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Examination Culture and Music Education Practices: A Review of Children's Instrument Learning

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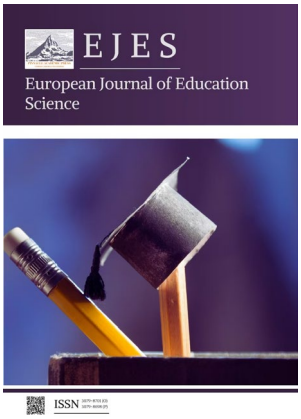

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Abstract: This review examines the impact of examination-oriented music education on children's instrument learning, with a focus on motivation, expressive skills, empathy, and creativity. Case analyses illustrate how intrinsic interest, supportive environments, and freedom for improvisation foster technical proficiency, emotional understanding, and creative expression, whereas an overemphasis on graded examinations often limits personal engagement and expressive development. The study highlights the importance of integrating narrative context, imaginative exploration, and autonomous interpretation into teaching practices. Recommendations for educators and parents emphasize balancing technical training with opportunities for self-directed expression, nurturing empathy, and promoting long-term musical engagement. The review also suggests directions for future research on the longitudinal effects of motivation, empathy, and creativity on musical development.

Keywords: music education; instrument learning; motivation; creativity; expressive skills

1. Introduction

1.1. Music as a Language and Art Form

Music is fundamentally a language of emotion and expression. Unlike spoken words, it conveys meaning through melody, rhythm, harmony, dynamics, and timbre, allowing performers to communicate feelings and ideas that cannot be fully captured by speech alone. Learning an instrument is therefore not merely a process of acquiring technical skills; it is also a form of personal expression and emotional development. Children who engage with music have the opportunity to explore their creativity, develop emotional awareness, and cultivate a sense of aesthetic appreciation [1]. Music provides a unique channel for communication, where the instrument becomes an extension of the learner's inner voice. It is through this expressive function that music gains its enduring appeal and value. However, modern music education increasingly emphasizes technical mastery and measurable achievements, which can inadvertently reduce the emphasis on musical expression. When music becomes a task to complete rather than an experience to enjoy, its original purpose as a language of emotion and communication risks being overshadowed.

1.2. Current Landscape of Children's Instrument Learning: Interest vs. Examination Pressure

In today's society, children learn musical instruments for a variety of reasons, and these motivations significantly influence their engagement and development. Some children are genuinely curious about music and find joy in playing, improvising, or creating

melodies of their own. Others, however, are guided primarily by external factors, such as parental expectations, social recognition, or examination requirements. For instance, some parents encourage their children to pursue advanced piano or guzheng certifications to showcase talent or family tradition, regardless of the child's personal interest. While these structured programs often succeed in producing technically proficient performers, they can also inadvertently diminish the child's enjoyment and intrinsic motivation for music [2].

Consider the experiences of several students. Student A, whose mother was a music teacher, completed piano Grade 10 despite disliking the instrument. After receiving the certificate, the child stopped playing entirely, leaving technical skills unused. Student B, from a musically supportive and resource-rich family, developed exceptional technical proficiency and the ability to read and reproduce complex scores. Yet this student struggled with personal expression and improvisation, demonstrating that technical mastery alone does not guarantee creative engagement [3]. Student C, who studied a traditional instrument for years, failed to consolidate basic skills and depended heavily on external guidance, showing minimal initiative or flexibility. In contrast, Student D, who learned piano in a pressure-free environment during a break from school, developed extraordinary creativity and a strong ability to express emotions through music [4]. These examples illustrate that motivation, interest, and the learning environment deeply influence not only skill acquisition but also the development of expressive and improvisational abilities.

Children's motivations for learning an instrument are therefore diverse, spanning genuine personal interest, parental expectations, examination objectives, and social recognition. Understanding these motivations is crucial for educators seeking to balance technical training with creative and expressive development. Table 1 summarizes these primary motivations, providing a clear overview of how different factors influence children's engagement with music and their learning outcomes.

Table 1. Children's Instrument Learning Motivations.

Motivation Type	Description	Examples
Intrinsic Interest	Child's personal enjoyment of music and self-directed practice	Student D, playing piano for personal expression
Parental Expectation	Motivation driven by family ambitions or heritage	Student A, completing piano Grade 10 due to mother's influence
Examination Achievement	Focus on obtaining certificates or formal qualifications	Many children preparing for graded exams
Social Recognition	Desire to gain admiration from peers or community	Performing in recitals or competitions

1.3. Research Problem and Review Objectives

Despite widespread participation in structured music programs and examinations, many children lose interest or fail to develop expressive skills even after achieving high technical proficiency. This raises an important question: why do some children, despite mastering technical aspects, fail to maintain their passion for music or develop creativity? Evidence from practice suggests that the balance between intrinsic motivation, learning environment, and educational practices plays a crucial role. Students primarily motivated by external pressures often exhibit reduced engagement, limited improvisation, and minimal emotional interpretation. In contrast, children nurtured in supportive, low-pressure environments and encouraged to explore music autonomously tend to demonstrate greater creativity, emotional awareness, and expressive capacity [5].

The aim of this review is to analyze the interplay between examination culture, music education practices, and children's motivations and learning outcomes. Specifically, the review will:

Examine how examination-focused training affects the balance between technical proficiency and expressive capabilities.

Explore the impact of different motivational types on interest, engagement, and long-term musical development.

Highlight strategies that educators can employ to foster creativity, emotional expression, and improvisational skills while maintaining technical rigor [6].

By understanding the multifaceted influences on children's musical development, this review seeks to provide insights into effective music education practices that nurture both technical mastery and artistic expression, allowing music to serve as a living language of communication rather than merely a means of certification [7].

2. Examination Culture in Music Education

2.1. Development and Purpose of Examination Systems

Music examination systems have become an integral part of formal music education in many countries. Initially designed to standardize assessment, provide measurable milestones, and encourage consistent practice, these systems offer structured pathways from beginner to advanced levels. Students can obtain certifications that reflect technical accomplishment and skill progression. Parents and educators often regard these examinations as tangible evidence of a child's progress, providing reassurance that the time invested in practice is yielding results.

The examinations typically focus on graded repertoire, technical exercises, scales, and sight-reading. By setting clear goals for each level, the system aims to cultivate discipline, persistence, and measurable proficiency [8]. It also offers opportunities for recognition, awards, and performance experience, which can boost confidence and public presentation skills. From a societal perspective, examination systems help standardize the qualifications of young musicians and provide benchmarks for teaching institutions, ensuring that basic technical skills are taught systematically.

However, the structured nature of examinations also has inherent limitations. While they promote technical mastery, they often emphasize replication of prescribed pieces rather than personal interpretation or improvisation. Students may devote substantial amounts of time to perfecting a piece exactly as written, leaving little room for emotional exploration or creative experimentation. Over time, this can lead to a narrow view of music as a series of technical challenges rather than a living form of expression [9].

2.2. Impact on Children's Learning Behavior

The influence of examination culture on children's learning behavior is profound. Many students adjust their practice habits to meet examination requirements, concentrating on the technical aspects of performance—accuracy, speed, articulation, and memorization—at the expense of expressive and improvisational skills. This focus often results in a form of mechanical learning, where the goal becomes reproducing notes correctly rather than interpreting the music or connecting emotionally with the material.

Consider the following examples. Student A, pressured by parental expectations, mastered all technical requirements of piano Grade 10 but lacked interest and emotional engagement, ultimately abandoning the instrument after certification. Student B, although highly skilled and able to learn new pieces rapidly, struggled with improvisation and expressive interpretation, illustrating that technical proficiency alone does not ensure musical creativity. Student C, who practiced traditional Chinese flute for years, developed uneven basic skills and heavily relied on external guidance, showing minimal initiative in performance and virtually no ability to modify or personalize repertoire. In contrast, Student D thrived in a pressure-free environment, developing strong creative abilities and expressive performance despite limited formal guidance, demonstrating the potential of intrinsic motivation to cultivate musical artistry [10].

These cases highlight a central tension in examination culture: while examinations reward technical mastery, they may inadvertently discourage exploration, emotional engagement, and improvisation. Students can become skilled at executing pre-defined pieces without truly understanding or feeling the music, undermining the broader educational goal of nurturing expressive, communicative musicians.

2.3. Critique of Examination Repertoire

A critical aspect of examination culture is the repertoire itself. Many examination pieces, particularly at higher levels, are designed to showcase technical skill, agility, and precision. While some pieces are classical masterpieces with inherent aesthetic value, a significant portion emphasizes speed, complexity, and virtuosity rather than emotional depth. Students may learn these pieces to demonstrate competence rather than to explore musical meaning or develop personal expression [11].

As a result, children may perceive music as a series of technical hurdles rather than an artistic journey. This approach limits opportunities for improvisation, emotional exploration, and creative interpretation. Students who are primarily focused on certification may rarely engage in free play, composition, or personal interpretation, which are essential for developing expressive capabilities and a lifelong connection with music.

Table 2 summarizes common examination repertoire characteristics, highlighting the skills emphasized in these pieces and the elements often lacking, such as improvisation and emotional expression. The table illustrates how repertoire design contributes to the tension between technical proficiency and creative development.

Table 2. Common Examination Repertoires and Their Characteristics.

Repertoire Category	Emphasized Skills	Often Lacking	Examples
Classical Technical Pieces	Finger agility, precision, rhythm	Improvisation, emotional depth	Fast etudes, scales, technical exercises
Standard Exam Pieces	Memorization, musical structure	Personal interpretation	Assigned sonatinas, graded pieces
Virtuosic Showpieces	Speed, dexterity, articulation	Creativity, spontaneity	High-level exam concertos or advanced solos
Folk or Traditional Pieces	Ornamentation, stylistic accuracy	Expressive improvisation	Regional folk arrangements adapted for exams

3. Interest and Motivation in Instrument Learning

3.1. Types of Motivation in Children's Music Learning

Children learn musical instruments for a variety of reasons, which can be broadly categorized into intrinsic and extrinsic motivations. Intrinsic motivation comes from a child's own enjoyment and curiosity. A child driven by intrinsic interest may explore melodies, experiment with improvisation, and develop personal expression because they find the activity rewarding in itself. In contrast, extrinsic motivation is guided by external factors, such as parental expectations, examination requirements, or social recognition. Children motivated extrinsically often focus on completing assigned pieces accurately, meeting performance standards, or gaining approval from others, rather than connecting emotionally with the music [12].

While extrinsic motivation can push children to achieve measurable milestones and technical proficiency, it may limit opportunities for creative exploration. Intrinsic motivation, on the other hand, encourages self-directed learning, experimentation, and the development of expressive skills. Both types of motivation are present in music learning, but their balance greatly affects practice habits, skill development, and long-term engagement.

3.2. Influence of Motivation on Skill Development and Creativity

The type of motivation a child experiences significantly shapes their musical development. Children with strong intrinsic interest tend to practice more consistently and engage in self-directed exploration beyond assigned repertoire. This additional practice strengthens technical skills such as finger dexterity, rhythm accuracy, and musical phrasing. Importantly, it also fosters creative thinking and the ability to improvise or compose. Mistakes are viewed as part of the learning process rather than failures, allowing children to experiment and adapt musical ideas freely.

In contrast, children driven primarily by extrinsic goals often focus narrowly on reproducing pieces with technical precision [13]. Their practice is structured and goal-oriented, aiming to fulfill examination or performance requirements. While this can result in rapid technical progress, it often comes at the expense of improvisational skills, personal expression, and emotional engagement. Over time, these children may lose curiosity and become disengaged from the intrinsic pleasures of music, limiting their long-term growth as expressive musicians [14].

3.3. Case Analysis: Family Environment and Motivation

Family context plays a critical role in shaping motivation and learning outcomes. Student B, for example, grew up in a musically supportive family with access to professional private lessons, high-quality instruments, and structured guidance. This environment cultivated exceptional technical skills, rapid learning, and the ability to tackle challenging repertoire. However, the strong focus on performance standards and achievement also limited the child's creative exploration. Despite high technical ability, Student B struggles with improvisation and expressive interpretation, highlighting the constraints of extrinsic motivation when it dominates the learning process [15].

Student D presents a contrasting case. The child enjoyed a low-pressure environment with no immediate performance or examination requirements. Music became a personal source of joy and expression rather than an obligation. During this time, the child developed strong improvisational skills, expressive interpretation, and creative composition abilities. The freedom to explore music autonomously encouraged deep engagement, curiosity, and a lasting connection to the instrument. The differences between Students B and D underscore how intrinsic interest nurtured in a supportive environment promotes both technical mastery and expressive creativity, while heavily extrinsic motivations may produce technically competent yet emotionally limited performers.

3.4. Linking Motivation to Learning Outcomes

Motivation affects multiple dimensions of musical learning, including attitude toward practice, technical performance, and creative abilities. Intrinsically motivated children demonstrate proactive, engaged learning, often seeking new challenges and opportunities for expression. Those guided by extrinsic motivation may show discipline and accuracy but tend to approach music as a task rather than a medium of expression. Socially motivated children focus on recognition and approval, which can lead to performance-driven practice but limited personal exploration. Examination-driven motivation emphasizes replication and technical achievement, often leaving little space for improvisation or emotional connection.

Table 3 summarizes the impact of different motivation types on children's music learning outcomes, comparing learning attitude, performance capability, and creativity or improvisational skill. The table illustrates how intrinsic and extrinsic motivations shape both the process and results of music learning.

Table 3. Impact of Motivation on Children's Music Learning Outcomes.

Motivation Type	Learning Attitude	Performance Capability	Creativity / Improvisation
Intrinsic Interest	Proactive, self-directed, engaged	Solid technical foundation, flexible	High; frequently improvises or creates
Parental Expectation	Compliant, task-focused	Strong technical skills	Limited; relies on guidance
Examination Achievement	Structured, goal-oriented	Accurate and precise execution	Minimal; focuses on replication
Social Recognition	Performance-driven, externally motivated	Variable technical quality	Low; prioritizes approval over creativity

The table illustrates that motivation type directly influences not only the technical and expressive outcomes of musical training but also the child's long-term engagement and willingness to explore music as a form of personal expression. Understanding these relationships is crucial for designing effective music education practices that cultivate both skill and creativity.

3.5. Transition to Expressive Skills

Recognizing the strong connection between intrinsic motivation and creative development naturally leads to questions about how children translate technical ability into emotional expression. While skill acquisition is important, the ultimate goal of music education is to enable learners to communicate and connect through sound. The ways in which motivation shapes empathy, improvisation, and expressive interpretation in children's musical performances will be explored in the following chapter.

4. Expressive Skills and Empathy in Music Education

4.1. Psychological Mechanisms of Musical Expression

Musical expression is not solely a matter of technical skill; it is deeply rooted in psychological and emotional capacities, particularly empathy. Empathy enables performers to perceive and internalize emotional nuances, both in the music itself and in the intended communication with the audience. Children who can empathize with the narrative, mood, or cultural context of a piece are better able to convey emotion through dynamics, phrasing, tempo, and articulation.

Without sufficient empathy, a technically accurate performance may still feel mechanical or emotionally flat. Empathy allows musicians to interpret pieces beyond the literal notes, infusing each performance with personal understanding and emotional resonance. Developing this capacity in children is therefore essential for transforming musical skill into genuine artistic expression. Empathy in music is cultivated through both listening experiences and guided reflection, encouraging students to connect with the emotional content of music on a personal level.

4.2. Teaching Practices for Developing Emotional Understanding

Effective music education integrates strategies that cultivate both technical proficiency and expressive capabilities. One approach is to embed storylines or narrative backgrounds into pieces, enabling children to imagine scenarios and emotional journeys while playing. By associating a composition with a character, a scene, or a cultural context, children can explore how musical elements communicate specific feelings or ideas.

Another key practice is creating space for autonomous interpretation. Instead of prescribing exactly how a phrase should be played, teachers can encourage students to experiment with dynamics, tempo, and articulation, guiding them to make choices based on their personal understanding of the music. This approach nurtures a sense of ownership and encourages the development of improvisational skills. Imaginative engagement with

music—allowing children to envision scenes, feelings, or stories as they play—strengthens both emotional sensitivity and expressive confidence.

Collaborative activities, such as ensemble performance or peer feedback sessions, also contribute to empathy development. When children observe and respond to their peers' interpretations, they learn to recognize subtle expressive choices and adapt their own playing in response. This social dimension of learning reinforces emotional awareness and helps children understand that music is a medium for communication, not just technical execution.

4.3. Case Comparisons: Improvisation and Self-Expression

Case studies highlight the role of intrinsic interest and low-pressure environments in fostering expressive skills. Student D, who practiced piano in a relaxed, self-directed setting, developed strong improvisational abilities and expressive interpretation. This student frequently experimented with phrasing, dynamics, and creative embellishments, transforming pre-composed pieces into personal statements of musical thought.

In contrast, Student B, despite exceptional technical skill, displayed limited expressive development. The child's practice focused on reproducing written music accurately, leaving little opportunity for improvisation or personal interpretation. Even when presented with the same repertoire as Student D, Student B's performances were precise but lacked emotional depth and creative variation. Student C, learning traditional Chinese flute under structured guidance, showed minimal self-directed exploration, requiring constant supervision and instructions for even basic interpretation. These examples illustrate that technical ability alone does not guarantee expressive competence; rather, intrinsic engagement, freedom to explore, and imaginative connection with music are crucial.

4.4. Role of Narrative, Imagination, and Autonomous Understanding

Incorporating story backgrounds and imaginative contexts into music education allows children to connect emotionally with their instruments. For example, a simple melodic phrase can be associated with a morning scene, a playful animal, or an emotional conversation between characters. Such contextualization encourages children to consider emotional intent, dynamics, and phrasing choices in their performance.

Autonomous understanding further enhances expressive skills. When students are prompted to interpret music according to their own perception rather than following prescriptive adult instructions, they develop critical thinking and decision-making abilities in music. This autonomy fosters confidence, flexibility, and creativity. Children learn not only to execute notes correctly but also to communicate meaningfully through their instrument, discovering music as a language for expressing personal emotions and ideas.

4.5. Integration into Teaching Practices

Teachers can integrate these principles through structured exercises and open-ended tasks. For instance, after mastering a technical passage, a student may be asked to retell the musical story in their own way, experiment with dynamics, or create a short improvisation based on the theme. Regular reflection on emotional interpretation and peer feedback reinforces empathy and expressive understanding. Combining technical instruction with imaginative engagement ensures that children develop both the skills to play accurately and the capacity to convey emotion authentically.

By emphasizing empathy, imagination, and autonomous understanding, music education can transform children's learning experiences from rote repetition to meaningful expression. These practices ensure that children are not only proficient performers but also emotionally connected musicians capable of using their instruments as a language for personal and social communication.

5. Creativity and Improvisation in Children's Music Learning

5.1. The Role of Creativity in Music Education

Creativity occupies a central place in music education, bridging technical skill and personal expression. Beyond mastering scales, techniques, and repertoire, children must be able to interpret, modify, and compose music to develop as fully expressive musicians. Creative engagement allows children to explore musical ideas, experiment with phrasing and dynamics, and develop a personal musical identity. Without creativity, even technically proficient performers may struggle to communicate emotionally or connect with audiences.

Incorporating creativity into music learning fosters motivation and long-term engagement. Children who are encouraged to compose or reinterpret pieces tend to develop a deeper understanding of musical structures and patterns. They learn to approach music as a flexible language, rather than a fixed set of rules to follow. Creativity transforms practice from a repetitive, task-driven activity into an interactive process of exploration and self-expression.

5.2. Value and Methods of Improvisation Training

Improvisation is a key component of creative musical development. Through improvisation, children learn to make real-time musical decisions, experiment with harmonic, melodic, and rhythmic ideas, and express emotions spontaneously. Improvisation exercises can range from simple melodic variations on familiar themes to composing short passages in response to a given mood or story.

Case comparisons illustrate the impact of improvisation practice. Student D, immersed in low-pressure, interest-driven learning, frequently improvises during practice sessions. This practice strengthens technical agility, expressive range, and compositional thinking, enabling D to create personal musical statements and perform with emotional depth. In contrast, Student C, focused on passive replication of assigned pieces, rarely experiments or improvises. Despite technical instruction, C remains dependent on guidance and pre-written scores, demonstrating limited flexibility, creativity, and musical understanding.

Integrating improvisation into lessons can take many forms: prompting children to reinterpret a piece in different keys, compose variations on a melody, or respond musically to imagery or stories. These activities encourage spontaneous thinking and emotional expression while reinforcing foundational techniques.

5.3. Teaching Strategies: Combining Technical Training with Creativity

To balance technical proficiency with creative development, music educators can implement structured yet flexible teaching strategies. A typical approach begins with technical exercises and repertoire practice to ensure solid fundamentals. Once foundational skills are established, teachers can introduce creative tasks, such as composition, improvisation, or expressive reinterpretation of familiar pieces. Encouraging students to experiment independently, make interpretive decisions, and reflect on their choices helps build both confidence and autonomy.

Additionally, collaborative activities—such as ensemble improvisation, peer feedback sessions, or guided composition workshops—promote creative thinking and social musical interaction. By integrating creativity and improvisation into the core of music education, children develop not only technical mastery but also expressive fluency, improvisational agility, and lasting musical engagement.

6. Implications for Music Education Practices

6.1. Summary of Key Findings

The analysis of children's instrument learning reveals a complex interplay between motivation, empathy, creativity, and examination culture. Intrinsic interest emerges as a driving force behind sustained engagement, technical skill development, and expressive performance. Children who enjoy music for its own sake demonstrate higher improvisational ability, emotional understanding, and creative exploration. Empathy enhances their capacity to convey emotion and interpret music meaningfully, while creative engagement allows them to develop personal musical identities. In contrast, a strong emphasis on examination achievement often prioritizes technical replication over expression, limiting children's emotional connection and creative growth.

6.2. Recommendations for Music Educators

To cultivate well-rounded musicians, educators should balance technical training with opportunities for expression and creativity. This can be achieved by:

Increasing opportunities for free play and creative composition: Allowing children to improvise, compose, or reinterpret pieces encourages autonomy and personal expression.

Strengthening emotional resonance through story and context: Embedding narrative elements or imagery in music lessons fosters empathy and helps students connect emotionally with their instrument.

Using examinations as a supplementary tool: Technical assessments can guide skill development but should not become the primary goal, preserving intrinsic motivation and curiosity.

By implementing these strategies, teachers can create learning environments that nurture technical proficiency while promoting expressive and creative abilities.

6.3. Guidance for Parents

Parents play a pivotal role in shaping motivation and attitude toward music. Encouraging children to explore music freely, supporting their creative choices, and minimizing pressure for formal achievement can enhance intrinsic motivation. Providing instruments, exposure to diverse musical experiences, and opportunities for collaborative or performative play helps children build confidence, empathy, and expressive skills.

6.4. Directions for Future Research

Future studies could focus on quantitatively measuring the long-term impact of intrinsic interest, empathy, and creative engagement on musical development. Investigating how these factors interact with examination culture, practice habits, and family support could provide deeper insights into effective music education strategies. Longitudinal studies may reveal how fostering creativity and emotional understanding influences lifelong engagement, performance quality, and personal fulfillment in music.

References

1. A. Oliveira, F. S. Ribeiro, L. M. Ribeiro, G. McPherson, P. Oliveira-Silva, "Disentangling motivation within instrumental music learning: A systematic review," *Music Education Research*, vol. 23, no. 1, pp. 105-122, 2021, doi: 10.1080/14613808.2020.1866517.
2. D. T. Ng, E. H. Ng, S. K. Chu, "Engaging students in creative music making with musical instrument application in an online flipped classroom," *Education and information Technologies*, vol. 27, no. 1, pp. 45-64, 2022, doi: 10.1007/s10639-021-10568-2.
3. S. Y. Lei, D. K. Chiu, M. M. W. Lung, C. T. Chan, "Exploring the aids of social media for musical instrument education," *International Journal of Music Education*, vol. 39, no. 2, pp. 187-201, 2021, doi: 10.1177/0255761420986217.
4. J. I. Pozo, M. P. P. Echeverría, A. Casas-Mas, G. López-Íniguez, B. Cabellos, E. Méndez, et al., "Teaching and learning musical instruments through ICT: the impact of the COVID-19 pandemic lockdown," *Heliyon*, vol. 8, no. 1, 2022, doi: 10.1016/j.heliyon.2022.e08761.

5. M. Ouyang, "Employing mobile learning in music education," *Education and Information Technologies*, vol. 28, no. 5, pp. 5241-5257, 2023, doi: 10.1007/s10639-022-11353-5.
6. X. Yu, N. Ma, L. Zheng, L. Wang, K. Wang, "Developments and applications of artificial intelligence in music education," *Technologies*, vol. 11, no. 2, p. 42, 2023, doi: 10.3390/technologies11020042.
7. J. Váradi, "A review of the literature on the relationship of music education to the development of socio-emotional learning," *Sage Open*, vol. 12, no. 1, p. 21582440211068501, 2022, doi: 10.1177/21582440211068501.
8. P. P. Li, B. Wang, "Artificial intelligence in music education," *International Journal of Human–Computer Interaction*, vol. 40, no. 16, pp. 4183-4192, 2024, doi: 10.1080/10447318.2023.2209984.
9. S. Sungurtekin, "Classroom and Music Teachers' Perceptions about the Development of Imagination and Creativity in Primary Music Education," *Journal of pedagogical research*, vol. 5, no. 3, pp. 164-186, 2021.
10. R. D. Shaw, W. Mayo, "Music education and distance learning during COVID-19: A survey," *Arts Education Policy Review*, vol. 123, no. 3, pp. 143-152, 2022, doi: 10.1080/10632913.2021.1931597.
11. A. C. Tabuena, "Carabo-Cone, Dalcroze, Kodály, and Orff Schulwerk Methods: An Explanatory Synthesis of Teaching Strategies in Music Education," *Online Submission*, vol. 2, no. 1, pp. 9-16, 2021.
12. X. Liu, X. Shao, "Modern mobile learning technologies in online piano education: Online educational course design and impact on learning," *Interactive Learning Environments*, vol. 32, no. 4, pp. 1279-1290, 2024, doi: 10.1080/10494820.2022.2118787.
13. B. Mei, S. Yang, "Chinese pre-service music teachers' perceptions of augmented reality-assisted musical instrument learning," *Frontiers in Psychology*, vol. 12, p. 609028, 2021, doi: 10.3389/fpsyg.2021.609028.
14. G. Barton, S. Riddle, "Culturally responsive and meaningful music education: Multimodality, meaning-making, and communication in diverse learning contexts," *Research Studies in Music Education*, vol. 44, no. 2, pp. 345-362, 2022, doi: 10.1177/1321103X211009323.
15. J. S. Barrett, R. E. Schachter, D. Gilbert, M. Fuerst, "Best practices for preschool music education: Supporting music-making throughout the day," *Early Childhood Education Journal*, vol. 50, no. 3, pp. 385-397, 2022, doi: 10.1007/s10643-021-01155-8.