indicator, 4-7 points to an average level, and 8-10 points to a high level. An interim assessment was conducted halfway through the formative experiment
Source: compiled by the authors

The interim results showed a gradual development of all components of interpretative readiness. The most noticeable changes were recorded in tasks related to justifying performance decisions, the varied interpretation of musical material, and reflective analysis of the performance. Even at the interim stage, students began to explain their choices regarding dynamics, phrasing, and the emotional development of the musical image with greater awareness. When working with the score, students in the experimental group became better at identifying the dramatic features of the piece, paying attention to climactic sections, timbral contrasts, and the role of specific expressive techniques in creating artistic meaning. Analysis ceased to be merely formal and gradually began to influence the nature of practical performance. One of the most noticeable results was an increase in the independence of interpretative decisions. Whereas at the initial stage students predominantly relied on a ready-made performance model, during the formative learning process they began to more actively propose interpretations of the musical material. This was particularly evident in tasks involving varied performance, where students began to work more flexibly with dynamics, timbral development and phrasing. A positive trend was also observed in ensemble interaction. Through working in small vocal groups, students learned to coordinate intonation, dynamics and the character of sound production more precisely with other ensemble members. Collective discussion of interpretative choices encouraged the development of a shared artistic vision and heightened awareness of collaborative performance. The results of reflective analysis also showed a marked improvement. Following their performances, students began to identify personal performance difficulties more precisely, explain the causes of mistakes, and relate the quality of their performance to the pre-established artistic concept. This indicated the development of professional self-control and a more conscious approach to performance. The results established that the components of training most responsive to formative influence were those directly related to interpretative independence, artistic-analytical thinking and reflective assessment of performance.

Following the completion of the formative stage, the students in the control and experimental groups were reassessed using the same practical tasks and criteria as those employed during the diagnostic stage. This was used for a comparison of the groups' results and an assessment of the effectiveness of the proposed system for developing interpretative readiness. Following the completion of the formative stage, a re-assessment of students in the control and experimental groups was conducted using the same practical tasks and criteria as those employed during the diagnostic stage of the study. A comparison of the results obtained determined the dynamics of changes in the level of development of students' interpretative readiness, assessed the effectiveness of the pedagogical techniques implemented, and established differences between the results of the control and experimental groups following the completion of the pedagogical experiment (Table 3).

Table 3. Results of the re-assessment of the control and experimental groups

Practical task	CG after experiment	EG after experiment	CG increase	EG increase
Performance of a vocal and choral piece	6.9	8.2	0.7	2.1
Analysis of a musical excerpt	6.3	8.1	0.6	2.6
Reasons for the enforcement order	6.0	8.3	0.6	3.1
Different interpretation of the passage	5.9	8.0	0.6	2.9
Comparison of live versions	6.4	8.2	0.6	2.6
Ensemble interaction	7.0	8.4	0.6	2.1
Reflective commentary following the performance	5.8	8.1	0.7	3.1

Note: the assessment was conducted on a 10-point scale, where 1-3 points corresponded to a low level of development of the indicator, 4-7 points to an average level, and 8-10 points to a high level. The increase was defined as the difference between the indicators at the baseline and follow-up stages of the study
Source: compiled by the authors

The results of the control phase showed positive trends in both groups; however, the improvement in performance indicators was significantly greater in the experimental group. In the control group, improvements mainly concerned technical stability of performance, ensemble coordination and accuracy in reproducing the musical material. At the same time, indicators related to interpretative independence and artistic analysis changed only moderately. In the experimental group, a significant increase was recorded in almost all practical tasks. The greatest improvement was observed in tasks related to the justification of performance decisions and reflective analysis following the performance. Students began to explain personal interpretative decisions with greater confidence, to link performance techniques to the content of the musical image, and to independently adjust individual elements of their performance. Results in tasks related to the varied interpretation of musical material improved significantly. Students in the experimental group demonstrated a more flexible use of dynamics, phrasing and timbral contrasts depending on the character of the musical image. This indicated the development of artistic independence and the ability to work with musical material not in a reproductive but in a creative manner. Positive changes were also recorded in the area of ensemble interaction. The performances of students in the experimental group became more cohesive in terms of dynamic development, intonational organisation and the emotional integrity of the sound. When working in an ensemble, the students were better able to coordinate personal parts with the choir's overall performance concept. The results of the pedagogical experiment also demonstrated a strengthening of the link between analytical interpretation of the score and practical performance. Whilst at the initial stage students often analysed the musical text formally, after the formative stage the results of the analysis began to directly influence the nature of interpretative decisions. Students more accurately correlated the dramaturgy of the work with the dynamics, phrasing and emotional development of the performance. The results obtained confirmed the effectiveness of the system of teaching techniques aimed at developing students' interpretative readiness during vocal and choral training. The use of interpretative analysis, varied performance, comparison of performance versions, group discussion and reflective analysis contributed to the development of artistic and analytical thinking, performance independence and a conscious approach to musical material among students.

Practical findings of the experiment and recommendations for organising vocal and choral training. The results of the pedagogical experiment showed that the introduction of a specially designed system of interpretation-oriented tasks had a significant impact on the nature of vocal and choral training for students of arts disciplines. The changes observed during the assessment phase concerned not only individual performance indicators, but also the students' overall approach to working with musical material, their level of artistic independence, their ability to coordinate within an ensemble, and their conscious use of means of musical expression. One of the most noticeable results of the formative influence was a change in the nature of the students' work with vocal and choral pieces. At the initial stage of the study, a significant proportion of the participants focused primarily on the technical reproduction of the musical score and the execution of the conductor's instructions. Work on the musical material often boiled down to intonational accuracy, rhythmic organisation, and overall ensemble cohesion. During performance, students predominantly reproduced a ready-made performance model, not always realising the interconnection between the artistic content of the piece and the means of expression employed. Following the completion of the formative stage, significant changes in the approach to analysing musical material were observed in the experimental group. Students became more consistent in their approach to the work's dramaturgy, identifying the logic of thematic development, and noticing the climactic sections, the function of dynamic contrasts and changes in timbre. The analysis of the score ceased to play a supporting role and began to directly influence the nature of the performance. Whilst working on a musical piece, students more frequently linked the artistic content to specific elements of vocal and choral performance, indicating a strengthening of the connection between the analytical and practical components of their training. Significant changes also occurred in the nature of the use of means of musical expression. Whereas at the descriptive stage, dynamics, phrasing or timbral contrasts were often applied formally, in accordance with the generally accepted performance model, after the formative influence, students began to use them more consciously. During performance, they more accurately identified the function of individual dynamic transitions, the logic of intonational development, and the nature of the emotional tension in the musical material. This contributed to an increase in the artistic integrity of the performance and the formation of a more convincing interpretative image. The students' ensemble interaction also underwent noticeable changes. At the initial stage of the study, interaction between members of the choral ensemble was primarily based on external coordination of intonation, tempo and rhythm. During performance, students often concentrated on their independent parts and less addressed the overall dramaturgy of the ensemble sound. During the formative stage, working in small vocal groups, collective discussion of interpretative decisions and analysis of professional performances contributed to a change in the nature of ensemble coordination.

Following the conclusion of the experiment, students in the experimental group began to work more cohesively with dynamics, phrasing and the emotional development of the musical image. They responded more effectively to changes in timbral balance, aligned personal parts more precisely with the overall performance concept, and produced a more cohesive ensemble sound. During the performance of polyphonic passages, the students' ability to

monitor their hearing and coordinate their performance actions within the ensemble improved. This highlighted ensemble interaction not merely as technical coordination, but as a form of shared artistic thinking. One of the key outcomes of this formative influence was the development of the students' independence in performance. At the initial stage of the study, most participants demonstrated a reliance on external performance cues. Interpretative decisions were predominantly dictated by the teacher or conductor, whilst students rarely proposed personal interpretations of the musical material. During performance, they often avoided changes in phrasing, dynamics or the character of the sound, as they were unsure of the appropriateness of making independent artistic choices. During the formative stage, the situation gradually changed. The use of varied performances of musical fragments, interpretative analysis and comparisons of different performance versions encouraged students to engage in more active artistic exploration. They started to suggest personal phrasing options more frequently, justify their choices regarding dynamic development, and explain the nature of their emotional interpretation of the musical material. The students became more willing to analyse the score independently and determine performance accents without constantly relying on the conductor's model. Positive progress was also observed in the development of reflective skills. At the descriptive stage, students mainly provided general descriptions of personal performance without analysing the specific causes of performance difficulties. After the formative stage, their reflective comments became more detailed and professionally oriented. Students began to identify shortcomings in intonation, phrasing, ensemble coordination or dynamic development more precisely, explain the causes of errors and suggest ways to correct them. This indicated the formation of a more conscious attitude towards personal performance activity and the development of the ability for professional self-control. A key factor in the experiment's results was the combination of analytical and performance work. At the initial stage, the analysis of musical material often existed separately from practical performance. Students were able to identify individual stylistic features or dramaturgical characteristics of a piece, but this knowledge did not always influence the nature of the interpretation. After the introduction of a system of interpretation-oriented tasks, the situation changed. The results of the analysis were used as a basis for developing the performance concept. Students were able to correlate the nature of the musical image more precisely with their choice of tempo, dynamics, articulation and timbral development. This contributed to the development of a more coherent and well-reasoned artistic interpretation of the piece.

The practical results of the experiment also confirmed the effectiveness of group discussions to explore interpretative choices. During the discussions, students became more actively involved in artistic analysis, defended personal positions and learnt to reconcile their individual visions with the ensemble's performance concept. This approach fostered the development of professional communication and enhanced awareness of their performance practice. Overall, the results of the formative intervention established that the systematic use of interpretative analysis, varied performance, comparison of performance versions, work in small ensemble groups, and reflective analysis following performance contributed to the development of students' readiness for interpretative activity within the process of vocal and choral training. Positive changes encompassed the analytical, performance, ensemble and reflective components of professional training, confirming the effectiveness of the proposed system of pedagogical influence. The results of the pedagogical experiment formulated practical recommendations regarding the organisation of vocal and choral training for students of arts disciplines (Table 4).

Table 4. Practical recommendations for developing students' interpretative skills during vocal and choral training

Practical recommendation	Description
Interpretative analysis of the score	When analysing a score, it is advisable to establish a connection between the work's dramatic structure and the means of musical expression, rather than merely identifying the formal characteristics of the musical text.
Comparison of live versions	Comparison of professional interpretations of a single work should be used to develop critical auditory perception and the ability to make informed artistic choices.
Different interpretation of the passage	Performing a single musical passage in several different ways helps to develop flexibility in musical thinking and a conscious use of expressive techniques.
Group discussion of decisions	Discussing interpretative choices after a rehearsal helps to stimulate artistic and analytical thinking, develop professional communication, and refine the ensemble's artistic vision.
Reflective commentary following the performance	Once the work has been completed, it is advisable to analyse the relationship between the artistic vision and the practical outcome, and to identify any technical difficulties and ways of overcoming them.
Combination of technical and artistic work	Work on intonation, dynamics, phrasing and articulation should be accompanied by an explanation of their role in creating a musical image.
Small ensemble work	Small vocal groups should be used to develop artistic coordination, aural awareness, ensemble interaction and collaborative performance thinking.
Independent interpretative research	Students should be encouraged to seek interpretative solutions independently when working on new material, in order to enhance their autonomy in performance.
Reasons for the enforcement order	It is advisable to include exercises in vocal and choral training in which students explain their choice of tempo, dynamics, articulation and phrasing.

Table 4. Continue

Practical recommendation	Description
Step-by-step combination of analysis, implementation and reflection	It is advisable to approach the writing of the piece in a systematic manner: analysis of musical material, practical performance, evaluation of the result and refinement of the interpretative approach.

Source: compiled by the authors

A summary of the recommendations has shown that the development of interpretative skills requires a holistic approach to vocal and choral training, in which technical execution, artistic analysis, ensemble interaction and reflection are not treated in isolation. The practical value of the proposed recommendations consists in the fact that they are aimed at gradually transitioning students from reproducing a ready-made performance model to an independent and reasoned artistic interpretation of the work. This approach strengthens the link between the analytical interpretation of musical material and its performance, which is a necessary condition for developing readiness for interpretative activity in the process of vocal and choral training.

The results of the pedagogical experiment confirmed the effectiveness of the proposed system for developing the interpretative skills of arts students in the context of vocal and choral training. The introduction of interpretation-oriented teaching techniques led to positive changes in the nature of students' work with musical material, their level of artistic independence, ensemble interaction and reflective analysis of performance. The most noticeable changes in the experimental group were linked to the development of the ability to make reasoned performance decisions, a stronger connection between score analysis and practical performance, and an increased awareness of the use of means of musical expression. Students became more independent in approaching the dramaturgy of a piece, made more active use of varied phrasing, and coordinated ensemble sound more precisely. The results concluded that the integration of interpretative techniques into the vocal and choral training of students in arts disciplines is appropriate. The combination of analytical, performance and reflective work contributed to the development of a more comprehensive professional readiness for artistic and interpretative activity and ensured the transition from reproductive performance to a conscious creative interpretation of the musical work.

DISCUSSION

The findings of the study showed that art students' readiness for interpretative activity was developed not only through the refinement of vocal and technical skills, but also through a combination of practical performance, score analysis, justification of interpretative choices, varied interpretations of musical passages, ensemble interaction, and reflective commentary following the performance. This logic was consistent with the position of R. Nelson (2022), who viewed artistic practice as a form of research-based learning. In this study, this proposition was empirically substantiated: readiness for interpretative activity was assessed not through students' declarative judgements, but through seven practical tasks that revealed the actual level of development of technical, analytical, performance and reflective skills. The study by X. Xiaolu (2023) was directly relevant to the results obtained; it examined the assessment of interpretative skills among arts faculty students in the context of vocal and choral education. The author emphasised that assessment should cover not only vocal-technical training but also the student's ability to analyse musical material and realise an interpretative concept in performance. The results of this study confirmed this position: at the baseline stage, the control and experimental groups had comparable scores, and the difference between them across all practical tasks did not exceed 0.1-0.2 marks. At the same time, the lowest scores were recorded in those tasks that required independent interpretative thinking: justifying a performance decision, performing a passage in different ways, and providing a reflective commentary after the performance. This clarified the author's conclusions, as it demonstrated not only the need to assess interpretative skills, but also the specific practical areas in which students experienced the greatest difficulties.

The issue of students' initial readiness for music education and choral activities was addressed in studies by D.A. Boylan (2024), O.M. Oleksiuk (2025) and L. Mengze (2025). The authors viewed the readiness of future specialists not merely as technical proficiency, but as a set of characteristics related to independence, professional communication, aural control and the ability to function within a choral context. In this study, a similar pattern emerged in that students in both groups demonstrated the highest initial results in the performance of a vocal-choral excerpt and ensemble interaction, whilst tasks related to interpretative independence proved more challenging. This indicated that the presence of basic choral training did not yet ensure a sufficient level of artistic-analytical and reflective interpretation of performance. The findings of E.P. Asmus (2021) and L. Zhou (2023), concerning the development of artistic-projective experience in future music teachers, were also significant for interpreting the results obtained. The author emphasised the importance of pedagogical conditions that stimulate the active creation of artistic concepts, rather than the passive reproduction of teaching material. This difference was observed between the control and experimental groups following the formative stage. In the control group, the increase remained moderate, at 0.6-0.7 points, whereas in the experimental group it ranged from 2.1 to 3.1 points. The results

therefore confirmed that interpretative readiness develops more effectively when students do not merely follow the instructions of a teacher or conductor, but analyse the score independently, suggest alternative phrasing, and justify interpretative approach.

The significance of musical-stylistic and dramaturgical analysis for performance interpretation was linked to the views of B. Almén (2008), who regarded a musical work as a structured artistic process in which meaning is formed through the development, tension, contrasts and interaction of musical elements. In this study, this theoretical position was confirmed in practice through the dynamics of the task involving the analysis of a score fragment. In the experimental group, the score for this task rose from 5.5 to 8.1 points, representing an increase of 2.6 points. This indicated that students began to identify the work's dramaturgy, climactic sections, and the function of dynamic and timbral contrasts more accurately, as well as to translate the results of their analysis into practical performance more effectively. The contemporary context of choral performance, explored by O. Batovska *et al.* (2023), was used to correlate the results of the study with broader trends in the development of choral practice. The authors emphasised the importance of artistic mobility, ensemble cohesion, stylistic sensitivity, and the collective's ability to deliver a holistic interpretative performance. In this study, ensemble interaction was also considered not merely as technical vocal coordination, but as a component of interpretative activity. Following the formative phase, the ensemble interaction score in the experimental group increased from 6.3 to 8.4 points, whilst in the control group it was 7.0 points after the experiment. This demonstrated that performing in small vocal groups and collectively discussing interpretative choices contributed not only to a harmonious sound but also to the development of a shared artistic vision.

The relationship between tradition and innovation in contemporary vocal and choral art was explored in studies by O. Batovska *et al.* (2022), C.S. Loftin (2023) and Y. Guanjing *et al.* (2024). The authors demonstrated that contemporary choral practice combines the preservation of academic performance standards with the search for new artistic solutions. The results of this study confirmed the relevance of such an approach for the professional training of students. The traditional teaching model ensured a certain degree of technical stability and ensemble cohesion; however, more significant changes were achieved when interpretative analysis, varied performance, comparison of performance versions and reflective discussion were incorporated into the teaching process. This can be used to interpret innovation not as a rejection of the traditional vocal-choral school, but as its supplementation with interpretation-oriented techniques. The views of Y. Dai (2024) and C. Dixon (2025) regarding the integration of vocal technique and artistic expressiveness were also confirmed by the results obtained. The authors demonstrated that the quality of vocal performance depends on the combination of technical training with a conscious emotional and artistic embodiment of musical content. In this study, a gap was identified at the initial stage between the technical correctness of performance and the students' ability to create an artistic image in a reasoned manner. Following the formative phase, students in the experimental group began to make more conscious use of dynamics, phrasing, timbral contrasts and the character of the sound to highlight the musical image. Particularly noteworthy was the improvement in results in the task involving the varied performance of a musical excerpt: from 5.1 to 8.0 marks, which demonstrated the development of flexibility in their interpretative thinking.

The practical aspect of vocal and choral training, as highlighted in the study by M. Bertrand (2022), was related to the need for systematic work on vocal skills within the context of choral rehearsals. The author emphasised that vocal pedagogy in a choir must combine individual technique, ensemble interaction and artistic outcome. In this study, this approach was expanded to include an interpretative component. It was demonstrated that work on intonational accuracy, breathing, diction and ensemble sound becomes more effective when accompanied by an analysis of the artistic content of the piece, justification of performance decisions and reflective evaluation after the performance. The issue of artistic and pedagogical communication in vocal and choral activities, examined by L. Vasylevska-Skupa *et al.* (2022) and N.C. Ngobeni (2024), was also relevant for explaining the results obtained. The authors defined vocal and choral activities as an environment for the development of professional skills among future music teachers, in which the transmission of artistic content, interaction with the group, and pedagogically appropriate communication were significant. The results of this study showed that collective discussion of interpretative decisions contributed to the development of this communicative component. Students in the experimental group began to justify their performance choices more actively, to align their individual visions with the ensemble's overall concept, and to assess the quality of their performance more specifically once they had finished a passage. This confirmed that interpretative readiness is not merely an individual matter, but also involves communication and ensemble dynamics.

The results of the tasks involving the justification of performance decisions and reflective commentary following performance were noteworthy. In the experimental group, both indicators increased by 3.1 points, which was the largest increase among all practical tasks. This established that the components most sensitive to formative influence were precisely those responsible for awareness of performance choices and professional self-control. The results obtained clarified the general findings of previous studies on the importance of reflection and creative autonomy, as they demonstrated a specific pedagogical mechanism for their development: analysis of the score before performance, varied phrasing, collective discussion, and reflective commentary following the performance. The

updated approach to vocal and choral training was also supported by the findings of Z. Zhou (2023), who investigated innovative learning environments for choral conducting education. The author emphasised the significance of an educational environment that encourages students' independent work, professional interaction and the practical application of conducting and choral skills. In this study, a similar approach was implemented through a system of interpretation-oriented tasks, where students not only reproduced a given performance model but also analysed the score, compared performance versions, proposed new phrasing options, and justified artistic decisions. The findings of H. Changhao (2020) and R.H. Woody (2021) regarding the pedagogical conditions for vocal and choral training of arts faculty students were also consistent with the results of this study. The authors defined pedagogical conditions as means of ensuring effective artistic activity and highlighted the interaction of students' cognitive, evaluative and creative activities, the integration of classroom, independent and concert-practice work, as well as the creation of a professional and creative educational environment. In this study, these principles were specified through a combination of score analysis, varied performance, group discussion and reflective commentary following the performance.

The practical dimension of the formative stage was partly consistent with the study by Z.A. Martin (2023), which systematised choral teaching tools and vocal exercises. The author demonstrated that vocal exercises should be linked not only to technical improvement but also to the development of means of expressive performance. Within the scope of this study, this approach was expanded: technical work in the experimental group was combined with interpretative analysis, justification of dynamics, phrasing and timbre development, which ensured a greater improvement in performance indicators compared to the control group. The findings of D. Jansson & A.H. Balsnes (2021), who viewed choral conducting education as a long-term process of developing competence, professional identity and meaning, were significant in explaining the results. In this study, interpretative readiness was also found to be linked not only to the completion of individual learning tasks, but to the students' gradual transition to a more conscious performing stance. The improvement in results on tasks involving the justification of performance decisions and reflective commentary after performance demonstrated that students had begun to perceive interpretation as a personally and professionally meaningful activity.

An innovative aspect of vocal training was presented in the study by W. Yin (2024), which addressed updating vocal teaching models in vocational colleges. The author emphasised the need to move away from the monotonous reproduction of teaching material and to encourage students' practical, creative and active personal participation in the learning process. The results of this study confirmed the validity of this approach: the experimental group demonstrated the greatest improvement precisely in those tasks where they were required to independently justify interpretative decisions, vary their performance and reflectively evaluate the outcome. The findings of W. Li *et al.* (2026) were used for a broader interpretation of the data obtained from the perspective of 21st-century skills in vocal pedagogy. The authors demonstrated that contemporary vocal education increasingly requires reflective, technology-mediated and culturally sensitive approaches. In this study, it was the reflective and communicative dimensions of training that were most evident: students in the experimental group participated more actively in group discussions, assessed personal performance more accurately, and better aligned individual decisions with the ensemble concept. A. Quist's (2021) approach to choral pedagogy was also relevant to the findings of this study. The author highlighted the potential for combining visual learning, vocal development and technological platforms in choral education. Within the scope of this article, the technical component was not the subject of a separate analysis; however, the results obtained confirmed the significance of multi-channel work with sound: students improved mastery of the artistic image when score analysis, aural comparison of performance versions, and practical performance were treated as interrelated stages of learning. It is worth comparing the results with the study by E. Siljamäki (2022), in which free improvisation in a choral setting was viewed as an educational resource for fostering social interaction, musical engagement and a safe creative environment. In this study, free improvisation was not used in the strict sense, but the varied performance of a fragment served a similar pedagogical function: it provided students with the opportunity to depart from a single performance model, to experiment with different dynamic and emotional accents, and to develop a more flexible interpretative mindset.

Overall, a comparison of the findings of this study with the works of the aforementioned authors has shown that the issue of students' interpretative readiness is not limited to vocal technique or knowledge of music theory. Its development requires a comprehensive system of practical tasks in which technical execution, artistic and analytical interpretation, ensemble interaction and reflection mutually reinforce one another. In contrast to other studies, which considered vocal technique, choral interaction, musical analysis or artistic expressiveness separately, in this study these components were combined within a pedagogical experiment. Empirical results confirmed that this system ensured a higher rate of development in interpretative readiness compared to the traditional model of vocal and choral training.

CONCLUSIONS

The study found that students' readiness for interpretative activity was shaped by the interaction of technical, analytical, performance and reflective components. Initial assessment based on seven practical tasks revealed that the control and experimental groups were comparable: the difference between their average scores did not exceed 0.1-0.2

points. At the same time, a lack of developed interpretative skills was identified, in particular difficulties in justifying performance decisions, offering varied interpretations of musical passages, and conducting a reflective analysis of the performance. It was found that the most problematic tasks at the initial stage were those related to the transition from technical performance to an independent artistic interpretation of the piece. Students predominantly relied on a ready-made performance model, did not sufficiently link score analysis with practical sound, and were not always able to explain the function of tempo, dynamics, phrasing, or timbral development in the creation of a musical image. This demonstrated the need for a form of vocal and choral training in which the analysis of musical material, performance modelling and reflection would be used as interrelated stages of work on a piece.

Following the introduction of interpretation-oriented tasks in the experimental group, a significant performance improvement was observed across all practical tasks. The greatest improvement was recorded in the justification of performance decisions and reflective commentary after performance – 3.1 points each; varied performance of a fragment increased by 2.9 points, and analysis of the score and comparison of performance versions by 2.6 points. This demonstrated an improvement in the students' ability to select means of expression in a reasoned manner, to interpret the artistic logic of the work more accurately, and to translate the results of analysis into practical performance. A comparison of the groups after the formative stage confirmed the effectiveness of the proposed pedagogical techniques. In the control group, the increase remained moderate at 0.6-0.7 marks, whereas in the experimental group it ranged from 2.1 to 3.1 marks. This showed that traditional training primarily supported technical stability and ensemble cohesion, whereas the experimental system had a more significant impact on interpretative independence, analytical reasoning and reflective self-control.

The effectiveness of pedagogical methods such as interpretative analysis of the score, comparison of performance versions, varied performances of musical passages, group discussion of interpretative choices, work in small ensembles, and reflective commentary following a performance has been demonstrated. Their application helped to strengthen the link between the analytical mastery of the musical material and its performance. Students in the experimental group began to work more independently with the dramaturgy of the piece, to identify climactic sections more accurately, to use dynamics, phrasing and timbral contrasts more consciously, and to better align personal part with the overall ensemble concept. A practical outcome of the study was the development of recommendations for organising vocal and choral training for students of arts disciplines. These concerned the combination of interpretative analysis of the score, comparison of performance versions, varied performance, group discussion, work in small ensemble groups, and reflection following the performance. Thus, the effective development of readiness for interpretative activity required vocal and choral training to be directed not only towards the accurate reproduction of the musical text, but also towards the development of an independent, reasoned and artistically conscious interpretative approach. The limitations of the study stem from the fact that the empirical part was conducted at a single higher education institution, which restricts the possibility of fully generalising the results to all models of vocal and choral training. Prospects for further research include examining the formation of students' interpretative readiness in various types of musical performance training, analysing the impact of digital technologies and multimedia resources on the development of artistic and interpretative thinking, and developing differentiated models of interpretative training for students of various artistic specialisations.

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REFERENCES

[1] Almén, B. (2008). *A theory of musical narrative*. Bloomington: Indiana University Press.

[2] Asmus, E.P. (2021). Motivation in music teaching and learning. *Visions of Research in Music Education*, 16, article number 31.

[3] Batovska, O., Byelik-Zolotaryova, N., & Ivanova, J. (2023). Modern global trends in the development of choral performance. *Studia Universitatis Babes-Bolyai Musica*, 68(2), 235-256. doi: 10.24193/subbmusica.2023.2.17.

[4] Batovska, O., Grebenuk, N., Byelik-Zolotaryova, N., Ivanova, Y., Sukhomlinova, T., & Kaushnian, I. (2022). Traditions and innovations in contemporary vocal and choral art. *Studia Universitatis Babes-Bolyai Musica*, 67(2), 73-98. doi: 10.24193/subbmusica.2022.spiss2.06.

[5] Bertrand, M. (2022). *Vocal pedagogy in the choral rehearsal: A multiple case study*. (Master's thesis, Western Illinois University, Macomb, United States).

[6] Boylan, D.A. (2024). *High school choir teachers' perceptions of music education students' undergraduate college readiness characteristics*. (Doctoral dissertation, Wilkes University, Wilkes-Barre, United States).

[7] Changhao, H. (2020). Pedagogical conditions of vocal and choral training of students of faculties of arts of pedagogical universities. *Paradigm of Knowledge*, 6(44). doi: 10.26886/2520-7474.6(44)2020.14.

[8] Dai, Y. (2024). Integration of vocal technique and artistic expression in vocal art performances. *Frontiers in Art Research*, 6(2), 7-11. doi: 10.25236/FAR.2024.060202.
[9] Dixon, C. (2025). *Perceptions of choral diction curricula*. Hattiesburg: University of Southern Mississippi.
[10] Guanjing, Y., Shijie, H., Zhihuan, Z., Yaqi, Z., & Yuchen, L. (2024). The semantic nature of opera vocal performance interpretation: Historical genesis and musical stylistic means. *Education, Technology and Society Notebooks,* 17(4), 268-277. doi: 10.14571/brajets.v17.nse4.268-277.
[11] Jansson, D., & Balsnes, A.H. (2021). Choral conducting education: The lifelong entanglement of competence, identity and meaning. *Research Studies in Music Education*, 43(3), 347-365. doi: 10.1177/1321103X19863184.
[12] Jiang, H., & Wu, W. (2025). How embodied cognition affects vocal performance: An integrative review. *Journal of Voice*. doi: 10.1016/j.jvoice.2025.11.005.
[13] Jingyi, H. (2022). Pedagogical conditions for the formation of future musical art teachers' artistic-projective experience. *Pedagogical Sciences: Theory, History, Innovative Technologies,* 9-10(123-124), 427-437. doi: 10.24139/2312-5993/09-10.2022/427-437.
[14] Li, W., Mazlan, C.A.N., & Safian, A.R. (2026). 21st-century skills in vocal pedagogy: A scoping review. *Frontiers in Education,* 11, article number 1744952. doi: 10.3389/feduc.2026.1744952.
[15] Loftin, C.S. (2023). *Visual and vocal expression in traditional choirs: An explanatory-sequential, mixed-methods design*. Auburn: Auburn University.
[16] Martin, Z.A. (2023). Choral pedagogical tools and vocal exercises: A practical guide to teaching Handel's Messiah. *Choral Journal*, 64(3), 22-36.
[17] Mengze, L. (2025). The state of readiness of art faculties students for independent interpretation of vocal works. *Paradigm of Knowledge*, 1(65). doi: 10.26886/2520-7474.1(65)2025.3.
[18] Nelson, R. (2022). *Practice as research in the arts (and beyond): Principles, processes, contexts, achievements*. Cham: Palgrave Macmillan. doi: 10.1007/978-3-030-90542-2.
[19] Nethsinghe, R., Godwin, L., & Edwards, A. (2025). Strengthening arts education through partnerships with expert arts practitioners: A literature review. *Journal of Research in Music*, 3(2), 59-85. doi: 10.4038/jrm.v3i2.52.
[20] Ngobeni, N.C. (2024). Exploring the connection of passion and motivation in higher education singing and choral training in music performance education. *e-Bangi: Journal of Social Sciences & Humanities*, 21(2), 128-138. doi: 10.17576/ebangi.2024.2102.12.
[21] Oleksiuk, O.M. (2025). Vocal and choral art in the development of professional experience of students of music specialties. *Modern Searches in the Space of Art*, 3(10), 153-160. doi: 10.24195/artstudies.2025-3.20.
[22] Quist, A. (2021). Pedagogy of choral sound and spirit. *The Choral Journal*, 61(7), 13-21.
[23] Siljamäki, E. (2022). Free improvisation in choral settings: An ecological perspective. *Research Studies in Music Education*, 44(1), 234-256. doi: 10.1177/1321103X20985314.
[24] Stewart, R.D. (2021). *Reflections on the choral rehearsal cycle: An approach to professional practice*. Brisbane: Griffith University.
[25] Vasylevska-Skupa, L., Belinska, T., Kushnir, K., Sidorova, I., & Ostapchuk, L. (2022). Formation of mastery of artistic and pedagogical communication of future teachers of music in the process of vocal and choral activities. *Modern Science*, 1, 72-81.
[26] Woody, R.H. (2021). Music education students' intrinsic and extrinsic motivation: A quantsitative analysis of personal narratives. *Psychology of Music*, 49(5), 1321-1343. doi: 10.1177/0305735620944224.
[27] World Medical Association (2013). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191-2194. doi: 10.1001/jama.2013.281053.
[28] Xiaolu, X. (2023). Diagnostics of the formation of interpretation skills of arts faculty students in the process vocal and choir education. *Innovative Solution in Modern Science*, 2(57). doi: 10.26886/2414-634X.2(57)2023.6.
[29] Yin, W. (2024). Innovations and practical exploration of vocal music teaching models in vocational colleges. *Journal of Modern Educational Theory and Practice*, 1(2). doi: 10.70767/jmetp.v1i2.358.
[30] Zhou, L. (2023). Cultivation of artistic expression in college music and vocal music teaching. *Art and Performance Letters*, 4(12), 43-49. doi: 10.23977/artpl.2023.041208.
[31] Zhou, Z. (2023). Innovative learning environments for choral conducting education. *Education and Information Technologies*, 28(7), 7827-7843. doi: 10.1007/s10639-022-11503-9.

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Готовність студентів мистецьких спеціальностей до інтерпретаційної діяльності у процесі вокально-хорового навчання

Анотація. Мета дослідження полягала у визначенні особливостей формування готовності студентів мистецьких спеціальностей до інтерпретаційної діяльності у процесі вокально-хорового навчання. Методологія дослідження ґрунтувалася на педагогічному експерименті за участю 72 студентів II-IV курсів Українського державного університету імені Михайла Драгоманова, поділених на контрольну та експериментальну групи. Оцінювання здійснювали п'ять експертів за 10-бальною шкалою на основі семи практичних завдань, що перевіряли технічні, аналітичні, виконавські та рефлексивні вміння студентів. Результати дослідження показали, що на констатувальному етапі контрольна та експериментальна групи мали зіставні вихідні показники: різниця між середніми балами за всіма практичними завданнями не перевищувала 0,1-0,2 бала. Було виявлено залежність студентів від зовнішньої виконавської моделі, недостатню інтеграцію аналізу партитури з практичним виконанням та труднощі з аргументацією власних інтерпретаційних рішень. Після впровадження системи інтерпретаційно орієнтованих завдань в експериментальній групі було зафіксовано вищий приріст показників порівняно з контрольною групою. Найбільше зростання спостерігалося в обґрунтуванні виконавського рішення та рефлексивному коментарі після виконання – по 3,1 бала; у варіативному виконанні фрагмента – 2,9 бала; в аналізі партитурного фрагмента й порівнянні виконавських версій – по 2,6 бала. У контрольній групі приріст залишався помірним і становив 0,6-0,7 бала, тоді як в експериментальній групі він коливався від 2,1 до 3,1 бала. Отримані результати підтвердили, що інтерпретаційний аналіз партитури, порівняння виконавських версій, варіативне виконання, колективне обговорення, робота в малих ансамблевих групах і рефлексивний аналіз після виконання сприяли розвитку інтерпретаційної самостійності студентів, аналітичного обґрунтування виконавських рішень та ансамблевої координації. Практична значущість дослідження полягає у можливості використання розроблених рекомендацій для організації вокально-хорової підготовки студентів мистецьких спеціальностей у закладах вищої освіти

Ключові слова: художня виразність; ансамблева взаємодія; фразування; рефлексивний коментар; динамічна гнучкість

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