Online Journal of Music Sciences, 2025, 10(4), 723-736
https://doi.org/10.31811/ojomus.1757735

Research Article ♪ Araştırma Makalesi

Artificial intelligence and healing education: bibliotherapy and musicotherapy in primary schooling – an innovative theoretical model of Bibliotherapy and Musicotherapy Questionnaire (BMQ)

Yapay zekâ ve şifa eğitimi: ilkokulda bibliyoterapi ve müzikoterapi – Bibliyoterapi ve Müzikoterapi Anketinin (BMQ) yenilikçi bir teorik modeli

Mirzana Pašić Kodrić[1], Merima Čaušević[1]

[1] University of Sarajevo, Faculty of Educational Sciences, Sarajevo, Bosnia and Herzegovina.

ABSTRACT

Contemporary approaches to teaching children's literature and music education are increasingly replacing traditional pedagogical methods. The emergence of artificial intelligence (AI) has made these processes more dynamic and complex, presenting both opportunities and challenges for educators and pupils. This development raises important questions about teachers' readiness to adopt innovative methodologies and pupils' receptiveness to deeper learning and improved outcomes through AI-enhanced instruction. Children's literature and music possess the capacity to educate, nurture, and heal. Their interdisciplinary nature provides primary school teachers with a rich foundation for creative and integrative teaching strategies, particularly relevant in the age of AI. This paper advocates for the deliberate integration of AI and healing education into the teaching of children's literature and music at the primary level. It proposes that such integration can be achieved through creative and interdisciplinary applications of AI tools, alongside bibliotherapeutic and musicotherapeutic methods. The central methodological framework employed is mood mapping. The study examines the use of the Donna AI Song Generator within healing education, aiming to identify optimal strategies for both teachers and pupils. These findings may inform the development of diverse teaching methodologies and offer insights into the creative use of AI in interdisciplinary primary education. Additionally, the paper introduces an innovative conceptual framework – the Bibliotherapy and Musicotherapy Questionnaire (BMQ) – proposed as a theoretical model for future implementation in primary education settings. Although conceptual and theoretical in nature, the study is grounded in extensive practical teaching experience and the integration of AI tools, particularly within healing education. The BMQ model demonstrates adaptability to diverse instructional contexts and age groups, offering potential for future empirical validation and practical classroom application. Ultimately, this research highlights the transformative potential of AI in fostering holistic, creative, and therapeutic learning environments in primary education.

Keywords: Artificial Intelligence (AI), healing education, developmental bibliotherapy and musicotherapy, Donna AI song generator, Bibliotherapy and Musicotherapy Questionnaire (BMQ)

ÖZ

Çocuk edebiyatı ve müzik eğitimine yönelik çağdaş yaklaşımlar, geleneksel pedagojik yöntemlerin yerini giderek daha fazla almaktadır. Yapay zekânın (YZ) ortaya çıkışı, bu süreçleri daha dinamik ve karmaşık hale getirerek eğitimciler ve öğrenciler için hem fırsatlar hem de zorluklar yaratmıştır. Bu gelişme, öğretmenlerin yenilikçi metodolojileri benimsemeye

Mirzana Pašić Kodrić – mpkodric@pf.unsa.ba
Geliş tarihi/Received: 04.08.2025 – Kabul tarihi/Accepted: 09.10.2025 – Yayın tarihi/Published: 30.10.2025

hazır olup olmadıkları ve öğrencilerin YZ destekli eğitim yoluyla daha derin öğrenmeye ve iyileştirilmiş sonuçlara açık olup olmadıkları konusunda önemli soruları gündeme getirmektedir. Çocuk edebiyatı ve müziği, eğitme, besleme ve iyileştirme kapasitesine sahiptir. Disiplinler arası yapıları, ilkokul öğretmenlerine, özellikle YZ çağında geçerli olan yaratıcı ve bütünleştirici öğretim stratejileri için zengin bir temel sağlar. Bu makale, YZ ve şifa eğitiminin ilkokul düzeyinde çocuk edebiyatı ve müzik öğretimine bilinçli bir şekilde entegre edilmesini savunmaktadır. Bu entegrasyonun, YZ araçlarının yaratıcı ve disiplinler arası uygulamaları ve bibliyoterapi ve müzikoterapi yöntemleriyle sağlanabileceğini ileri sürmektedir. Kullanılan temel metodolojik çerçeve, ruh hali haritalamasıdır. Çalışma, hem öğretmenler hem de öğrenciler için en uygun stratejileri belirlemeyi amaçlayarak Donna AI Şarkı üreticisinin şifa eğitiminde kullanımını incelemektedir. Bu bulgular, çeşitli öğretim metodolojilerinin geliştirilmesine katkıda bulunabilir ve disiplinler arası ilköğretimde yapay zekânın yaratıcı kullanımına dair içgörüler sunabilir. Ayrıca, makale, ilköğretim ortamlarında gelecekteki uygulamalar için teorik bir model olarak önerilen yenilikçi bir kavramsal çerçeve olan Bibliyoterapi ve Müzikoterapi Anketi'ni (BMQ) sunmaktadır. Kavramsal ve teorik bir yapıya sahip olmasına rağmen, çalışma kapsamlı pratik öğretim deneyimine ve özellikle şifa eğitiminde yapay zekâ araçlarının entegrasyonuna dayanmaktadır. BMQ modeli, çeşitli öğretim bağlamlarına ve yaş gruplarına uyum sağlayabildiğini göstererek, gelecekte deneysel doğrulama ve pratik sınıf uygulamaları için potansiyel sunmaktadır. Sonuç olarak, bu araştırma, yapay zekânın ilköğretimde bütünsel, yaratıcı ve terapötik öğrenme ortamlarını teşvik etmedeki dönüştürücü potansiyelini vurgulamaktadır.

Anahtar kelimeler: Yapay Zekâ (YZ), şifa eğitimi, gelişimsel bibliyoterapi ve müzikoterapi, Donna AI şarkı üreticisi, Bibliyoterapi ve Müzikoterapi Anketi (BMQ)

1. INTRODUCTION

Humanity stands on the brink of a profound transformation with the introduction of artificial intelligence (AI) (Bozkurt & Moosa, 2025). The AI boom has significantly altered how we think, feel, act, and communicate with one another (Chen et al., 2020). This shift has raised critical questions about the role and preparedness of teachers to adopt new methodologies in planning and delivering instruction, as well as the willingness of pupils to attain higher-quality knowledge and achievements through such approaches.

Children's literature educates, nurtures, and heals. Through its interdisciplinary nature, it offers primary school teachers rich and creative pedagogical strategies that must be continually researched and refined (Pašić Kodrić, 2024, p. 98). It also serves as a valuable corpus for fostering healing education, which encompasses the emotional, psychological, social, and spiritual well-being of both students and educators. Literature and music are frequently interwoven, complementing and reinforcing each other in their ethical, aesthetic, functional, and practical dimensions. This synergy is especially evident in various scenic and music-scenic forms, where the artistic and scientific foundations of both disciplines are affirmed. The significance of music in literature, and the closeness between the two, is reflected in numerous literary and musical works. As the prominent Croatian writer Miroslav Krleža noted: "Music brings people together: music is a lyrical web between the heart and the brain" (Crnković, 2020, p. 11).

What, then, is the connection between AI and healing education? One need only reflect on the chaos of the contemporary world. In the 21st century, we are witnessing the COVID and post-COVID eras, unimaginable wars, genocides, and an increasingly violent and stressful reality. The coronavirus (COVID-19) pandemic spread globally, instilling intense fear of infection and death, which may lead to persistent anxiety (Rossi et al., 2020). This anxiety appears to have continued into the post-COVID era. The scale of the pandemic has raised serious concerns about its psychological, social, and economic consequences, both in the short and long term (Cerami et al., 2020).

While scientific, technical, and digital advancements have surged, an ethical and emancipatory paradox remains evident. This paradox is also present in the education sector. Tragically, school shootings have become a global reality. Many children experience frustration, anxiety, and depression in school settings. In less developed countries – and increasingly elsewhere – teachers face burnout, dissatisfaction with salaries, insecure employment, excessive administrative burdens, and strained interpersonal relationships. For many pupils, learning has become a source of stress; for many teachers, so has the act of teaching. Schools are increasingly perceived not as spaces for joyful and creative learning, socialization, and healthy development, but as examination centers.

Despite remarkable scientific progress, the well-being of pupils, teachers, and society at large appears misaligned with these achievements. Therefore, educational priorities must be recalibrated to address these challenges, while keeping pace with technological advances. AI should serve a simple yet powerful purpose:

to ease human tasks and responsibilities, and to create more time within education for cultivating healthy personality traits among pupils and teachers.

Given that loneliness is a specific risk factor for depressive symptoms (Cacioppo et al., 2006), AI must not contribute to human alienation and isolation. On the contrary, schools should be spaces for meaningful socialization, not merely formal instruction. Artistic disciplines – including children's literature and music – must actively support the mental health and well-being of students and educators. Developmental bibliotherapy and musicotherapy, integrated into mother tongue classes (e.g., English language and literature, Spanish language and literature) and music education in primary schools, can strengthen self-esteem in both pupils and teachers. Notably, self-esteem can act as both a mediator and moderator in the relationship between loneliness and life satisfaction (Çivitci & Çivitci, 2009).

AI should assist, not alienate, humans – enabling more time for social interaction and deeper well-being. Accordingly, developmental bibliotherapy and musicotherapy, supported by AI, should become an interdisciplinary and essential model for planning, organizing, and conducting classes in native language and literature courses, as well as music education. While AI cannot yet replicate human empathy and emotional intelligence, it can significantly facilitate their cultivation, allowing humans to focus more deeply on one another.

In educational practice, this means that various AI tools and applications – such as intelligent tutoring systems, teaching robots, and adaptive learning platforms – can provide teachers with significantly more time to focus on individual pupils, not only in terms of academic development but also psycho-social growth. The future of the AI boom must evolve in this direction, as it is the only viable path to safeguarding human well-being. Otherwise, there is a risk that machines and AI could dominate the world. These developments underscore that while AI presents tremendous opportunities, it also entails considerable risks (Bozkurt & Moosa, 2025, p. 13).

1.1. Theoretical Analysis

All developmental art therapies – including bibliotherapy and musicotherapy – are increasingly utilized in modern educational settings such as kindergartens, schools, school libraries, music and art centers, and various institutions that promote lifelong learning. These therapies are also practiced informally within families and among friends. The primary aim of developmental art therapies is not to diagnose or monitor medical conditions, as educators, musicians, artists, and librarians are neither qualified nor expected to possess clinical competencies in this domain. The responsibility for diagnosis and treatment lies with clinical art therapies. In contrast, developmental art therapies focus on the prevention of potential psychological issues, the nurturing of mental health, the encouragement of positive personality traits, the development of emotional maturity, and the alleviation of stress during the educational process (Pašić Kodrić, 2023; Pašić Kodrić & Sousa Reis, 2023).

Given these objectives, healing education must be an integral component of all art-related curricula across educational levels. Literature instruction has long demonstrated therapeutic potential. However, pedagogical approaches to literature have varied significantly, particularly regarding the extent to which healing elements are incorporated into lessons. Traditionally, literature classes have emphasized moral instruction and linguistic competence. Contemporary healing-oriented approaches advocate for the consistent inclusion of therapeutic elements alongside moral and educational content, both in native and foreign language instruction.

Healing education in schools is inherently interdisciplinary and achieves its most profound effects when integrated with other subjects, such as music education. The power of music and its influence on humans – and other living beings – has been explored through mythologies of ancient civilizations, philosophical discourses from antiquity to modernity, medieval treatises, and contemporary scientific research spanning the social sciences, humanities, and natural sciences (Čaušević, 2010). Modern psychology of music recognizes it as a complex psychological phenomenon and a unique form of human experience and behavior.

Numerous studies have documented the direct and indirect benefits of music in everyday life (Vernia-Carrasco, 2024), in rehabilitation (Burić, 2021), and in child development. These benefits include support for speech development (e.g., counting, singing), enhancement of memory (e.g., listening to music), improvement of motor skills and physical condition (e.g., rhythmic and melodic instrument play, movement, and dance), and

more effective and creative presentation of information that facilitates understanding in mathematics and science. All these functions contribute to the psycho-physical and physiological development of children.

The therapeutic potential of music has been recognized since antiquity. Even in the modern era, we continue to revisit fundamental questions about the essence of music and its defining characteristic: its power – its influence on humans, the energy it emits, and the strength it imparts. Recent literature on music therapy consistently highlights its primary goal: to improve the behavior or health status of the individual receiving therapy. Musicotherapy serves as a versatile tool for therapeutic, educational, or combined purposes. It emerged as a distinct profession in the 1950s and 1960s, marked by the establishment of professional associations of trained music therapists. According to Even Ruud, by the mid to late 1980s, music had reclaimed a significant role in medicine, contributing to a new concept of health – one that emphasizes holistic well-being and proper living, rather than merely the treatment of disease.

Investigating the effects of music in various contexts and applying musicotherapy while acknowledging diverse personal experiences, Don Campbell states:

"Music therapy is important for psychological reasons, especially for children. Unlike the therapy provided by doctors, nurses, and other physiotherapists, music therapy is not painful, and music therapists are able to gain more trust and achieve better communication than other health professionals. (...) Music therapy is also effective in the rehabilitation of patients after surgery – from improving movement coordination to enhancing self-respect" (Kembel, 1997/2004, p. 233).

Recognizing the diversity of approaches, forms of practice, and methods of using music to support emotional and social development in children, the educational benefits of music are increasingly emphasized. Receptive musicotherapy is one such therapeutic application, involving the act of listening to music without performing it (Burić, 2021; Goodman, 2007).

"Well-being is a desirable combination of high emotional, social, physical, and cognitive health. It is closely related to an element that has existed since the beginning of mankind: music. It is common knowledge that music is an inevitable part of an individual's life; it affects not just the current mood but more importantly, it serves as a means of social bonding, as a tool for therapy, and it affects the overall quality of living" (Pušić et al., 2023, p. 15).

2. RESEARCH METHODOLOGY

The paper presents research focused on the analysis, interpretation, and understanding of textual and musical content generated through and with the assistance of artificial intelligence – specifically, the Donna AI Song Generator (https://www.musicdonna.com) – in relation to healing education, bibliotherapy and music therapy in primary schooling. Accordingly, the aim is to establish an innovative theoretical model for bibliotherapy and music therapy as part of healing education, supported by AI tools, and to explore how such content can produce a calming effect, offer emotional relief, and help clarify various stressful situations for younger school-aged children. Although theoretical in nature, the study is grounded in extensive practical educational experience and the use of AI tools, particularly within the context of healing education, specifically bibliotherapy and music therapy. This foundation opens the possibility for future empirical and practical application in classroom settings. The central hypothesis of the paper is that songs can be effectively composed using an AI application and can be utilized for healing education, specifically bibliotherapy and music therapy, within teaching practices in the fields of mother tongue and literature, as well as music education.

The study outlines a proposed framework for two interdisciplinary lessons (each 45 minutes in duration) within the subjects of mother tongue and literature, and music education, designed for third-grade elementary students, approximately nine years old. This framework is intended as a model that can be adapted for other student age groups as well. Selected components of these lessons may also be assigned as homework.

The chosen methodological approach integrates developmental bibliotherapy and music therapy, with mood mapping as the central technique. The intention is for students to engage with the synthesis and symbiosis of bibliotherapeutic and musicotherapeutic elements, thereby gaining insight into the nature of various emotions. This is facilitated through the use of David R. Hawkins' Map of Consciousness, first introduced in his book *Power vs. Force: An Anatomy of Consciousness* (Hawkins, 1995), and later expanded in *The Map of Consciousness Explained: A Proven Energy Scale to Actualize Your Ultimate Potential* (Hawkins, 2020).

In examining the benefits of combining developmental bibliotherapy and music therapy, the paper considers the core psychological challenges that may affect pupils at the aforementioned developmental stage – third-grade elementary students, approximately nine years old. These potential difficulties are identified and discussed as follows in Table 1 and further:

Table 1

Research questions

Basic psychological and developmental challenges commonly observed in third-grade elementary pupils (approximately 9 years old)
1. Anxiety associated with evaluation, particularly standardized testing
2. Emotional challenges associated with early experiences of romantic affection, particularly the confusion and distress resulting from unrequited love
3. Challenges in cultivating and maintaining self-esteem, particularly in fostering self-reflection and embracing positive self-acceptance

As previously stated, the primary objective of this paper is to investigate the potential of artificial intelligence in composing music based on specific textual input, tailored to address emotionally relevant themes for third-grade elementary pupils. The aim is to enhance classroom atmosphere and support the emotional well-being of children by fostering a more positive and engaging learning environment.

Using the Donna AI Song Generator (https://www.musicdonna.com) – a freely accessible tool with limited functionality (restricted to one composition per session in the free version) – three songs were generated, each corresponding to one of the three thematic hubs outlined earlier. These compositions, which include both lyrics and music, were created using distinct instructions, primarily differing in genre and thematic focus.

In alignment with the psychological and emotional topics presented in Table 1, the Donna application produced songs under the following titles in Table 2:

Table 2

AI as a Creative Agent in Lyricism and Musical Composition ("Singer-songwriter")

Titles of the lyrics generated by the Donna AI Song Generator in response to the emotional and developmental challenges outlined in Table 1
1. Calm Before the Test
2. First Love Adventures
3. Shine Like a Star

In working with pupils, it is recommended that the teacher utilize David R. Hawkins' Map of Consciousness as a pedagogical tool to encourage positive thinking and to support students in identifying, managing, and reducing negative emotions, as follows in Table 3 and further:

Table 3

Map of Consciousness by David R. Hawkins, as presented across various editions of his work published between 1995 and 2020

	Level	Emotion	Life View	God View	Process
Spiritual Paradigm	700-100	Enlightenment	Is	Self	Pure Consciousness
	600	Peace	Perfect	All-being	Illumination
	540	Joy	Complete	Loving	Transfiguration
	500	Love	Benign	Loving	Revelation
Reason & Integrity	400	Reason	Meaningful	Wise	Abstraction
	350	Acceptance	Harmonious	Merciful	Transcendence
	310	Willingness	Hopeful	Inspiring	Intention
	250	Neutrality	Satisfactory	Enabling	Release
	200	Courage	Feasible	Permitting	Empowerment
Survival Paradigm	175	Pride	Demanding	Condemning	Inflation
	150	Anger	Antagonistic	Vengeful	Aggression
	125	Desire	Disappointing	Denying	Craving
	100	Fear	Frightening	Punitive	Withdrawal
	75	Grief	Tragic	Distant	Despondency
	50	Apathy	Hopeless	Disinterested	Abdication
	30	Guilt	Evil	Vindictive	Destruction
	20	Shame	Miserable	Hateful	Elimination

According to David R. Hawkins' Map of Consciousness, levels of consciousness below 200 are generally regarded as energetically depleting or psychologically destructive. The threshold at level 200, identified as Courage, marks a pivotal point of personal empowerment and transformative potential. Levels exceeding 500 are associated with advanced states of spiritual awareness and enlightenment, reflecting profound inner harmony and elevated perception.

3. RESEARCH RESULTS

The research results were obtained by instructing the Donna AI Song Generator, an artificial intelligence tool, to generate three songs addressing three basic psychological and developmental challenges commonly observed in third-grade elementary pupils. These songs are intended for use in educational practice within the framework of healing education, specifically in the teaching of mother tongue and literature, as well as music education – serving the purposes of bibliotherapy and music therapy. Each of these songs, which serve merely as illustrative examples, was supplemented with a set of general and specific questions designed for application in the healing education process, that is, within bibliotherapeutic and musicotherapeutic practices in the teaching of mother tongue and literature and music education. This process led to the development of the Bibliotherapy and Musicotherapy Questionnaire (BMQ) – an innovative theoretical model that can be practically applied in its current form or adapted to suit different contexts and needs, as outlined below in Tables 4, 5, 6:

Table 4

"Calm Before the Test": Example of Bibliotherapy and Musicotherapy Questionnaire (BMQ)

1. Online streaming access to the song is provided through: https://drive.google.com/drive/folders/1dU5X51Onhl6rxEEOcCVNic88L7oHn2_z		
2. Potential challenge identified by the teacher Anxiety associated with evaluation, particularly standardized testing **3. Title of the lyrics generated by the Donna AI Song Generator after the instruction by a teacher:** *Calm Before the Test* **4. The lyrics of the song generated by the Donna AI Song Generator**	**5. Mood mapping method: General questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**	**6. Mood mapping method: Specific questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**
[Verse 1] *Take a deep breath, let it go slowly,* *When the test comes, just remember to flow.* *Your heart is strong, don't let it race.* *You're ready to shine, let's find your place.* *Close your eyes, just feel the peace,* *In your heart, let your worries cease.* [Chorus] *Let the calm wash over you,* *You're unique, you can break through.* *Together we'll laugh, together we'll sing,* *In this moment, we can do anything.* [Verse 2] *Numbers and letters they may seem tough,* *But you've got this, you're more than enough.* *Look to the stars, they shine so bright,* *You'll ace this test, just hold on tight.* *You've studied hard, you've come so far,* *Believe in yourself, you are a star.* [Chorus] *Let the calm wash over you,* *You're unique, you can break through.* *Together we'll laugh, together we'll sing,* *In this moment we can do anything.* [Outro] *Breathe in love, breathe out the fear,* *You're never alone, we're always near!*	**1. Do you tend to focus more on the lyrics, the musical composition, or both equally when listening to the song?** Write your answer here: **2. What emotion does this song evoke in you?** Write your answer here: **3. What primarily evokes that emotion in you: the lyrics, the music, or both equally?** Write your answer here: **4. Is there a correspondence between the song's lyrics and its musical composition?** Write your answer here: **5. Which part of the song evokes the strongest emotional response in you, and why?** Write your answer here: **6. Does the combination of lyrics and melody in this song contribute to your emotional resilience or help you manage difficulties?** Write your answer here:	**1. While listening to this song, how do you currently feel about your upcoming test?** Circle your answer – one word only: 1.1. Perfect 1.2. Hopeful 1.3. Hopeless **2. What are you feeling right now while reading the lyrics of Verse 1 displayed on the left?** Circle your answer – one word only: 2.1. Complete 2.2. Harmonious 2.3. Tragic **3. What are you feeling right now while reading the Chorus lyrics displayed on the left?** Circle your answer – one word only: 3.1. Inspiring 3.2. Release 3.3. Miserable **4. What are you feeling right now while reading the lyrics of Verse 2 displayed on the left?** Circle your answer – one word only: 4.1. Disappointing 4.2. Satisfactory 4.3. Empowerment **5. What are you feeling right now while reading the Outro lyrics displayed on the left?** Circle your answer – one word only: 5.1. Denying 5.2. Wise 5.3. Feasible **6. Which emotion does the song evoke most strongly in you overall?** **Circle your answer – one word only:** 6.1. Anxiety 6.2. Optimism 6.3. Meaningful

Table 5

"First Love Adventures": Example of Bibliotherapy and Musicotherapy Questionnaire (BMQ)

1. Online streaming access to the song is provided through: https://drive.google.com/drive/folders/1dU5X51Onhl6rxEEOcCVNic88L7oHn2_z		
2. Potential challenge identified by the teacher Emotional challenges associated with early experiences of romantic affection, particularly the confusion and distress resulting from unrequited love **3. Title of the lyrics generated by the Donna AI Song Generator after the instruction by a teacher:** *First Love Adventures* **4. The lyrics of the song generated by the Donna AI Song Generator**	**5. Mood mapping method: General questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**	**6. Mood mapping method: Specific questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**
[Verse 1] *In the playground where laughter flies,* *Under the blue of the big, bright skies,* *I saw you smile, my heart took flight,* *With every glance, the world felt right.* *Oh, these feelings, can they be true?* [Chorus] *First love's sweet like candy, so bright,* *Dream big dreams in the starry night,* *It's about the moments we all share,* *Whether it stays or fades, love is rare.* [Verse 2] *Hand in hand, we danced on air,* *Sharing secrets, we became a pair,* *But sometimes love can twist and turn,* *Lessons learned, and hearts may yearn.* *It's okay if it doesn't last,* [Chorus] *First love's sweet like candy, so bright,* *Dream big dreams in the starry night,* *It's about the moments we all share,* *Whether it stays or fades, love is rare.* [Outro] *So hold your heart, let it be free,* *Every crush is part of you and me.*	**1. Do you tend to focus more on the lyrics, the musical composition, or both equally when listening to the song?** Write your answer here:	**1. What emotion are you currently experiencing while reflecting on your first romantic affection or love?** Circle your answer – one word only: 1.1. Bliss 1.2. Despair 1.3. Regret
	2. What emotion does this song evoke in you? Write your answer here:	**2. What are you feeling right now while reading the lyrics of Verse 1 displayed on the left?** Circle your answer – one word only: 2.1. Craving 2.2. Hate 2.3. Serenity
	3. What primarily evokes that emotion in you: the lyrics, the music, or both equally? Write your answer here:	**3. What are you feeling right now while reading the Chorus lyrics displayed on the left?** Circle your answer – one word only: 3.1. Joy 3.2. Desire 3.3. Fear
	4. Is there a correspondence between the song's lyrics and its musical composition? Write your answer here:	**4. What are you feeling right now while reading the Chorus lyrics displayed on the left?** Circle your answer – one word only: 4.1. Blame 4.2. Trust 4.3. Forgiveness
	5. Which part of the song evokes the strongest emotional response in you, and why? Write your answer here:	**5. What are you feeling right now while reading the Chorus lyrics displayed on the left?** Circle your answer – one word only: 5.1. Demanding 5.2. Frightening 5.3. Benign
	6. Does the combination of lyrics and melody in this song contribute to your emotional resilience or help you manage difficulties? Write your answer here:	**6. Which emotion does the song evoke most strongly in you overall?** Circle your answer – one word only: 6.1. Satisfaction 6.2. Shame 6.3. Trust

Table 6

"Shine Like a Star": Example of Bibliotherapy and Musicotherapy Questionnaire (BMQ)

1. Online streaming access to the song is provided through: https://drive.google.com/drive/folders/1dU5X51Onhl6rxEEOcCVNic88L7oHn2_z		
2. Potential challenge identified by the teacher Challenges in cultivating and maintaining self-esteem, particularly in fostering self-reflection and embracing positive self-acceptance **3. Title of the lyrics generated by the Donna AI Song Generator after the instruction by a teacher:** *Shine Like a Star* **4. The lyrics of the song generated by the Donna AI Song Generator**	**5. Mood mapping method: General questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**	**6. Mood mapping method: Specific questions (developmental bibliotherapy and musicotherapy)** **Teacher-initiated questions and pupils' responses**
[Verse 1] *Take a step into the light, embrace your shining glow,* *Every dream that you can see is where you're meant to go.* *Feel the power in your heart, let your courage rise,* *You are unique and special, see the magic in your eyes.* *Look around and realize, the strength is deep inside,* [Chorus] *You're a star, yes, you are! Shine your light and be proud,* *Lift your voice, sing it loud, let your heart speak out loud.* *With your friends by your side, we'll chase our dreams today,* *Together we can conquer, with confidence to play!* [Verse 2] *When the world feels heavy, find your strength to stand tall,* *With each stumble that you make, you can always rise and ball.* *Hear the whispers of your dreams, they're calling you to play,* *You have so much to offer, just believe and find your way.* *Honor who you truly are, let your spirit soar,* [Chorus] *You're a star, yes, you are! Shine your light and be proud,* *Lift your voice, sing it loud, let your heart speak out loud.* *With your friends by your side, we'll chase our dreams today,* *Together we can conquer, with confidence to play!* [Outro] *So remember every day, you are brave and you're unique,* *Believe in all you are and lift your voice to speak!*	**1. Do you tend to focus more on the lyrics, the musical composition, or both equally when listening to the song?** Write your answer here: **2. What emotion does this song evoke in you?** Write your answer here: **3. What primarily evokes that emotion in you: the lyrics, the music, or both equally?** Write your answer here: **4. Is there a correspondence between the song's lyrics and its musical composition?** Write your answer here: **5. Which part of the song evokes the strongest emotional response in you, and why?** Write your answer here: **6. Does the combination of lyrics and melody in this song contribute to your emotional resilience or help you manage difficulties?** Write your answer here:	**1. What's your overall opinion of yourself?** Circle your answer – one word only: 1.1. Acceptance 1.2. Evil 1.3. Guilt **2. What are you feeling right now while reading the lyrics of Verse 1 displayed on the left?** Circle your answer – one word only: 2.1. Pride 2.2. Hate 2.3. Love **3. What are you feeling right now while reading the Chorus lyrics displayed on the left?** Circle your answer – one word only: 3.1. Desire 3.2. Disappointing 3.3. Anger **4. What are you feeling right now while reading the lyrics of Verse 2 displayed on the left?** Circle your answer – one word only: 4.1. Optimism 4.2. Despair 4.3. Trust **5. What are you feeling right now while reading the Outro lyrics displayed on the left?** Circle your answer – one word only: 5.1. Grief 5.2. Inspiring 5.3. Forgiveness **6. Which emotion does the song evoke most strongly in you overall?** Circle your answer – one word only: 6.1. Loving 6.2. Indifferent 6.3. Denying

4. DISCUSSION

This paper introduces an innovative Bibliotherapy and Musicotherapy Questionnaire (BMQ) as a response to the growing recognition of the value of developmental bibliotherapy and musicotherapy in primary education, including the challenges and opportunities of AI. Despite increasing interest in these approaches, there remains a notable lack of concrete teaching plans and actionable proposals for their systematic implementation. The questionnaire presented herein was developed to address this gap, providing a structured framework through which AI-generated songs – created via the Donna AI Song Generator – could be meaningfully integrated into interdisciplinary lessons in national language, literature, and music education.

Following the authors' instructions, the Donna AI Song Generator produced three songs, each corresponding to one of the three identified emotional and developmental challenges. This process served as the foundation for the creation of the questionnaire, which aims to facilitate the pedagogical use of these songs in classroom settings. From a poetic standpoint, the generated lyrics exhibit a coherent and age-appropriate literary character. While they do not represent poetic excellence, they meet the fundamental literary and aesthetic criteria suitable for third-grade pupils. Notably, the lyrics incorporate a variety of stylistic devices, demonstrating the AI's capacity to emulate poetic language distinct from everyday speech – an achievement that is both pedagogically and technically impressive.

The primary advantage of the application lies not in the literary sophistication of the texts – which may occasionally appear overly sentimental – but in its ability to generate highly individualized content within seconds. This feature enables teachers to employ AI-generated lyrics as effective bibliotherapeutic tools in national language and literature classes, tailored to specific emotional or developmental themes.

Musically, the Donna AI Song Generator composed all three songs using lyrical melodies with minimal variation in rhythm and tempo, despite the specification of different genres (pop, rock, classical). Harmonic analysis reveals that the first two songs are set in major keys, while the third employs a melodic minor scale. All compositions follow a strophic form (verse and chorus), a structure common to both popular and classical music depending on the stylistic period. For music educators and composers, the underlying compositional process raises intriguing questions. Although the application allows users to select genre, mood, ensemble, and performance context, it remains unclear whether the generated melodies are entirely original or derived from existing musical fragments. Furthermore, the absence of a score export option and the restriction of content to private use raise unresolved copyright concerns, which fall outside the scope of this paper.

Despite certain limitations, the application offers distinct pedagogical benefits. Music educators can rapidly generate new teaching materials aligned with specific emotional or social themes relevant to their students' developmental stages. This is particularly valuable when addressing sensitive topics such as emotional well-being, social dynamics, or personal insecurities. It is essential, however, that the melodies are singable and adaptable to the pupils' age and interests – both musical and otherwise.

Through the BMQ questionnaire, teachers can gain insights into students' emotional states and tailor classroom discussions accordingly. The integration of bibliotherapy and musicotherapy is supported by the method of mood mapping, which serves to monitor the emotional impact of the lyrics and music in the context of healing education. To support this approach, the research methodology section of the paper incorporates David R. Hawkins' Map of Consciousness (Hawkins, 1995, 2020), and the questionnaire adopts the terminology of this scale.

Given that the focus is on developmental rather than clinical bibliotherapy and musicotherapy (Koelsch, 2014; Krumhansl, 2002), teachers – who are not trained psychologists or psychiatrists – are not expected to master or apply the full logarithmic scale (ranging from 0 to 1000) used to describe levels of consciousness, behavior, emotion, and worldview. It is sufficient for educators to understand that each level represents an energetic and spiritual state of consciousness, ranging from destructive to enlightened, and that pupils can be guided through these states via literature and music. This process encourages children to develop emotional regulation and a reflective understanding of themselves and the world around them.

Moreover, the questionnaire enables teachers to identify students' general emotional dispositions, challenges, and potential difficulties, thereby allowing for timely intervention and the prevention of adverse outcomes. This represents a significant advantage of the tool. However, one limitation is that pupils at some developmental stages, including the stage focused in the study (approximately nine years old), may struggle

to differentiate between the emotional descriptors provided (Hwang & Nilsson, 1995/2000). This presents a pedagogical challenge: to cultivate students' linguistic and expressive capacities through bibliotherapy and musicotherapy.

Another potential drawback is that teachers may be uncertain about which emotional terms to include if they wish to design their own questionnaire based on this model, as the current version is closely tied to the three songs and associated themes. Nevertheless, this challenge also presents an opportunity for educators to develop customized content aligned with the principles of bibliotherapy and musicotherapy.

When used in this manner, AI significantly reduces the time required for content creation, allowing teachers to focus more fully on the emotional and developmental needs of their students. AI handles the technical aspects of content generation, while the teacher provides the irreplaceable human insight and empathetic engagement necessary for meaningful educational experiences.

5. CONCLUSION

Art is fundamentally intertwined with human emotion, particularly through its expression in language and sound. In the context of the ongoing AI revolution – where emotional intelligence remains underdeveloped – this presents a significant challenge. The affective dimension of personality plays a crucial role in cognitive development, as emotions serve as the foundation for numerous intellectual processes and actions.

Literature and music function as sophisticated mediums for the conscious, unconscious, and subconscious articulation of human emotion. Individually, each art form offers unique expressive potential; however, when employed symbiotically, their impact is amplified. The historical inseparability of literature and music is symbolically reflected in ancient cave drawings, which depict scenes from the daily life of pre-civilizational humans. This connection persists through the emergence of written language and early records, where visual representations and musical elements – ranging from dithyrambs to opera – frequently co-occur.

Both literature and music have served educational and spiritual functions since antiquity. Their influence transcends temporal and cultural boundaries, and in contemporary society, increasing emphasis is placed on scientific inquiry into their therapeutic potential. Research across disciplines – including medicine, neuromusicology, psychology, sociology, and education – has explored the developmental and existential contributions of literary-musical interventions. As Habermejer (1999/2001) notes, citing Diamond (1988), "Research indicates that music and art use both the cortex and the limbic system. Both are necessary for continuous learning and – as Diamond discovered – for our bare survival. You simply cannot engage in music and art without feeling joy, happiness, love, tenderness, sadness, mood, and when we allow these emotions to become part of the learning process, our education becomes richer, more meaningful, more lasting and has a greater impact on our lives."

Within this framework, emotions – particularly those conveyed through voice, whether spoken or sung – occupy a central role. Emotions often manifest as heightened states of arousal in response to personally significant situations or as reflections of an individual's mental state (Stanković, 2007). These emotional experiences are prerequisites for the development of cognitive and social competencies. However, when negative or unpleasant, they can significantly hinder a child's academic and personal growth. Consequently, the use of kind words and pleasant sounds, alongside the cultivation of a supportive socio-emotional climate (Stanković-Janković et al., 2022), becomes essential. Such an environment, enriched by literature and music, fosters positive mood, creativity, improved performance, and enhanced self-confidence.

The dual nature of literature and music – as both artistic and scientific disciplines – offers opportunities for more creative and functional learning. In alignment with contemporary educational paradigms aimed at fostering a healthier and more inclusive society, this study examines the application of AI, specifically the Donna AI Song Generator, especially in relation to healing education, bibliotherapy, and musicotherapy. This tool was employed to generate literary and musical content for use with nine-year-old pupils, addressing themes such as test-related stress, early romantic experiences, and the development of self-confidence and self-awareness.

The hypothesis – that songs could be effectively composed using this AI application and can be utilized for healing education, specifically bibliotherapy and music therapy – was confirmed through the creation of

vocal-instrumental recordings, albeit without accompanying scores. The process involved generating three songs based on specific instructions regarding theme, genre, performance ensemble, and delivery method. This initiative also led to the development of a questionnaire designed for use with pupils in addressing relevant emotional and developmental challenges.

At approximately nine years of age, children undergo significant physical and emotional changes, prompting shifts in self-perception and relationships with family and peers. These transitions often result in heightened sensitivity and the emergence of potentially critical socio-emotional situations (Hwang & Nilsson, 1995/2000). In educational settings that may not always be emotionally supportive, the role of a perceptive and pragmatic teacher is paramount. Such educators must be equipped to identify and respond to emerging challenges, and AI tools can serve as valuable aids in this process – particularly in addressing the socio-emotional dimensions of learning.

Teachers of language, literature, and music (Sun & Abramauskienė, 2025) must familiarize themselves with technological innovations to remain aligned with societal advancements and to enhance pedagogical effectiveness. While AI tools can significantly streamline content creation and instructional organization, they cannot replace the human element in teacher-student interactions. The human voice – through its spoken and musical intonation, narrative expressiveness, and emotive power – can exert a calming and therapeutic influence on pupils. Empathy, a distinctly human trait, remains irreplaceable by any program or application. Nonetheless, AI can contribute meaningfully to the creation of a positive and creative learning environment, benefiting both teachers and students.

Accordingly, the findings of this study may inform future applied research aimed at empirical and practical validating the hypothesis that AI-generated literary and musical content can support relaxation and emotional well-being in pupils. Such outcomes are achievable through the strategic use of developmental bibliotherapy and music therapy.

Further applied research is both possible and necessary, building upon this initial theoretical foundation. It should also be extended to other student age groups and participants in educational practice, incorporating a broader interdisciplinary approach, particularly in relation to specific pedagogical and psychological issues. In conducting future empirical and practical research and implementation, it is essential to consider a wide range of ethical and legal concerns, especially those pertaining to children and minors, including adherence to ethical guidelines as well as national and international legislation relevant to this domain. Finally, by highlighting the transformative potential of AI in fostering holistic, creative, and therapeutic learning environments in primary education, this and all future research should remain mindful of the fundamental purpose and meaning of education, as well as the overall well-being of pupils as children.

Ethical approval

This study does not require ethics committee approval as it does not involve human, animal or sensitive data.

Author contribution

Study conception and design: MPK; data collection: MPK, MČ; analysis and interpretation of results: MPK, MČ; draft manuscript preparation: MPK, MČ. All authors reviewed the results and approved the final version of the article.

Source of funding

The authors declare the study received no funding.

Conflict of interest

The authors declare that there is no conflict of interest.

Etik kurul onayı

Bu çalışma insan, hayvan veya hassas veriler içermediği için etik kurul onayı gerektirmemektedir.

Yazarlık katkısı

Çalışmanın tasarımı ve konsepti: MPK; verilerin toplanması: MPK, MČ; sonuçların analizi ve yorumlanması: MPK, MČ; çalışmanın yazımı: MPK, MČ. Tüm yazarlar sonuçları gözden geçirmiş ve makalenin son halini onaylamıştır.

Finansman kaynağı

Yazarlar, çalışmanın herhangi bir finansman almadığını beyan etmektedir.

Çıkar çatışması

Yazarlar, herhangi bir çıkar çatışması olmadığını beyan etmektedir.

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