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THE MULTIFACETED IMPACT OF MUSIC ON LEARNING IN TRADITIONAL AND MUSIC SCHOOLS

ANCA SIMION[1]

SUMMARY. This paper attempts to delve more into the complex role that music education plays in both traditional and music schools. Beyond teaching skills, music education frames children's personality and helps them fit in future working environments. Nurturing environments, modelled after music schools, emphasize comprehensive development, integrating cognitive, psychomotor, socioemotional, and artistic aspects. Beyond conventional lines, a holistic approach to education fosters creativity, emotional intelligence, and cross-cultural understanding. Music emphasizes the importance of self-expression and encourages individuals to explore their own unique voice. It also promotes collaboration and teamwork, as musicians often work together to create harmonious melodies. Additionally, music education has been shown to improve cognitive abilities such as problem-solving and critical thinking skills, which can be applied to various areas of life beyond the realm of music. Music schools emphasize immediacy and subjectivity, whereas traditional schools emphasize different feedback mechanisms. Aligning these components have the potential of enhancing learning opportunities and encourage a more comprehensive approach to learning and evaluation in the traditional school setting.

Keywords: music education, traditional schools, music schools, learning mechanisms.

Introduction

The development of musical abilities is only one aspect of music education included in the pre-university curriculum. It's role in developing and

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nurturing social skills[2], emotional intelligence[3], cognitive ability, self-discipline[4], and personal development[5] to form experienced and prepared people has been studied in the last two decades. Music has a distinctive role in education since it can benefit students' lives in a variety of ways and enhance their educational experience.

The foundation of understanding learning processes lies in the principles of neuroscience and cognitive theories. The propositions put forth in these domains rationalize the effectiveness of certain pedagogical methodologies over others and provide insights into the recommended teaching strategies for enhancing receptivity and knowledge assimilation. Additionally, these theories offer an understanding of the most efficient stages in the learning process and elucidate the brain's responses, along with the biochemical and neuronal changes that occur during activities like playing an instrument or listening to music[6].

Considering learning as both a cognitive and biochemical phenomenon, the process emerges within the nervous system, specifically in the neuronal connections responsible for transmitting electrochemical impulses or action potentials[7]. Formed by spinal dendrites, synaptic connections comprise the neurological basis of learning. Over the course of learning, these connections change in terms of quantity and structure, which helps to solidify memory[8]. The brain's ability to adapt to changes in the environment through wiring, modelling, and network development is called neuroplasticity. Examining every action performed during the process of

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[2] Scott Edgar. "Introducing Social Emotional Learning to Music Education Professional Development." Update: Applications of Research in Music Education, vol. 31, no. 2, SAGE Publications, 2013, pp. 28–36.

[3] Sirke Nieminen et al. "The Development of the Aesthetic Experience of Music: Preference, Emotions, and Beauty." Musicae Scientiae, vol. 16, no. 3, SAGE Publications, 2012, pp. 372–91.

[4] Hyun-Sil Kim and Hun-Soo Kim. "Effect of a Musical Instrument Performance Program on Emotional Intelligence, Anxiety, and Aggression in Korean Elementary School Children." Psychology of Music, vol. 46, no. 3, SAGE Publications, 2017, pp. 440–53.

[5] Emilia Campayo-Muñoz. "Intrapersonal Skills and Music Performance in Elementary Piano Students in Spanish Conservatories: Three Case Studies." International Journal of Music Education, vol. 38, no. 1, SAGE Publications, 2019, pp. 93–112.

[6] Francisco Mora. "Successful Brain Aging: Plasticity, Environmental Enrichment, and Lifestyle." Dialogues in Clinical Neuroscience, vol. 15, no. 1, Informa UK Limited, Mar. 2013, pp. 45–52.

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[8] Pushpa Khanal and Pirta Hotulainen. "Dendritic Spine Initiation in Brain Development, Learning and Diseases and Impact of BAR-Domain Proteins." Cells, vol. 10, no. 9, MDPI AG, Sept. 2021, p. 2392.

learning to play an instrument reveals the significant cognitive complexity involved: careful reading of the musical notes and understanding of the codes they represent; motor execution of both hands' fingers; emotional input; attentive listening to the outcomes; and making decisions regarding the execution of subsequent rhythmic, melodic, and harmonic elements[9].

These activities are executed nearly simultaneously and at a high pace, requiring precise timing and the engagement of cognitive processes, especially attention. Furthermore, Maes and colleagues[10] argued in their paper that an automated neural programme involving the motor cortex and basal ganglia directs finger movement after the required repetitions. Thus, learning music is thought to be a complicated multisensory motor experience involving several brain locations[11]. The frontal lobe is involved in attention, physical activity planning, the integration of motor and auditory information[12], the development of imitation and empathy, and the learning of musical skills and emotional expression[13]. This makes the noticeable structural alterations in musicians' brains expected; the most noteworthy of these is the increase in grey matter and white matter density in the cortical regions—the cerebellum, the corpus callosum, and the auditory and motor cortex—that are active during musical interpreting[14].

As we find, researcher Anita Collins[15] wanted to observe a neuroscientific model of learning music through the study of the Koelsch model, which was developed by neuroscientists Koelsch and Siebel[16] and then improved by Koelsch[17]. The principal aim of the study cited was to evaluate the Koelsch

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model's capacity to offer fresh perspectives or significant information to the fields of music education and music pedagogy. Since the study was exploratory, it was closely related to Collins personal teaching strategies. Collins concluded that skilled musicians can clearly express those steps through musical language. The model investigated shows how the universal human brain processes music. Since the study was exploratory, it was closely related to Collins personal teaching strategies. Based on the broad steps in Koelsch model, Collins further explains them:

Step 1: Feature Extraction: This stage entails extracting various musical elements that are detectable to the human auditory system. Examples include recognising periodicity (such as rhythm and tempo), detecting distinct timbres (the quality of sound generated by different instruments or voices), and locating the source of sound in place.

Step 2: Gestalt Formation and Structural Analysis: After extracting essential elements, the brain begins to construct a Gestalt, which is a cohesive perception of the music. It is based on auditory sensory memory, in which short-term memory remembers recently received sounds. The brain then analyses intervals (the distance between sounds), constructs a structure based on these intervals (forming melodic and harmonic patterns), and constantly reassesses and repairs this structure as new information is received. This stage also includes putting musical elements together based on previously learned patterns, which aids in understanding the overall structure of the song.

Step 3: Vitalization and Premotor Actions: this stage includes the physical and emotional reactions to the perceived music. Vitalization is the activation of physical and emotional responses induced by music. It involves premotor actions, in which the body responds intuitively to the rhythm or melody of music by tapping one's foot or swaying. Furthermore, the emotional response might elicit emotions of pleasure or emotion, which add to the overall enjoyment of the music listening experience. Collins concluded that skilled musicians can clearly express these steps through musical language. The model investigated shows how the universal human brain processes music. Every brain is capable of absorbing music subconsciously; thus, we don't need to be trained musicians to process music.

Establishing nurturing environments inspired by music schools

In the context of musical learning transversal integration processes are built by a dynamic interplay of internal individual processes, external social contact, and the powerful qualities of musical sounds. This comprehensive

method of teaching music acknowledges the connections between different facets, resulting in a comprehensive and rich learning environment[18]. The viewpoint that is being offered here emphasizes an organic method of education that aligns with children's inherent inclinations. When it comes to the objectives of music education, integrating several aspects of holistic development—such as the cognitive, psychomotor, socioemotional, and artistic dimensions—is emphasized[19].

Academic literature highlights the need of putting the creation of a supportive learning environment ahead of focusing only on predetermined learning objectives. Drawing from Vygotsky's theory of Proximal Development[20] and Bandura's social learning theory[21] offers base for promoting a supportive learning environment, which emphasises the importance of creating a welcoming environment that supports students' overall growth and rewarding experiences in the classroom. Teachers can promote holistic development in the cognitive, social, and emotional domains and improve learning outcomes by creating a warm and inclusive atmosphere[22]. This encouraging environment, which is based on the ideas of holistic development[23], has the potential to have impact on learning outcomes, which will in turn have the potential to maintain the child's motivation. From a practical standpoint, this approach could be a starting point for teachers from traditional school to try to provide educational experiences that go beyond simple knowledge transfer or meeting predefined goals. Rather, the focus lies in creating an atmosphere where students can interact with learning in a variety of ways, enabling the concurrent growth of cognitive capacities, socio-emotional competencies, psychomotor coordination, and an appreciation for knowledge.

Within the context of music education traditions, the focus has been on musical learning and the development of musical talents[24]. This includes

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studying composers and music history and theory, among other things. The main goals of music education have always been to convey theoretical understanding, historical knowledge, and technical proficiency[25]. But given how education is changing, a more comprehensive approach that recognizes the many advantages of music for social, emotional, and cognitive growth is necessary. Incorporating music into education, students can develop critical thinking skills[26], enhance their ability to express themselves, and foster a deeper appreciation for diversity[27]. School subjects are frequently taught separately in a regular classroom, and the arts—including music—may be seen as extracurricular activities rather than essential components of education. This division is challenged by the adoption of a more all-encompassing approach to music education that emphasizes its connections to other academic fields[28]. This change is in line with modern philosophies of education that support a more comprehensive and student-centred methodology[29]. Understanding the impact of music on human behaviour and education argues that instructors could consider music education beyond the topic of instruction. This viewpoint recognizes that music has inherent features that can improve numerous elements of individual's cognitive, emotional, and social development[30]. It turns into a tool for improving social skills, emotional stability, and general cognitive ability—aspects that are critical in conventional educational environments[31].

A practical example of integrating music into a history lesson or other traditional learning setting.

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[25] Estelle Jorgensen. "The Aims of Music Education: A Preliminary Excursion." Journal of Aesthetic Education, vol. 36, no. 1, University of Illinois Press, 2002, p. 31.

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[28] Yueqi Shi and Shaowei Qu. "Cognitive Ability and Self-Control's Influence on High School Students' Comprehensive Academic Performance." Frontiers in Psychology, vol. 12, Frontiers Media SA, 2021. and Martin Lövdén et al. et al. "Education and Cognitive Functioning Across the Life Span." Psychological Science in the Public Interest, vol. 21, no. 1, SAGE Publications, 2020, pp. 6–41.

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[30] Susan Hallam and Evangelos Himonides. The Power of Music. Open Book Publishers, 2022.

[31] Eleonora Concina. *Op. cit. 2023*. and Mario Diz-Otero et al. Op. cit. 2023.

Traditional approach: In a standard history classroom, textbooks, lectures, and visual aids are used to teach pupils about historical periods, events, or personalities.

All-encompassing method with integration of music:

i. Investigating historical music: Naming some musical works from the era they are studying. Looking into works from the Renaissance, for example. Talking about how the political, social, and cultural climate of the era is reflected in the music.
ii. Interactive Learning: Students can interact with historical music rather than merely reading about it. A deeper knowledge can be gained by looking at the lyrics, talking about the cultural background of the music, and comprehending the role of artists in that era.
iii. Creative Projects: Students should be encouraged to design projects that combine music and history. This could be writing a composition motivated by a historical occasion or researching the social effects of a certain genre.
iv. Interdisciplinary Connections: Work with the music department to arrange for musicians or music educators to visit and offer further commentary. This encourages cross-disciplinary relationships, which enhances the educational process.
v. Emotional Connection: Examine the emotional impact of music and connect it to the emotional context of the historical events under study. Students can connect more deeply as a result.

A richer and more engaging educational experience can benefit by the integration of music, which changes the learning environment as compared to the traditional and all-encompassing approaches to education. The comprehensive approach that incorporates music has the means in offering lessons in a vibrant and engaging manner.

Students are encouraged to investigate the social, political, and cultural context of times through the inclusion of historical music in the curriculum. Through the unique prism that this approach offers, students can connect with historical periods and acquire insights into the feelings and attitudes of the time. The interactive learning feature invites students to explore the nuances of historical music, considering components like lyrics, cultural backgrounds, and the artists' roles.

Students are invited to express their learning through compositions inspired by historical events or genres as part of creative projects that further deepen the combination of music and history. Collaboration with the music department fosters interdisciplinary links that give history instruction practical insights. By building a bridge across disciplines and enhancing the educational

process overall, musicians and music educators provide insightful observations. Through transcending conventional boundaries and bringing history to life, this emotional resonance produces an unforgettable and influential learning experience.

Feedback in Music Schools: A Focus on Performances, Recitals, and Practical Examinations

The circumstances in which decisions are made can alter people's views of objectivity. Cultural standards, societal expectations, personal experiences, and environmental circumstances can all influence how people perceive and assess subjective phenomena[32]. What is considered objective in one cultural or social context may not be so in another. Recognizing the inherent subjectivity of judgement is vital for developing critical thinking and reflexivity, helping people to recognize and question their own biases and assumptions[33]. Subjective judgements are sometimes condemned as matters of personal preference or taste and are frequently thought to be less trustworthy than evaluations that follow rigorous criteria. Standardized criteria are useful in conveying objectivity and scientific rigor. For example, disparities and even unambiguous disparities in evaluations are typical when a team of markers assesses a collection of essays[34]. Then, detractors can extrapolate from these examples to cast doubt on the general reliability of subjective assessments. As Sadler argues the case for standardizing criteria and educating appraisers on their application and interpretation makes the case that doing so promotes objectivity[35]. The theory behind this is that a standardized set of criteria can make the appraisal process more dependable and less prone to individual biases, if evaluators are aware of and follow them consistently. When it comes to musical performances, holistic appraisal uses an open-ended evaluating procedure without preset criteria[36]. A musical performance is examined and judged as a cohesive whole when it is appraised holistically.

This method enables the appraiser to see the overall impact and coherence by allowing for a thorough review of the performance without the need for predetermined criteria. In a holistic evaluation, some performance

[32] Georgia Hardavella et al. "How to Give and Receive Feedback Effectively." Breathe, vol. 13, no. 4, European Respiratory Society (ERS), Nov. 2017, pp. 327–33.
[33] Don Lebler et al. (Eds). "Assessment in Music Education: From Policy to Practice." Landscapes: The Arts, Aesthetics, and Education, Springer International Publishing, 2015.
[34] Ibid.
[35] Royce Sadler. "Indeterminacy in the Use of Preset Criteria for Assessment and Grading." Assessment & Evaluation in Higher Education, vol. 34, no. 2, Informa UK Limited, 2009, pp. 159–79.
[36] Ibid.

components might be highlighted for their subtle and expert execution, while other components might be seen as inconsistent and detracting from the overall calibre. Additionally, it is important to acknowledge that technical details play a role in the assessment of musical performances.

Teachers frequently give pupils constructive criticism aimed at raising the quality of the work that they have just completed in an attempt to inspire improvement in their performances. It's important to emphasize that effective constructive criticism necessitates competence and sensitivity[37]. Educators must consider each student's unique requirements and preferences, tailoring feedback to their degree of experience and willingness to accept criticism[38]. Also, constructive criticism is effective if it is offered in a respectful and helpful tone, with an emphasis on promoting improvement rather than discouraging effort[39].

In contrast, teachers provide positive feedback that amply conveys their joy about their students' accomplishments[40] when they help them reach significant goals or compose musical pieces on their own that are astounding to them. One of the leading authorities on feedback in education, John Hattie, has developed a thorough knowledge of feedback that includes a range of sources, kinds, and levels. This perspective stresses the variety of agents involved in delivering feedback, as opposed to seeing it as information that is just given by teachers to students. These intermediaries could be classmates, parents, instructors, printed and online materials, or even the people who are going to be receiving the information[41]. The emphasis now is on considering the various viewpoints and cognitive complexity levels at which feedback is given. The recipient's capacity to hear, comprehend, and act upon the feedback is also important[42]. This multimodal approach recognizes that feedback is dynamic and considers its various sources as well as the cognitive processes that go into receiving and using it.

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[37] Summer Bottini and Jennifer Gillis. "A Comparison of the Feedback Sandwich, Constructive-positive Feedback, and Within Session Feedback for Training Preference Assessment Implementation." Journal of Organizational Behavior Management, vol. 41, no. 1, Informa UK Limited, Dec. 2020, pp. 83–93.

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[39] Ibid.

[40] Do Van Ky. "Direct Teacher Corrective Feedback in EFL Writing Class at Tran Quoc Tuan University in Vietnam: To What Extent Students' Writing Performance Affected." International Journal of English Language Teaching, vol. 11, no. 1, European Centre for Research Training and Development, Jan. 2023, pp. 41–56.

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When evaluating the standards of a student's effort or performance, feedback has two main purposes. Accurately and succinctly expressing the judgement is the first component of the initial function. This often means encapsulating the entire assessment into a symbolic code, such as a rating, mark, or grade[43]. This function's second section examines the reasoning behind the choice and provides details on the assessment procedure. This entails emphasizing strengths and weaknesses of the student's effort or performance that influenced the decision. Giving a thorough explanation gives the feedback more substance and gives the student helpful information that helps them comprehend the assessment's criteria and factors in addition to the result[44]. Feedback serves two purposes: first, it successfully communicates the evaluative choice; second, it provides useful information for the student's comprehension and development. Although the overarching judgment is the symbolic code, the supporting explanation adds to a more thorough and educational feedback process. This combination creates a clearer path for learning and progress by enabling students to understand both the result and the reasoning behind it.

Conclusions

In this paper we tried to show some advantages that music education provides to students through an examination of its varied roles in both traditional and vocational settings. The benefits of music education for personal development include improved cognitive function, the development of emotional intelligence, and the promotion of social skills.

Within the context of music education, transversal integration processes highlight the ways in which cognitive, psychomotor, socioemotional, and aesthetic components are interconnected. Traditional schools can create nurturing settings by emphasizing a student-centric approach, integrating many areas of holistic development, and creating pleasant experiences. Within the larger context of education, music becomes a tool for fostering creativity, emotional intelligence, and cultural awareness. Taking a holistic perspective, however, recognizes the wider influence of music on social, emotional, and cognitive development. Traditional courses like history could benefit from the addition of music since it fosters interdisciplinary connections, strengthens emotional bonds, and makes for a more engaging educational process.

[43] Royce Sadler. "Indeterminacy in the Use of Preset Criteria for Assessment and Grading." Assessment & Evaluation in Higher Education, vol. 34, no. 2, Informa UK Limited, 2009, pp. 159–79.

[44] Guozhong Zhang, Jian Sun and Ying Sun. *Op. cit.* 2023.

When providing feedback in music lessons, a comprehensive approach is taken, considering the whole effect of the performances. On the other hand, standardized criteria are frequently employed in traditional classroom settings. In music, feedback is instantaneous, especially in live performances; in traditional contexts, feedback is delayed. Both involve subjectivity and interpretation, and music feedback enables a more customized reaction.

The roles of teachers and students, together with the related mannerisms, play a key role in the efficacy of the learning process when comparing feedback systems in music education versus typical classroom settings. The teaching style in a music classroom is typically more dynamic and hands-on, particularly during live performances. Using both visual and audible elements enables educators to give immediate feedback. This necessitates an acute ear for music and a prompt analytical reaction. In a music class, mannerisms could be gestures, looks on the face, and spoken cues that instantly communicate areas for growth as well as praise. These teaching practices are transferable across disciplines, fostering effective communication and real-time feedback in various educational settings.

It is necessary for students to critically evaluate written feedback in order to encourage careful and deliberate editing of their own writing. This is consistent with the conventional academic focus on effective written communication. In contrast, learning occurs more quickly and viscerally for students in a music class. Due to the live nature of musical performances, students must react quickly to criticism and make corrections in the moment. This method encourages improvisation, flexibility, and a closer, more intuitive relationship with the artistic medium. These practices promote transferability across disciplines, enhancing students' ability to adapt and excel in diverse academic and creative contexts.

In conventional classroom settings, mannerisms could include students going over written criticism thoroughly and thinking over each statement in a methodical way. Students in music classes might react more kinetically, moving more while they play or sing, adjusting their performance in response to quick feedback. The argument between these two methods is not about favouring one over the other but rather about identifying each approach's advantages and developing an integrated model. Efficient feedback in academic settings or the expressive domain of music involves prompt, constructive criticism, stimulating critical thinking, and creating a dynamic learning environment.

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