STUDIA UBB MUSICA, LXX, 2, 2025 (p. 35 – 56)
(RECOMMENDED CITATION)
DOI: 10.24193/subbmusica.2025.2.02

MUSIC EDUCATIONAL PRACTICE AT SCHOOL AS A SPACE FOR DEVELOPING STUDENTS' CREATIVE SELF-EXPRESSION AND CREATIVE ABILITIES

IRYNA HRYNCHUK[1], NATALYA OVOD[2], LINA ILCHUK[3], PAVLO YALOVSKYI[4], LUDMYLA KONDRATSKA[5]

SUMMARY. Music education promotes students' creative development, as it is focused on a variety of approaches to the perception of music (performing melodies, creating arrangements, improvisations, etc.). The aim of the study is to determine the effectiveness of music education at school for building students' creative self-expression skills and creative abilities. The study employed the following methods: pedagogical modelling, the empirical method of collecting primary information, the methods of E. Torrance and C. Orff, and calculations of the Wilcoxon Test. During the study, music education focused on the perception of theoretical and practical knowledge using the EarMaster application, as well as in-depth perception of materials through a game format. Creating musical improvisations using the interactive Chrome Music Lab was also provided. It was found that creating improvisations had the greatest advantage in the development of students' creative skills, according to teachers (38%) and students (37%). It was established that the expressed criteria of students' creative self-expression were originality (4.8 points) and fluency (4.7 points); of the development of creative abilities – improvisation (4.8 points). During training, students achieved a high level of motivation (88%), which contributed to their self-expression. The practical value of the article is associated with the possibility of using the proposed learning mechanisms for

[1] *Associate Professor, PhD, Volodymyr Hnatiuk Ternopil National Pedagogical University, Ukraine, E-mail: irynahrynchuk@gmail.com*
[2] *Assistant Professor, Volodymyr Hnatiuk Ternopil National Pedagogical University, Ukraine, E-mail: nataliiaovod@gmail.com*
[3] *Professor, Taras Shevchenko Kremenets Regional Humanitarian and Pedagogical Academy, Ukraine, E-mail: olgaromanko111@gmail.com*
[4] *Senior Teacher, Taras Shevchenko Kremenets Regional Humanitarian and Pedagogical Academy, Ukraine, E-mail: pyalovskyi@gmail.com*
[5] *Professor PhD, Volodymyr Hnatyuk Ternopil National Pedagogical University, Ukraine, E-mail: lkondratska@gmail.com*

©2025 STUDIA UBB MUSICA. Published by Babeş-Bolyai University.
This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License

the creative development of secondary school students. Promising research directions may be associated with taking into account the features of the repertoire during musical educational practice at school.

Keywords: interactive applications, creative thinking, creative activity, Torrens method, Orff method.

1. Introduction

Music education in schools is important for the overall development of students and their self-expression. It affects the possibility of active development of logical and abstract thinking, which contributes to the understanding of inherent emotions, the expansion of the inner world, and aesthetic perception.[6] The quality of the educational process depends on the features of the selected musical practice, which determines the relevance of the chosen topic.

Musical educational practice at school is necessary to reveal the children's potential, which can be realized through singing or instrumental playing. This is due to the ability to choose one's own style of performance, focusing on coordination and memory skills.[7] So, it is possible to form creative self-expression, which is associated with the use of music to convey one's own ideas, emotions and thoughts based on non-standard thinking. It also ensures the development of students' creative abilities, which are associated with making non-standard decisions in the educational process.[8] It is possible to achieve the development of creative abilities and creative self-expression through flexible thinking and developed imagination.[9] It teaches students to

[6] Sembiring, Piter, Muqri, Al, & Nurfalah, Asep Rizwan. "From Instruction to Inspiration: Pedagogical Approaches for Teaching in Private Music Education". In *DIAJAR: Jurnal Pendidikan dan Pembelajaran*, vol. 4, no. 2, 2025, pp. 177-184. https://doi.org/10.54259/diajar.v4i2.4203

[7] Gagica-Rexhepi, Flutura, Breznica, Rreze K., & Rexhepi, Burhan R. "Evaluating the Effectiveness of Using Digital Technologies in Music Education". In *Journal of Educational Technology Development and Exchange (JETDE)*, vol. 17, no. 1, 2024, pp. 273-289. https://doi.org/10.18785/jetde.1701.16

[8] Sofianos, K. C., Michael, S., Manolis, M., Alexios, K., Anastasia, G., & Linas, B. (2025). "Integrating Artificial Intelligence and Digital Tools to Enhance Learning and Accessibility in Music Education". In *IFIP International Conference on Artificial Intelligence Applications and Innovations,* ed. by Ilias Maglogiannis, Lazaros Iliadis, Andreas Andreou, Antonios Papaleonidas, Cham: Springer Nature Switzerland, (2025), pp. 169-181. https://doi.org/10.1007/978-3-031-96231-8_13

[9] Hermans, Carolien. "The Storyline Approach as a Didactic Tool to Promote Efficacy Beliefs of (Student) Teachers in Creative Music Activities with Young Children". In *Research Studies in Music Education*, vol. 47, no. 1, 2024, pp. 74-88. https://doi.org/10.1177/1321103X241236420

use different sounds and rhythms to interpret compositions.[10] Interaction between students allows them to implement joint projects, which contributes to the development of social skills and the ability to develop hearing.[11] During learning, the process should include gaining emotional experience, which contributes to memorization and positive perception of art. The use of the traditional learning system does not provide the opportunity to develop students' creative abilities and creative self-expression.[12] This is due to the emphasis on theoretical classes and the study of general musical topics (study of notes, general musical works, etc.). The development of these skills is possible on the basis of ensuring the accessibility of classes for all students and the possibility of using interactive approaches to reveal the general students' potential. Interactive technologies affect the ability to implement ideas, learn materials at one's own pace.[13] Interactive classes focus on individual musical elements, teaching to distinguish melodies by pitch, timbre, and mood. It also provides the perception of musical compositions based on logical and associative approaches, ensuring the aesthetic perception of compositions.[14]

The British practice — Musical Futures — can be singled out as international educational practices in music learning. The educational process involved the creation of study groups, providing for the distribution of students depending on the pace and style of learning. In Australia, the Performing Arts practice is used, which is aimed at studying music by senior students.[15] Learning takes place through demonstrations of musical performances,

[10] Lukovska, Svitlana. "Exploring the Composer-Performer-Teacher Role Complex in Fostering Creativity in Music Education". In *Convergences-Journal of Research and Arts Education*, vol. 17, no. 33, 2024, pp. 105-122. https://doi.org/10.53681/c1514225187514391s.33.242

[11] Yaoquan, Jin, Ruiping, Huang, Yang, Zhang, & Marchenko, Valerii. "Polyartistic Approach in Music Education: A Tool for Teaching and Developing Creative and Critical Thinking". In *Rupkatha Journal*, vol. 15, no. 2, 2023, pp. 1-19. https://doi.org/10.21659/rupkatha.v15n2.09

[12] Shcholokova, Olha, Skopych, Alla, Zhurska, Nataliia, Khomenko, Leonid, & Rastruba, Tetiana. "Music Education and Digital Culture: Interaction of Integrative Thinking and Creative Technologies". In *Per Musi*, vol. 26, 2025, art. e252617. https://doi.org/10.35699/2317-6377.2025.58891

[13] Nagaoka, Miyako. "Creative Musical Self-Expression Programs for Students on Teacher Training Courses for Childcare and Education". In *International Journal of Creativity in Music Education*, vol. 8, 2021, pp. 66-92. https://doi.org/10.50825/icme.8.0_66

[14] Zhu, Mila, Morrison, Sarah, McAlester, Kalyn, Morrison, Susan, Nottingham, Maribeth, & Stout, Jerry. "From Detention to Expression: A Case Study on Fostering Adolescents' Artistic Liberation". In *Critical Questions in Education*, vol. 15, no. 3, 2024. https://academyforeducationalstudies.org/wp-content/uploads/2024/10/01-zhu-et-al.-final.pdf

[15] Hermans, Carolien. "The Storyline Approach as a Didactic Tool to Promote Efficacy Beliefs of (Student) Teachers in Creative Music Activities with Young Children". In *Research Studies in Music Education*, vol. 47, no. 1, 2024, pp. 74-88. https://doi.org/10.1177/1321103X241236420

which involves the reproduction of music by schoolchildren. In the USA and Canada, common ways of studying music are to combine the subject with other disciplines. The process affects the acquisition of basic knowledge through a creative approach.[16]

The study of the theoretical aspects of the issue under research showed a general personification of the process of studying music, which is not related to understanding the specific mechanisms of developing students' individuality. Gaps are also associated with the lack of a sufficient number of empirical studies to understand the features of the development of students' individuality depending on the practical approach to learning. Attention should also be paid to the teacher's role in the educational process. The novelty of the study is the choice of a comprehensive approach to studying music, which involves the perception of educational information through the students' active participation. Research hypothesis: the emphasis on practical study of music through an interactive and game format contributes to the development of students' independence, which ensures the development of students' creative skills and abilities.

The aim of the research is to study effective strategies for conducting music educational practice at school to develop creative self-expression and creative abilities of students.

The aim was achieved through the fulfilment of the following research objectives:

- Develop ways to implement music practice at school using interactive applications EarMaster, Chrome Music Lab;
- Determine the learning block that, in the students' and teachers' opinion, had the greatest impact on the development of creative skills;
- Determine the level of developed students' creative self-expression and creative abilities using the methods of E. Torrens and C. Orff, respectively;
- Determine the level of students' motivation to study music taking into account the possibility of developing students' self-expression and perception of a sufficient level of musical knowledge.

[16] Sofianos, K. C., Michael, S., Manolis, M., Alexios, K., Anastasia, G., & Linas, B. (2025). "Integrating Artificial Intelligence and Digital Tools to Enhance Learning and Accessibility in Music Education". In *IFIP International Conference on Artificial Intelligence Applications and Innovations,* ed. by Ilias Maglogiannis, Lazaros Iliadis, Andreas Andreou, Antonios Papaleonidas, Cham: Springer Nature Switzerland, (2025), pp. 169-181. https://doi.org/10.1007/978-3-031-96231-8_13

2. Literature Review

The analysis of the most common music teaching strategies for the development of students' creative skills is considered in the study of He et al.[17] The development of children's musical creative competence is possible on the basis of practical activities. Combining music classes with other creative subjects promotes the development of schoolchildren' creative thinking. Teamwork is of great importance for the creative development of students, which contributes to the diversification of classes and the acquisition of emotional experience by students. Hendriks et al.[18] present other views in their study. The authors noted that individual learning contributes to the development of students' motivation for creative activity. In learning, it is necessary to focus on verbal interaction (facial expressions, gestures, etc.) for individual support of students and developing confidence in their own knowledge. We agree with the above conclusions of the researchers that attention should be paid to diversifying classes and gaining practical experience. However, they have not sufficiently studied the ways of integrating selected teaching methods in the educational process.

Most studies focused on the benefits of interactive technologies in music education for developing students' creative skills. The development of students' creative skills is influenced by current approaches to teaching music, which include aesthetic perception, cultural understanding, and artistic self-expression. However, such a learning process should be combined with interactive approaches that will help to differentiate learning according to students' knowledge and motivation for self-expression.[19] Virtual reality (VR) helps to model students' convergent and divergent thinking. The training provided for modelling different situations for solving problems. Such a model influenced the development of creative thinking, which provided an increase

[17] He, Jiang, Wing, Cheong Ku & Hoe, Tan Wee. "The Cultivation of Children's Musical Creative Practical Competency: A Literature Review". In *Thinking Skills and Creativity*, vol. 48, 2023, art. 101309. doi:10.1016/j.tsc.2023.101309

[18] Hendriks, Linda H., Steenbeek, Henderien W., Bisschop Boele, Evert H., & van Geert, Paul L. "Promoting Creative Autonomy Support in School Music Education: An Intervention Study Targeting Interaction". In *Frontiers in Education*, vol. 7, 2023, art. 1102011. https://doi.org/10.3389/feduc.2022.1102011

[19] He, Yudong, & Suttachitt, Narutt. "The Development of Music Teaching Strategies for Promoting Music Learning Competency for Elementary School Students Under the Core Literacy of Music Academic Subjects". In *Journal of Ecohumanism*, vol. 3, no. 8, 2024, pp. 3049-3061. https://doi.org/10.62754/joe.v3i8.4950

in average scores from 41 to 67.[20] A similar positive value of online multimedia technologies was considered in the study by Yao and Li.[21] The use of Vivace, Flow, Functional Ear Trainer applications contributed to the development of rhythm and hearing, analysis of musical works. The high quality of such training was associated with the correct distribution of the load, which improved the independence and consistency of the acquisition of knowledge by students. In the educational process, it is necessary to ensure the freedom of perception of materials by students.[22] The use of the concept of Merdeka Belajar contributes to a change in traditional educational attitudes and provides a connection between music and the artistic approach. The process is associated with the use of a creative approach, which affects the development of brain and spiritual creativity. Interactive technologies have a positive impact on the development of students' self-expression, which is associated with the possibility of performing diverse tasks for learning the material. However, the issue of choosing specific applications for studying individual musical topics is not well studied.

Another group of studies is aimed at determining the methodology of musical education of schoolchildren depending on the teachers' competence, which involved the development of existing teaching strategies. The authors Merezhko et al.[23] noted that the level of musical and pedagogical culture of future music teachers and understanding of approaches to conducting classes improve the pedagogical process. So, it is possible to rely on the methods of Émile Jaques-Dalcroze and Carl Orff, which are aimed at the relationship between movements and music. Orientation to the Jaworsky method will allow developing creative thinking based on the accumulation of impressions, spontaneous expression of creativity, improvisation, and the transmission of music through drawings. Stimulation of students' creative activity is possible

[20] Peng, Rui. "Enhancing Creativity in Music Education through VR: Development of Convergent and Divergent Thinking". In *Interactive Learning Environments*, 2025, pp. 1–15. https://doi.org/10.1080/10494820.2025.2472284

[21] Yao, Bing, & Li, Weiwei. "The Role of a Teacher in Modern Music Education: Can a Student Learn Music with the Help of Modernized Online Educational Technologies without Teachers?". In *Education and Information Technologies*, vol. 28, no. 11, 2023, pp. 14595-14610. https://doi.org/10.1007/s10639-023-11786-6

[22] Andaryani, Eka Titi, Armaidi, Indriana Eko, Wantoro, Wantoro, & Widjanarko, Paulus. „The Concept of Independence Learning: Increasing the Creativity of Elementary School Students in Learning Music Arts". In *Journal of Research and Educational Research Evaluation*, vol. 13, no. 1, 2024, pp. 85-94. https://journal.unnes.ac.id/journals/jere/article/view/4945

[23] Merezhko, Yulia V., Medvid, Tetiana A., & Sbitneva, Olena F. "Methods of Music Education of Schoolchildren in the Twentieth Century". In *Scientific Innovations and Advanced Technologies*, vol. 46, no. 6, 2025, pp. 1095-1105. https://elibrary.kubg.edu.ua/id/eprint/52187/

using the approach selected by teachers, which is based on original and meaningful musical works. This can be achieved through content analysis of compositions and active students' participation, which promotes their artistic self-expression.[24] The competence of teachers is important for ensuring the quality of the educational process. However, research should focus on the possibility of combining teaching with the use of non-standard approaches and teachers' activities.

The emphasis on the need to choose a different repertoire in teaching to develop students' creative skills is considered in the following group of studies. The development of students' creative skills is possible on the basis of listening to music. The choice of a different repertoire provides a subconscious influence on human feelings and the development of emotionality. This is due to the subtlety of music and the possibility of influencing the psychological states of an individual, which enable perceiving the main content of music.[25] Musical education should be aimed at enhancing students' motivation, which can be realized through a different repertoire.[26] It is necessary to ensure the selection of folk, classical, popular compositions in the educational process, which will allow for a holistic perception of the cultural musical environment.

The analyzed studies are aimed at the possibility of developing students' creative skills through music. However, the gaps in the research are associated with the lack of detail in the training program and the focus on certain creative skills that could be formed during vocal or instrumental interpretation. To eliminate possible gaps, it is necessary to focus on the choice of specific mechanisms for conducting musical practice at school and ensure an emphasis on methods of students' creative self-expression and creative abilities.

[24] Puri, Tia Destiana, Hutapea, Clarisa Jesika K. T., Aprianti, Yanti Nur, & Milyartini, Rita. "Creative Strategies in Music Composition Learning: A Literature Review on Stimulating Student Creativity". In *Jurnal Paedagogy*, vol. 12, no. 3, 2025, pp. 842-855. https://doi.org/10.33394/jp.v12i3.15397

[25] Djalilov, Ergash K. "The Role of Music Training in the Comprehensive Development of Schoolchildren". In *American Journal of Pedagogical and Educational Research*, vol. 32, 2025, pp. 49-51. https://www.neliti.com/publications/607913/the-role-of-music-training-in-the-comprehensive-development-of-schoolchildren#cite

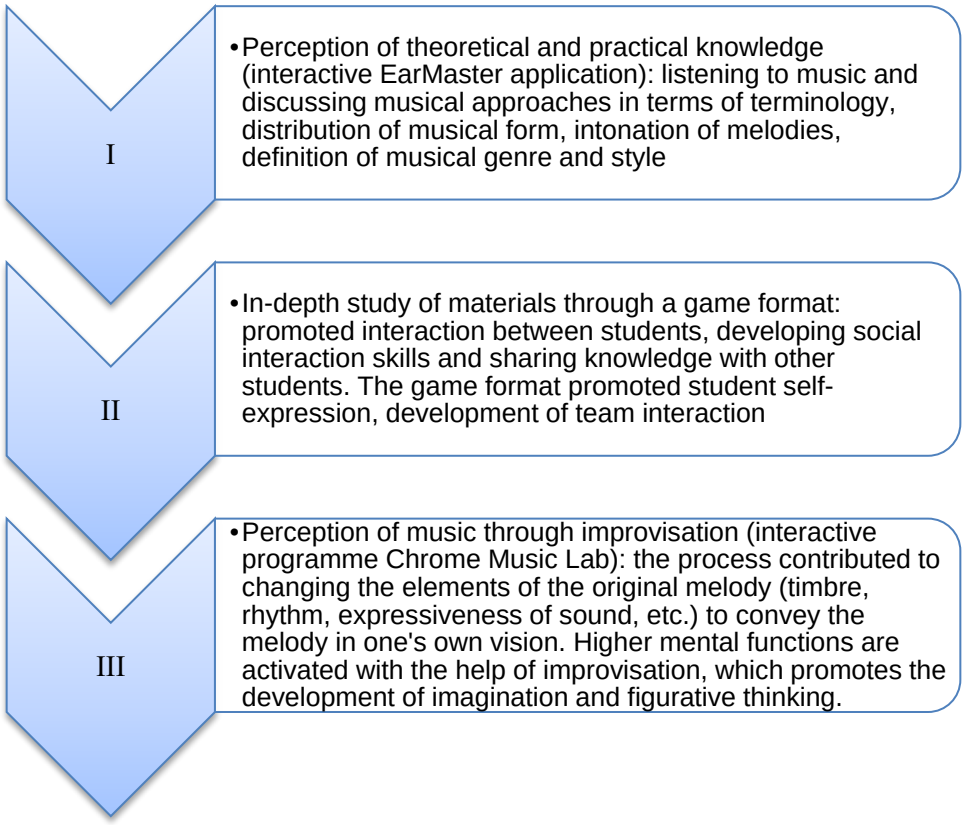
[26] Sattar, Gulnur, Rustemova, Saltanat & Nebessayeva, Zhanar. "Socially Interactive Approaches and Digital Technologies in Art Education: Developing Creative Thinking in Students During Art Classes". In *Open Education Studies*, vol. 7, no. 1, 2025, art. 20250096. https://doi.org/10.1515/edu-2025-0096

3. Methods

3.1 Research design

The first stage of the study involved the development of students' creative self-expression and creative abilities was implemented through the development of mechanisms for musical educational practice at school. The possibility of using interactive technologies during practical and theoretical classes was provided. The learning mechanisms included three main blocks (Figure 1).

Figure 1



Educational blocks for conducting music educational practice
Source: developed by the authors

The second stage of the study involved determining the teaching approach that had the greatest positive impact on the students' ability to implement creative musical activities. The effectiveness indicators were determined by students and teachers.

The third stage of the study was determining the level of developed students' creative self-expression and creative abilities. The results were compared before and after the study for assessing the impact of the chosen approach to learning. The third stage of the study also involved determining the level of students' motivation to perceive materials and study music in general.

3.2 Sampling

The study involved 7th grade 125 students of secondary schools in Kyiv. The age of the students was 12-14 years, which included 57% of girls and 43% of boys. The sample was limited to students from the same year of study, as they had almost the same level of musical knowledge, focusing on similar topics in the educational process and the results obtained in the subject. The limitations of the sample students were related to their lack of experience of studying in music schools. The lack of specialized music education was necessary for its influence on the final results and the possibility of determining the impact of music educational practice on students' creative self-expression and creative abilities. The formation of the sample was purposeful, which excluded the involvement of students from random grades in the study. This was due to the creation of mechanisms for studying music for students who have terminology and the ability to recognize notes. 8 music teachers were also involved, who contributed to the conduct of classes and control over students. Written confirmation of voluntary participation in the research program was obtained from the students' parents and teachers. Approval was also obtained from the school administration for the students' participation in the experimental part of the study.

3.3 Methods

The study employed the following research methods:

- the method of pedagogical modelling contributed to the development of music teaching mechanisms, which made it possible to choose learning strategies that were aimed at developing creative self-expression and creative abilities of students. In accordance with the method of pedagogical modelling, the goal and content of training were analyzed, as well as possible methods for achieving them. Attention was also paid to teaching aids and forms that were aimed at obtaining the expected results.

- a survey was used as an empirical method for collecting primary information. The survey identified pedagogical practices that had the greatest impact on the development of creative skills during musical activity. The process involved determining the learning block that ensured a creative learning process: obtaining theoretical and practical knowledge / game format of learning / creating improvisations. The use of the survey contributed to reflecting the teachers' and students' experience that was gained during learning. During the survey, it was necessary to take into account not only the advantages, but also the possible risks of such a learning process. The survey was also used to determine the level of development of students' motivation.

- Torrance's method was used to determine the level of development of students' creative self-expression. The method takes into account the criteria of originality, fluency, flexibility, and detailing. The method determined the level of students' acceptance of non-standard solutions, the number of ideas, and their quality. The level of students' creative self-expression was assessed by teachers, who assigned points from 1 to 5.

- Orff's method was used to determine the level of development of students' creative abilities.[27] According to the method, the criteria for the development of improvisation, the creation of a motor response to the music of vocal mini-compositions, and the reproduction of melodies on simple musical instruments were taken into account. These criteria were aimed at assessing students' creative manifestations, which was associated not only with the development of musical skills, but also with emotional intelligence and imagination. The teachers also assessed the level of development of creative abilities.

- Calculations were carried out using the Wilcoxon signed-rank test[28] to find a connection between dependent samples. It is a non-parametric statistical test that facilitates ordinal calculations of student performance before and after the study, which takes into account the null hypothesis (students' knowledge before the study) and the alternative hypothesis, which is formed under the influence of the selected learning process. If the obtained values do not exceed the tabulated values, the alternative hypothesis is ignored:

[27] Sun, T. "The Research on Educational Strategies for the Cultivation and Development of Multicultural Music Literacy". In *Journal of Modern Education and Culture*, vol. 1, no. 3, 2024. https://doi.org/10.70767/jmec.v1i3.439

[28] Malykhin, Oleksandr, Aristova, Natalia, & Dybkova, Liudmyla. "Developing Computer Science Undergraduate Students' Communicative and Self-Expression Skills: Digital vs. Traditional Storytelling Methods". In *Environment. Technology. Resources. Proceedings of the International Scientific and Practical Conference,* vol. 3, 2025, pp. 219-224. https://doi.org/10.17770/etr2025vol3.8559

$$Z = \frac{T-\mu_T}{\sigma_T} \quad (1)$$

T – test statistic;
μ_T – mathematical expectation;
σ_T – standard deviation.

3.4 Instruments

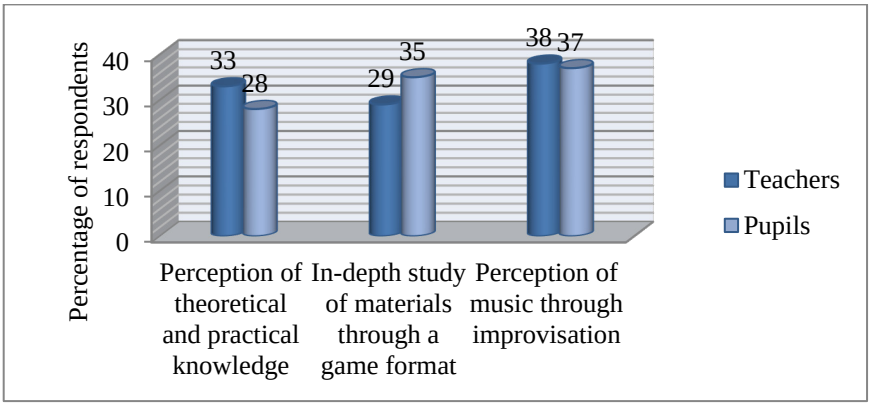
The interactive applications EarMaster and Chrome Music Lab were used as teaching tools to conduct the study. The EarMaster application was used to conduct theoretical and practical classes, which facilitated the analysis of musical compositions. Using the application promoted ear training, working with notes and rhythm. The Chrome Music Lab application facilitated the creation of musical improvisations, focusing on experiments with musical elements.

The Survio platform was the tool for conducting the survey. Creating questionnaires through Survio involved the use of ready-made templates for the logical construction of questions. Distributing questions among students and teachers was associated with time constraints, which required completing the survey within 4 hours. The service provided the ability to track responses in real time, which was displayed in graphical and tabular form and facilitated the response processing.

4. Results

After the training, it was determined which pedagogical practices had the greatest impact on the level of student engagement in creative musical activity. The results were compared between students and teachers, which facilitated a more detailed assessment of the selected pedagogical practices. The data was obtained based on the students' and teachers' survey (Figure 2).

Figure 2



Assessment of the impact of pedagogical practices for the implementation of creative musical activity
Source: developed by the authors

The results of the survey showed that students and teachers give the greatest preference to improvisation. Improvisation promoted self-expression based on the development of initiative, creativity, which also consisted in the ability to convey one's own emotions through music. Improvisation also contributed to the development of musical intuition, which is associated with the formation of a connection between musical images and imagination. Students noted that the perception of music through a game format also had a significant impact on enhancing the motivation in creative musical activity. The use of games contributed to the avoidance of patterns and the possibility of developing sensory-figurative thinking for musical learning through constant action. The advantage of the game format was also associated with the possibility of active interaction with other students, developing emotional and cognitive skills.

Unlike students, teachers believe that it is necessary to focus primarily on the development of theoretical and practical knowledge, as they are the basis for understanding music. The use of the interactive EarMaster application contributed to the possibility of personalized study of the topic and the expansion of students' ideas, the development of thinking, and individual understanding of music. Therefore, obtaining theoretical and practical knowledge is the basis for the possibility of studying musical materials through action.

The studied process provided for determining the level of development of students' creative self-expression and the development of their creative abilities. Comparison of the results before and after became the basis for

determining the advantages of music educational practice at school. The final data are presented using the Wilcoxon test calculations (Table 1).

Table 1

Evaluation criteria	Before training, points	After training, points	Wilcoxon test (normative value at 0.05 is 1.96)			
			T	μ_T	σ_T	Z
Creative self-expression						
Originality	3.3	4.8	2	8.1	3.802	2.04
Fluency	4.4	4.7	5	7.3	1.926	1.89
Flexibility	3.8	4.5	3	8.5	3.792	1.98
Detailing	3.7	4.3	3	8.8	3.801	1.97
Creative abilities						
Improvisation	3.4	4.8	2	8.2	3.805	2.02
Creating a motor response to music	4.5	4.7	4	7.0	1.912	1.73
Creating vocal mini-compositions	3.9	4.5	4	8.7	3.659	1.83
Playing melodies on simple musical instruments	4.2	4.4	5	6.8	1.902	1.71

The level of development of students' creative skills and creative abilities before and after the study
Source: developed by the authors

After the students underwent musical practice during the study period, they were able to achieve higher results in creative self-expression and creative abilities than before the study. The students' creative self-expression was primarily manifested in the development of originality and fluency, which was associated with the choice of diverse and unexpected ideas. Originality skills allowed students to combine atypical sounds, use unusual tempo, symbolic elements, etc. Based on the gained knowledge, students could create different ideas for musical interpretation, for example, creating musical rhythms or phrases according to one task. Students also developed flexibility, which allowed them to perform various musical tasks. Detailing skills contributed to the possibility of transforming an abstract idea, which affected the structuring and completeness of musical images.

After training, improvisation was the most pronounced among the creative abilities, which is associated with the reproduction of spontaneous musical ideas. The process involved the use of various means of musical expression (rhythm, harmony, intonation, etc.), which influenced the non-

standard sound of the compositions. So, students creatively expressed their own capabilities, which influenced the creation of not only text, but also melodies, focusing on their own imagination and musical ear. The skills of playing elementary musical instruments were also improved, which contributed to the ability to control sound, developing rhythm, and musical coordination. The motor response to music was associated with the possibility of emotional self-expression, understanding rhythm, and the ability to reproduce mirror movements. The creation of vocal mini-compositions was associated with the reproduction of a single plot, musical image, which ensured the development of a creative personality and communication through music.

Using the proposed approach to studying music the level of students' motivation for learning was established. The results were based on a comparison of the students' expected results with the actual data obtained during the study. The final data are presented in Table 2.

Table 2

Evaluation criteria	Before training, % of students	After training, % of students	Wilcoxon test (normative value at 0.05 is 1.96)			
			T	μ_T	σ_T	Z
High level	27	88	2	9.3	3.825	2.17
Medium level	58	12	3	8.5	3.819	2.09
Low level	15	-	-	-	-	-

The level of students' motivation for practical music learning
Source: developed by the authors

Musical educational practice using interactive technologies contributed to the development of a high level of student motivation. Students' interest was formed under the influence of constant creative development, which promoted the manifestation of their own individuality. Freedom of self-expression contributed to reducing the fear of making the wrong decision and presenting learning through creative play. This approach to learning contributed to the development of students' uniqueness and understanding of the value of developed musical skills for creating their own compositions. Students were motivated in the learning process, as the use of interactive technologies was provided. They contributed to the non-standard perception of information through individual exercises, games, and improvisations. The training also provided the opportunity to activate various areas — the development of musical knowledge, communication skills, emotionality, and the expansion of visual perception.

5. Discussion

Music classes contribute to the development of students' creativity, which should be associated with the factors of musical completeness, musical richness, individuality, and culture. This approach is a reliable tool for improving practical skills and abilities for musical creativity.[29] Artistic subjects are the development tool in teaching creativity. Performing creative tasks in groups contributes to the development of team creativity, which is associated with strategic thinking and the ability to find non-standard approaches to solving problems.[30] The development of creativity through music is possible based on the use of artistic instruments, the development of self-expression, and orientation on the emotional and social content of musical compositions. It is important to provide comprehensive training that contributes to the expansion of the individual horizons of the personality and the socialization of students.[31] The analysed studies are aimed at developing students' creative skills through a creative approach, but how to ensure an effective training programme is not specified in the studies. The results of our study were achieved through the development of specific training blocks, which included the development of theoretical and practical knowledge, studying materials through a game, and perceiving music through improvisation. So, our research contributed to the selection of more specific practices for studying music.

Music education in schools can be implemented using the STEAM approach. This contributes to obtaining rich musical experience, the ability to work in a team and focus on existing problems of music education. The use of Chrome Music Lab, Scratch Music, earSketch, UPISketch, iMuSciCA programmes contributes to the development of music education and enhancing students' interest. The use of modern technologies allows the implementation of multimedia projects and experiments with sounds. So, it affects the development of critical thinking and the possibility of using new approaches to musical performance,

[29] Jiang, He, Cheong, Ku Wing, & Tan, Wee Hoe. "Development and Validation of a Measure Assessing Children's Creative Practice Ability in Music". In *Thinking Skills and Creativity*, vol. 51, 2024, art. 101446. https://doi.org/10.1016/j.tsc.2023.101446

[30] Savchenko, Yuliia, Savchenko, Rehina, & Sokhan, Maksym. "Development of Creativity in Future Teachers of Musical Disciplines". In *Amazonia Investiga*, vol. 14, no. 86, 2025, pp. 90-102. https://doi.org/10.34069/AI/2025.86.02.8

[31] Sternfeld, Galit Zana, Israeli, Roni, & Lapidot-Lefer, Noam. "Creative Education or Educational Creativity: Integrating Arts, Social Emotional Aspects and Creative Learning Environments". In *International Journal of Education & the Arts*, vol. 25, no. 3, 2024. http://doi.org/10.26209/ijea25n3

ensuring creative self-expression.[32] Virtual applications Flowkey; Skoove; Music Everywhere can improve students' musical experience. This contributed to better memorization of musical terminology (89%), which increased the quality of reading music. In general, 70% of students were able to improve their musical performance skills and expand their creative self-expression skills.[33] The analyzed studies involve the use of digital applications in music education. However, the studies do not specify for which grades of students the applications can be used. This will allow us to determine the complexity of students' work with applications and the possibility of their adaptation to the study of individual musical directions. Our study involved 7th grade students, which allowed us to develop musical knowledge based on existing basic musical skills.

The students' creative skills can be developed on the basis of systemic thinking by using interactive technologies. Creative thinking can be developed on the basis of group learning, which allows for the active use of information technologies. This is due to the students' ability to make independent decisions and take responsibility for their realization.[34] The use of modern technologies contributes to the development of students' creative abilities in vocal music education. This ensures the development of students' cognitive skills, improvement of vocal singing, and enhancement of motivation. However, an insufficient level of theoretical musical knowledge can have a negative impact on the perception of practical information.[35] Students' creative skills can be formed using mnemonic techniques, which help to memorize musical fragments. It is necessary to develop visual, auditory, logical memory during studies, which will reduce the number of errors in musical performance, while preserving the structure of the melody. Memorizing melodies affects the development of musical ears and the quality of performing compositions.[36] Studies have provided evidence of the development of students' creative skills through

[32] Özer, Zeynep, & Demirbatir, Rasim Erol. "Examination of STEAM-Based Digital Learning Applications in Music Education". In *European Journal of STEM Education*, vol. 8, no. 1, 2023, art. 2. https://eric.ed.gov/?id=EJ1377876

[33] Cui, Kangxu. "Artificial Intelligence and Creativity: Piano Teaching with Augmented Reality Applications". In *Interactive Learning Environments*, vol. 31, no. 10, 2022, pp. 7017–7028. https://doi.org/10.1080/10494820.2022.2059520

[34] Wen, M. "Interactive Online Classes in Music Education: The Impact of Online Technologies on the Level of Creative Thinking of Students". In *Current Psychology*, vol. 43, no. 15, 2024, pp. 13619-13629. https://doi.org/10.1007/s12144-023-05411-5

[35] Lin, Siming. "Cultivation of Innovative Ability of Vocal Music Education Based on Big Data Analysis". In *Journal of Computational Methods in Sciences and Engineering*, vol. 25, no. 3, 2025, pp. 2732-2744. https://doi.org/10.1177/14727978251321638

[36] Mei, Lijuan. "The Role of Teaching Solfeggio Considering Memory Mechanisms in Developing Musical Memory and Hearing of Music School Students". In *Current Psychology*, vol. 43, no. 11, 2024, pp. 10005-10015. https://doi.org/10.1007/s12144-023-05109-8

music lessons. However, the issue of detailing creative abilities and skills that can be developed during music lessons is not well studied. In our study, the definition of creative self-expression was implemented through the use of the Torrance method, and the development of creative abilities – the Orff method. This allowed us to determine in more detail what skills were developed in students and to identify the possibility of solving the musical tasks set.

The use of the new educational model — Stimulation of Music Education — contributes to the improvement of musical creativity. The creation of musical improvisations aimed at improving students' literacy is of great importance in teaching. This technique is based on the use of the Orff method, which promotes the development of creativity based on fluency, originality, flexibility, and detailing of interactive performance.[37] The development of a creative personality in music lessons is possible through the perception of compositions through a general cultural process. Studying a variety of repertoire contributes to the understanding of various techniques of vocal and instrumental performance, the creation of improvisations, and ensemble playing. This stimulates students to develop their creative potential and individual self-expression.[38] Our article also developed specific strategies for the practical implementation of the music learning process. However, the proposed approach to learning was more interactive, which involved an orientation towards the development of students' motivation.

The study of existing academic research has shown the important influence of music practice classes on the development of students' creative skills. However, the research does not sufficiently study the information on the relationship between the level of students' initial knowledge and the development of creative skills that can be achieved during musical training. Our research was aimed at choosing specific approaches to music teaching that can be implemented using interactive technologies (EarMaster, Chrome Music Lab). The study found that students in training for the development of creative skills prefer the creation of improvisations and a game format, while teachers prefer the creation of improvisations. It was also established that a high level of development of students' creative self-expression using the Torrance method and the achievement of a high level of creative abilities using the Orff method. Such training provided the opportunity for students to

[37] Purnomo, T. W., Aulia, S. M., & Hirza, H. "Music Education Stimulate: An Innovative Orff-Based Learning Model to Stimulate Students' Creativity". In *International Music and Performing Arts Conference*, vol. 2, 2024, pp. 33-55. https://eprosiding.upsi.edu.my/index.php/Pro-IMPAC/article/view/22

[38] Gabdulmanova, Ilnura M. "Formation of the Creative Personality of Students of Comprehensive Schools in Music Lessons". In *International Journal of Pedagogics*, vol. 5, no. 3, 2025, pp. 192-193. https://doi.org/10.37547/ijp/Volume05Issue03-54

achieve a high level of motivation, which contributed to the development of musical knowledge and the expansion of visual perception.

The obtained results correspond to the hypothesis of the study, which confirms the effectiveness of using practical approaches to studying music for the development of students' creative skills and abilities. The practical use of the study is the possibility of improving the educational process of 7th grade students. This provides the opportunity to use specific educational approaches and applications by teachers, which is associated with a change in the educational process.

5.1 Limitations

In the conditions of the study, the limitations were associated with the involvement of students of one age category (grade 7), which was limited by the level of cognitive and emotional readiness for the perception of music. The involvement of students of other grades will allow to expand the understanding of the possibility of developing skills of creative self-expression and creative abilities by students. The process will allow to determine how creative skills are formed and motivation development depends on the use of interactive technologies in learning. The training was implemented among students in urban areas, which excluded the involvement of students from rural regions.

5.2 Recommendations

Changing the approach to the practical implementation of music education at school contributes to better involvement of students and broadening their horizons. The use of modern interactive technologies in teaching contributes to the creative self-expression of students and the development of creative abilities. The emphasis on enhancing students' motivation for the educational process will enable them to perceive music meaningfully and focus on expanding their own abilities. Analysis of the presented experience will allow teachers to focus on choosing non-standard approaches to transferring theoretical and practical musical knowledge to students. This will contribute to the development of not only professional, but also digital skills.

6. Conclusions

The development of creative thinking in schoolchildren has a positive impact not only on the perception of musical knowledge, but also on overall development. This has the potential to develop students, determine the ways of their creative self-expression, which affects emotional relief during learning,

and confirms the relevance of the chosen topic. The aim determined in the study was achieved in the course conducted research. The process enabled determining the effective value of music educational practice at school for the development of students' creative self-expression and creative abilities. The mechanisms of music education were associated with an emphasis on theoretical and practical knowledge, in-depth study of musical materials through a game format, and the creation of musical improvisations. Interactive programmes were used to learn educational materials (the EarMaster application) and create improvisations (Chrome Music Lab). It was found that, according to students, the game format of perception of materials (35%) and improvisations (37%) had the greatest impact on their creative development. Teachers noted that improvisation (38%) had the greatest impact, as it contributed to the students' individual development and facilitated the ability to independently experience music. The use of Torrance method made it possible to establish that the criteria for creative self-expression developed by students were originality (4.8 points) and fluency (4.7 points). Their development influenced the creation of non-standard approaches to performing music and providing a large number of different ideas for solving educational tasks. It was found that the most pronounced creative abilities identified using the Orff method were improvisation skills (4.8 points), which enabled students to reproduce their own musical ideas. This approach to learning contributed to ensuring a high level of student motivation (88%), which contributed to achieving high results.

The practical significance of the article is determining the possibility of developing students' critical self-expression skills and creative abilities through an emphasis on the development of practical skills and the creation of musical improvisations. The prospects of the study are the possibility of involving students in grades 4-6 in studying music using the mechanisms developed by the authors and assessing the level of their creative self-expression and creative abilities.

REFERENCES

Andaryani, Eka Titi, Armaidi, Indriana Eko, Wantoro, Wantoro, & Widjanarko, Paulus. „The Concept of Independence Learning: Increasing the Creativity of Elementary School Students in Learning Music Arts". In *Journal of Research and Educational Research Evaluation*, vol. 13, no. 1, 2024, pp. 85-94. https://journal.unnes.ac.id/journals/jere/article/view/4945

Cui, Kangxu. "Artificial Intelligence and Creativity: Piano Teaching with Augmented Reality Applications". In *Interactive Learning Environments*, vol. 31, no. 10, 2022, pp. 7017–7028. https://doi.org/10.1080/10494820.2022.2059520

Djalilov, Ergash K. “The Role of Music Training in the Comprehensive Development of Schoolchildren”. In *American Journal of Pedagogical and Educational Research*, vol. 32, 2025, pp. 49-51. https://www.neliti.com/publications/607913/the-role-of-music-training-in-the-comprehensive-development-of-schoolchildren#cite

Gabdulmanova, Ilnura M. “Formation of the Creative Personality of Students of Comprehensive Schools in Music Lessons”. In *International Journal of Pedagogics*, vol. 5, no. 3, 2025, pp. 192-193. https://doi.org/10.37547/ijp/Volume05Issue03-54

Gagica-Rexhepi, Flutura, Breznica, Rreze K., & Rexhepi, Burhan R. “Evaluating the Effectiveness of Using Digital Technologies in Music Education”. In *Journal of Educational Technology Development and Exchange (JETDE)*, vol. 17, no. 1, 2024, pp. 273-289. https://doi.org/10.18785/jetde.1701.16

He, Jiang, Wing, Cheong Ku & Hoe, Tan Wee. “The Cultivation of Children’s Musical Creative Practical Competency: A Literature Review”. In *Thinking Skills and Creativity*, vol. 48, 2023, art. 101309. doi:10.1016/j.tsc.2023.101309

He, Yudong, & Suttachitt, Narutt. “The Development of Music Teaching Strategies for Promoting Music Learning Competency for Elementary School Students Under the Core Literacy of Music Academic Subjects”. In *Journal of Ecohumanism*, vol. 3, no. 8, 2024, pp. 3049-3061. https://doi.org/10.62754/joe.v3i8.4950

Hendriks, Linda H., Steenbeek, Henderien W., Bisschop Boele, Evert H., & van Geert, Paul L. “Promoting Creative Autonomy Support in School Music Education: An Intervention Study Targeting Interaction”. In *Frontiers in Education*, vol. 7, 2023, art. 1102011. https://doi.org/10.3389/feduc.2022.1102011

Hermans, Carolien. “The Storyline Approach as a Didactic Tool to Promote Efficacy Beliefs of (Student) Teachers in Creative Music Activities with Young Children”. In *Research Studies in Music Education*, vol. 47, no. 1, 2024, pp. 74-88. https://doi.org/10.1177/1321103X241236420

Jiang, He, Cheong, Ku Wing, & Tan, Wee Hoe. “Development and Validation of a Measure Assessing Children’s Creative Practice Ability in Music”. In *Thinking Skills and Creativity*, vol. 51, 2024, art. 101446. https://doi.org/10.1016/j.tsc.2023.101446

Lin, Siming. “Cultivation of Innovative Ability of Vocal Music Education Based on Big Data Analysis”. In *Journal of Computational Methods in Sciences and Engineering*, vol. 25, no. 3, 2025, pp. 2732-2744. https://doi.org/10.1177/14727978251321638

Lukovska, Svitlana. “Exploring the Composer-Performer-Teacher Role Complex in Fostering Creativity in Music Education”. In *Convergences-Journal of Research and Arts Education*, vol. 17, no. 33, 2024, pp. 105-122. https://doi.org/10.53681/c1514225187514391s.33.242

Malykhin, Oleksandr, Aristova, Natalia, & Dybkova, Liudmyla. “Developing Computer Science Undergraduate Students’ Communicative and Self-Expression Skills: Digital vs. Traditional Storytelling Methods”. In *Environment. Technology. Resources. Proceedings of the International Scientific and Practical Conference,* vol. 3, 2025, pp. 219-224. https://doi.org/10.17770/etr2025vol3.8559

Mei, Lijuan. "The Role of Teaching Solfeggio Considering Memory Mechanisms in Developing Musical Memory and Hearing of Music School Students". In *Current Psychology*, vol. 43, no. 11, 2024, pp. 10005-10015. https://doi.org/10.1007/s12144-023-05109-8

Merezhko, Yulia V., Medvid, Tetiana A., & Sbitneva, Olena F. "Methods of Music Education of Schoolchildren in the Twentieth Century". In *Scientific Innovations and Advanced Technologies*, vol. 46, no. 6, 2025, pp. 1095-1105. https://elibrary.kubg.edu.ua/id/eprint/52187/

Nagaoka, Miyako. "Creative Musical Self-Expression Programs for Students on Teacher Training Courses for Childcare and Education". In *International Journal of Creativity in Music Education*, vol. 8, 2021, pp. 66-92. https://doi.org/10.50825/icme.8.0_66

Özer, Zeynep, & Demirbatir, Rasim Erol. "Examination of STEAM-Based Digital Learning Applications in Music Education". In *European Journal of STEM Education*, vol. 8, no. 1, 2023, art. 2. https://eric.ed.gov/?id=EJ1377876

Peng, Rui. "Enhancing Creativity in Music Education through VR: Development of Convergent and Divergent Thinking". In *Interactive Learning Environments*, 2025, pp. 1–15. https://doi.org/10.1080/10494820.2025.2472284

Puri, Tia Destiana, Hutapea, Clarisa Jesika K. T., Aprianti, Yanti Nur, & Milyartini, Rita. "Creative Strategies in Music Composition Learning: A Literature Review on Stimulating Student Creativity". In *Jurnal Paedagogy*, vol. 12, no. 3, 2025, pp. 842-855. https://doi.org/10.33394/jp.v12i3.15397

Purnomo, T. W., Aulia, S. M., & Hirza, H. "Music Education Stimulate: An Innovative Orff-Based Learning Model to Stimulate Students' Creativity". In *International Music and Performing Arts Conference*, vol. 2, 2024, pp. 33-55. https://eprosiding.upsi.edu.my/index.php/Pro-IMPAC/article/view/22

Sattar, Gulnur, Rustemova, Saltanat & Nebessayeva, Zhanar. "Socially Interactive Approaches and Digital Technologies in Art Education: Developing Creative Thinking in Students During Art Classes". In *Open Education Studies*, vol. 7, no. 1, 2025, art. 20250096. https://doi.org/10.1515/edu-2025-0096

Savchenko, Yuliia, Savchenko, Rehina, & Sokhan, Maksym. "Development of Creativity in Future Teachers of Musical Disciplines". In *Amazonia Investiga*, vol. 14, no. 86, 2025, pp. 90-102. https://doi.org/10.34069/AI/2025.86.02.8

Sembiring, Piter, Muqri, Al, & Nurfalah, Asep Rizwan. "From Instruction to Inspiration: Pedagogical Approaches for Teaching in Private Music Education". In *DIAJAR: Jurnal Pendidikan dan Pembelajaran*, vol. 4, no. 2, 2025, pp. 177-184. https://doi.org/10.54259/diajar.v4i2.4203

Shcholokova, Olha, Skopych, Alla, Zhurska, Nataliia, Khomenko, Leonid, & Rastruba, Tetiana. "Music Education and Digital Culture: Interaction of Integrative Thinking and Creative Technologies". In *Per Musi*, vol. 26, 2025, art. e252617. https://doi.org/10.35699/2317-6377.2025.58891

Sofianos, K. C., Michael, S., Manolis, M., Alexios, K., Anastasia, G., & Linas, B. (2025). "Integrating Artificial Intelligence and Digital Tools to Enhance Learning and Accessibility in Music Education". In *IFIP International Conference on Artificial Intelligence Applications and Innovations,* ed. by Ilias Maglogiannis,

Lazaros Iliadis, Andreas Andreou, Antonios Papaleonidas, Cham: Springer Nature Switzerland (2025), pp. 169-181. https://doi.org/10.1007/978-3-031-96231-8_13

Sternfeld, Galit Zana, Israeli, Roni, & Lapidot-Lefer, Noam. “Creative Education or Educational Creativity: Integrating Arts, Social Emotional Aspects and Creative Learning Environments”. In *International Journal of Education & the Arts*, vol. 25, no. 3, 2024. http://doi.org/10.26209/ijea25n3

Sun, T. “The Research on Educational Strategies for the Cultivation and Development of Multicultural Music Literacy”. In *Journal of Modern Education and Culture*, vol. 1, no. 3, 2024. https://doi.org/10.70767/jmec.v1i3.439

Wen, M. “Interactive Online Classes in Music Education: The Impact of Online Technologies on the Level of Creative Thinking of Students”. In *Current Psychology*, vol. 43, no. 15, 2024, pp. 13619-13629. https://doi.org/10.1007/s12144-023-05411-5

Yao, Bing, & Li, Weiwei. “The Role of a Teacher in Modern Music Education: Can a Student Learn Music with the Help of Modernized Online Educational Technologies without Teachers?”. In *Education and Information Technologies*, vol. 28, no. 11, 2023, pp. 14595-14610. https://doi.org/10.1007/s10639-023-11786-6

Yaoquan, Jin, Ruiping, Huang, Yang, Zhang, & Marchenko, Valerii. “Polyartistic Approach in Music Education: A Tool for Teaching and Developing Creative and Critical Thinking”. In *Rupkatha Journal*, vol. 15, no. 2, 2023, pp. 1-19. https://doi.org/10.21659/rupkatha.v15n2.09

Zhu, Mila, Morrison, Sarah, McAlester, Kalyn, Morrison, Susan, Nottingham, Maribeth, & Stout, Jerry. “From Detention to Expression: A Case Study on Fostering Adolescents’ Artistic Liberation”. In *Critical Questions in Education*, vol. 15, no. 3, 2024. https://academyforeducationalstudies.org/wp-content/uploads/2024/10/01-zhu-et-al.-final.pdf