

# **The Contemporary Relevance of Al-Farabi's Musical Theory in Interdisciplinary Studies and the Malaysian Educational Context**

**Muhammad Akmal Azri Omar<sup>1\*</sup>, Arifin Mamat<sup>1</sup>**

*<sup>1</sup>Department of Curriculum and Instruction,  
Kulliyah of Education,  
International Islamic University Malaysia,  
Gombak, Malaysia.*

*\*Corresponding Author: [akmalazri.omar@gmail.com](mailto:akmalazri.omar@gmail.com)*

*Received: 29<sup>th</sup> December 2025; Accepted: 30<sup>th</sup> January 2026; Published online: 31<sup>st</sup> January 2026*

## **Abstract**

This paper examines Al-Farabi's music theory and explores its relevance in interdisciplinary education, particularly within the Malaysian context. The objectives focus on analyzing his philosophical and scientific perspectives on music and proposing ways to incorporate these principles into modern educational practices. This paper adopts a qualitative, literature-analysis research design based on historical and philosophical documents and evidence. It draws on historical texts, scholarly interpretations, and curriculum analyses, emphasizing Al-Farabi's integration of cosmological, psychological, mathematical and pedagogical dimensions of music. Findings reveal that his holistic approach positions music as a tool for cognitive development, emotional regulation, ethical refinement, and cultural identity. The paper also demonstrates practical applications, including connecting musical structures to mathematical foundations, supporting emotional well-being through music, and incorporating local musical traditions into the curriculum. The conclusion advocates for integrating Al-Farabi's theories into the Malaysian curriculum to promote interdisciplinary learning, cultural appreciation, and holistic development, demonstrating the timeless relevance of his ideas in contemporary education.

**Keywords:** *Al-Farabi, music theory, holistic development, interdisciplinary approach, Malaysian education*

## INTRODUCTION

The integration of music and the arts represents one of the most influential developments in contemporary education (Escala et al., 2024; Li & Sun, 2023). Music, as reconceptualized by Small (1998), refers to an active practice, or “musicking” (p. 9) in which people engage with sound through performing, listening, composing, and sharing within social and cultural contexts. The arts more broadly, according to scholars like Eisner (2002), consist of human creative expressions, including visual arts, drama, dance, and music, that nurture imagination, critical thinking, and emotional growth. However, music and the arts remain underutilized in many educational curricula (Murphy, 2023). Fragmentation of disciplines in schools often leads to compartmentalized learning (Carla et al., 2017), where students fail to see the natural connections among philosophy, science, mathematics, and culture (Abedin et al., 2017). This disconnection limits holistic learning and reduces opportunities for students to develop creative, reflective, and morally grounded capacities. In Malaysia, for example, current curricula emphasize technical and assessment-driven outcomes, which can marginalize arts-based learning and interdisciplinary approaches (Gani & Halim, 2024).

Historical and philosophical perspectives offer conceptual tools to address these challenges. Classical Islamic thinkers, in particular, developed integrative frameworks that connected music, mathematics, ethics, and human psychology (Elzamzamy et al., 2024; Granot & Shair, 2019). These frameworks are relevant today, as they provide a coherent rationale for holistic education and interdisciplinary integration (Firdaus et al., 2020). Music, in this context, is more than an aesthetic practice; it functions as a medium for ethical formation, emotional regulation, and cognitive development (Tercan, 2020). The psychological and mathematical dimensions of music highlight its potential to enhance analytical reasoning, pattern recognition, and emotional balance in learners (Maarif et al., 2018).

Among these thinkers, Al-Farabi (c. 873–950 CE) stands out as a philosopher, scientist, and music theorist whose work exemplifies interdisciplinary integration (Tercan, 2020). He connected philosophical reasoning with scientific and artistic knowledge, framing music as a tool for intellectual, emotional, and ethical cultivation (Islamov 2021; Rauf et al., 2013). Al-Farabi’s approach contrasts with modern compartmentalized models, which often treat arts education as peripheral. Studying his thought helps educators see how music can connect different areas of knowledge, which will nurture both students’ thinking and emotional growth.

Looking back at Al-Farabi’s work allows us to see how music possesses a lasting ability to connect people across cultures and fields of knowledge. This paper therefore adopts a historical and philosophical analytical approach to examine Al-Farabi’s philosophical, scientific, and pedagogical perspectives on music, analyze the interdisciplinary dimensions embedded in his work, including cosmological, psychological, mathematical, and cultural elements (Maarif et al., 2018; Nurysheva & Tercan, 2021), and evaluate their relevance to contemporary Malaysian education. It also proposes practical educational applications that honor both Islamic heritage and local musical traditions such as *gamelan* and *dikir barat* (Abdul Rahman, 2025; Fitriah et al., 2025; Wong & Augustine, 2017). This paper positions Al-Farabi’s thought as a meaningful conceptual resource for promoting interdisciplinary learning, emotional well-being, and culturally responsive pedagogy. It explicitly connects his philosophical ideas to holistic educational outcomes, showing how they can guide teaching and learning in practice.

## OBJECTIVES OF THE PAPER

The objectives of this paper are to examine Al-Farabi’s philosophical, scientific, and pedagogical perspectives on music, analyze the interdisciplinary dimensions embedded in his music theory, including its cosmological, psychological, mathematical, and cultural elements, and explore how

these principles can be meaningfully integrated into Malaysia's contemporary education system. The paper further aims to evaluate the relevance of Al-Farabi's holistic understanding of music for cognitive development, emotional regulation, ethical refinement, and cultural identity, and to propose educational applications that support creative, multicultural, and interdisciplinary learning. A qualitative analysis approach, grounded in literature analysis and historical textual interpretation, is well suited to these goals because the paper focuses on conceptual inquiry, the interpretation of classical sources, and the synthesis of scholarly perspectives. This approach allows for descriptive and interpretive inquiry, making it possible to examine Al-Farabi's ideas and consider their potential adaptation within modern pedagogical contexts.

## METHODOLOGY

This paper adopts a qualitative, literature-based analytical approach grounded in historical and philosophical sources. It focuses on examining and interpreting primary texts by Al-Farabi alongside relevant secondary scholarly works. The analysis integrates philological close reading, historical contextualization, and thematic synthesis to reconstruct Al-Farabi's philosophical and scientific perspectives on music and to explore their relevance for interdisciplinary education in Malaysia. This approach is appropriate because the paper addresses conceptual meanings, intellectual traditions, and interpretive frameworks embedded in classical texts rather than measurable variables. The interpretive nature of qualitative textual analysis enables a deep and context-sensitive understanding of Al-Farabi's ideas and facilitates their potential application within contemporary educational discourse.

## DATA SOURCES AND DATA ANALYSIS

### Data Sources

Sources of data for this paper consist primarily of Al-Farabi's treatises, books, essays, extant manuscripts, and reliable translations, supplemented by peer-reviewed secondary literature such as monographs, journal articles, book chapters, and historical analyses, as well as additional historical sources that help situate his ideas within their broader intellectual and cultural context. Data collection follows an iterative strategy in which initial readings of secondary works may reveal further primary sources, prompting additional searches in archives or digital manuscript repositories; all adjustments to search terms, source repositories, and inclusion criteria are systematically recorded in an audit trail. Engagement with the material is intensive and document-centered, with each primary text read closely, annotated, and examined in relation to other writings, while archival or manuscript consultation and comparison across translations are carried out when necessary to ensure accuracy and depth of interpretation.

### Data Analysis

Data analysis proceeded through four interconnected stages. First, close textual and interpretive analysis was applied to primary texts to identify key concepts, philosophical arguments, technical musical classifications and references to education. Second, thematic coding was conducted on excerpts from primary and secondary works to derive recurring themes such as cognitive development, emotional regulation, cultural formation, mathematical structure and interdisciplinary learning. Codes were refined iteratively and organised into higher-order categories. Third, comparative and contextual analysis examined Al-Farabi's ideas across multiple works and situated them within the broader scientific, cosmological and pedagogical frameworks of his era. Finally, a synthesising stage integrated insights across all sources to develop a coherent interpretation of Al-Farabi's music theory and its potential application within Malaysia's multicultural and interdisciplinary educational landscape. The analysis was supported by systematic note-taking, memo writing and documentation of interpretive decisions.

## FINDINGS

The findings of this paper are organised around key thematic dimensions of Al-Farabi's thought. It first outlines his biographical background, before analysing his theory of music in terms of its philosophical principles and practical applications. Subsequently, the paper delineates the cosmological, psychological, mathematical, and pedagogical dimensions of his music theory, demonstrating the depth and integrative nature of his intellectual contributions.

### The Biography of Al-Farabi

Al-Farabi was one of the influential figures in the history of Islamic thought, known for his interdisciplinary scholarship that integrated philosophy, science, and the arts. He was born around 872 CE in the city of Farab, located in modern-day Kazakhstan. Al-Farabi's early education reflected the rich intellectual traditions of the Islamic Golden Age (Islamov, 2021). He later moved to Baghdad, a thriving center of knowledge, where he studied under prominent scholars such as Abu Bishr Matta ibnu Yunus and immersed himself in Greek philosophy, particularly the works of Aristotle and Plato (Rauf et al., 2013). Al-Farabi, known as the Second Master, provides insights that can guide scholars in understanding the principles underlying his philosophical thought and political works. Al-Farabi's philosophy, especially his extensive analyses of individual works by Plato and Aristotle, established his reputation as the greatest philosophical authority next to Aristotle. However, scholars have critiqued Al-Farabi for his perceived dependence on Greek philosophical sources. Richard Walzer, in his extensive commentary on *al-Madīnah al-Fāḍilah* (The Virtuous City), sought to trace Al-Farabi's ideas to specific Greek predecessors, often hypothesizing lost or obscure works (Mahdi, 1990). Critics argue that this approach overemphasizes Greek influence, distracts from Al-Farabi's original contributions, and underestimates the impact of the Islamic context in which he wrote. Later commentators like Al-Ghazali (2000/1095) in his *Tahāfut Al-Falāsifah* (Incoherence of the Philosophers), challenged the integration of Greek philosophy into Islamic theology.

Al-Farabi stood as an Islamic scholar who systematically explored the theory and principles of music, as his work has significantly influenced the development of music theory within the Islamic intellectual tradition, informing subsequent musical thought in medieval Islamic cultures. (Tercan, 2020). It is widely believed by music researchers that Al-Farabi's approach to philosophy and music's truth knowledge is inspired by Ancient Greek musical thought, particularly the work of Pythagoras and Aristoxenus, whose ideas about intervals, scales, and the scientific basis of music were incorporated and reinterpreted in his *Kitāb al-Mūsīqā al-Kabīr*. His idea of music, which sheds light on future music and is a reference, has not lost its importance. Having processed the science of music within the framework of universal laws, Al-Farabi placed music on a scientific and philosophical basis. We can see traces of music's thoughts on the interaction of music on the human mind, as well as studies on the knowledge of functionality between the feature, the heart, the brain and other organs. Al-Farabi's writings on music theory made a significant contribution to the ideas of musics in the Islamic geography and have long served as a main reference (Al-Farabi, 1968, 1969, 1998).

His masterpiece, *Kitāb al-mūsīqā al-kabīr* (The Great Book of Music), stands out as one of the most comprehensive works on music theory from the medieval Islamic world (Al-Farabi, 1998). It includes the philosophy of music, relationship between language and music, musical instruments details, melody, rhythm and vocal intonation (Firdaus et al., 2020). This work demonstrates Al-Farabi's belief in the interdependence of music with cosmology, mathematics and human psychology. He viewed music not merely as an art form but as a science capable of revealing deeper truths about the universe and the human condition (Khalaf Allah, 2020).

Al-Farabi's view of music combines precise theoretical analysis with philosophical insight (Al-Farabi, 1998). He then emphasized the mathematical foundations of musical harmony, yet he expanded these ideas by incorporating insights from Islamic cosmology and ethics (Maarif et al., 2018). His theories encompassed the mathematical principles governing musical intervals, the emotional and psychological effects of melodies, and the pedagogical methods for teaching music. Strong-Wilson et al. (2020) emphasized that Al-Farabi's integration of these diverse elements marked a significant advancement in the field, influencing subsequent generations of scholars in both the Islamic and Western worlds.

The relevance of Al-Farabi's work extends far beyond his era. In the modern context, his theories offer valuable insights into the interdisciplinary nature of music and its role in education, therapy, and cultural preservation. The universality of his ideas has inspired scholars across cultures, and his emphasis on music's ethical and emotional dimensions aligns with contemporary efforts to use music for societal well-being (Rauf et al., 2013). However, it is important to acknowledge that, historically, music was a controversial subject within Islamic thought, with figures such as Al-Ghazali questioning its moral and theological permissibility (Al-Ghazālī, 2000/1095, 1982). Despite these debates, Al-Farabi's principles provide a framework for integrating music thoughtfully into educational and cultural programs, particularly in contexts like Malaysia, where diverse musical traditions can benefit from a balance between scientific, philosophical, and ethical considerations.

### **Al-Farabi's Theory of Music: Philosophical Principles**

Al-Farabi's theory of music, as presented in his *Kitāb al-mūsīqī al-kabīr* (The Great Book of Music), is a comprehensive examination of the art and science of music, an interpretation supported by modern scholars such as Nurysheva and Tercan (2021). He defined music as both a theoretical discipline and a practical art, emphasizing its dual role in intellectual exploration and emotional expression. Influenced by Greek philosophers like Pythagoras, Plato, and Aristoxenus (Maarif et al., 2018), Al-Farabi regarded music not merely as an aesthetic or entertainment activity, but as a reflection of cosmic order, an audible manifestation of the harmony that pervades the universe. He viewed music as a reflection of cosmic harmony and a tool for achieving emotional and spiritual balance. In his philosophical system, the principles governing music mirror the universal laws, and listening to or performing music cultivates moral, emotional, and spiritual refinement in individuals. Alignment of the soul with these harmonies enhance inner balance, self-discipline, and ethical sensibilities (Carr, 2006).

This philosophical understanding of music directly connects to his utopian vision in *Al-Madina al-Fadila* (The Virtuous City), where the ideal society is structured to promote the virtuous development of citizens (Al-Farabi, 2012). Just as music harmonizes the soul, the social and political institutions of the Virtuous City are designed to harmonize human behavior with reason and virtue. Music thus becomes a microcosm of Al-Farabi's broader ethical and political philosophy. The cultivation of virtue in the individual through music parallels the cultivation of justice, wisdom, and happiness in society as a whole. In this way, the ethical and spiritual function of music supports the moral architecture of the ideal city, helping citizens achieve personal virtue and, collectively, societal harmony. Music serves as both a tool of education and a symbol of cosmic and social order, bridging the individual's emotional life with the ethical structure of the community.

In *The Republic*, Plato (1943) explicitly emphasizes his formative power of music, arguing that musical training is a more potent instrument than any other because rhythm and harmony find their way into the inward places of the soul. For Plato, musical education was not merely aesthetic but ethical, enhancing inner balance, gentleness, and moral discipline through orderly patterns and harmonious structures. In *Falsafah Aristutalis* (Philosophy of Aristotle), Al-Fārābī (1969) extends the Platonic framework by integrating it with Islamic philosophical and ethical principles, positioning music as a major component of education, moral refinement, and cultural transmission. Situating Al-Farabi within the broader Islamic philosophical tradition is challenging, as his harmonization of Plato

and Aristotle does not fully conform to the later historiographical views of Islamic philosophy that portray it as a seamless blend of Greek and Islamic doctrines. While Plato emphasizes music's ethical power within a Greek framework, Al-Farabi adapts this concept to reconcile philosophical insights with Islamic moral and cultural principles.

### **Al-Farabi's Theory of Music: Practical and Technical Applications**

Building upon these philosophical foundations, Al-Farabi elaborated detailed technical and practical aspects of music. The main aspects of Al-Farabi's theory include his analysis of music, particularly his elaboration on the concept of *maqam* (plural: *maqamat*) system, explaining how different arrangements of tones evoke specific emotions. *Maqam* is a melodic material used in Arabic music that has a lot of melodic details such as unequal and microtonal intervals, and special pitches (Yöre, 2012). His mathematical precision in discussing intervals and tetrachords demonstrates his commitment to merging science with art. Nicholson (2021) stated in his study of instruments, Al-Farabi focused on the *oud*, providing detailed guidance on its tuning and performance.

Al-Farabi further divided music into two categories: theoretical and practical (Nuryшева & Tercan, 2021). He described practical music as the application of sound principles using various musical instruments. In contrast, theoretical music focuses on the concepts of composition and the artistic process involved in creating music. He classified musical instruments by their sound production methods, reinforcing their practical importance in realizing theoretical concepts. Through these contributions, Al-Farabi linked the theoretical understanding of music with its practical applications, enriching both the study and practice of music.

Al-Farabi also explored the psychological and therapeutic effects of music, asserting its ability to influence human emotions and behaviors (Nuryшева & Tercan, 2021; Yuldashev, 2024). Music, through its intricate structure and the emotional qualities of different sounds, can evoke a wide range of feelings and states of mind. He drew on the Greek concept of *ethos*, arguing that specific modes can inspire courage, calm anxiety, or restore emotional balance. This position closely parallels the views articulated by Plato and Aristotle, who maintained that music possesses an intrinsic moral and spiritual force capable of cultivating harmony and order within the soul (Whitfield, 2010).

Al-Farabi's theory of music is characterized by a systematic approach that integrates philosophy, mathematics, cosmology, psychology, and pedagogy.

### ***Cosmological Dimension***

Al-Farabi believed that the universe itself is a harmonious system, governed by mathematical and musical principles. He saw music as a reflection of this cosmic order, with musical intervals mirroring the celestial movements and harmonies of the spheres. Al-Farabi, like many ancient Greek philosophers, believed in the "Harmony of the Spheres". This concept suggests that the planets and stars emit sounds as they orbit around the Earth, creating a celestial symphony (Farmer & George, 1925). Unlike a literal interpretation of planets producing audible sounds, he understood this harmony as a symbol of divine order, reflecting the wisdom of God and influencing the human soul indirectly (Al-Farabi, 1964). In Islamic thought, this aligns with the belief that creation reflects divine order: the cosmos operates according to God's laws, and its harmony points to His perfection (Sūrah al-Mulk, 67: 3–4). Some modern scholars, such as Nuryшева and Tercan (2021), interpret his work as associating different musical notes with the four elements which are earth, water, air, and fire. This idea is not explicitly stated in his works but it aligns with Islamic philosophical and medical traditions that emphasize harmony between the universe and human nature (Syed, 2022).

### ***Psychological Impact***

Al-Farabi explored the emotional and spiritual dimensions of music, emphasizing its capacity to influence human behavior and emotions. He categorized melodies according to their effects, such as joy, sorrow, or contemplation, and linked these effects to specific societal and individual needs. His discussion on the Pythagorean concept of the "Harmony of the Spheres" and its connection to music therapy is noted in *Kitab al-Siyasa* (Al-Farabi, 1964). He stated, "When earthly music comes closest to the harmony of the celestial spheres, it profoundly affects the human soul, making it joyful and strong" (Farmer & George, 1925). This implies that music can uplift the spirit, enhance emotional well-being, and even increase vitality (Nuryshva & Tercan, 2021). Al-Farabi's belief that music could be used therapeutically resonates with modern applications of music in mental health practices (Al-Farabi, 1998). Aristotle also proposed that music can serve as a 'spiritual remedy' for 'mental illnesses', suggesting that music can address emotional and psychological imbalances (Li, 2025). Al-Farabi's classification of the psychological impact of music, especially its ability to evoke and balance emotions, aligns with principles seen in contemporary music therapy.

### **Mathematical Dimension**

In his work, *Ihsā' al-Ulūm (The Enumeration of the Sciences)*, Al-Farabi (1968), who recognized the significant role of music, classified it as a branch of mathematics, placing it fifth in the hierarchy of sciences (Tercan, 2020). Al-Farabi applied mathematical principles to analyze musical intervals and scales. He developed precise methods for tuning instruments and understanding the relationships between notes. His contributions to the theory of intervals were rooted in Pythagorean traditions but extended to accommodate new cultural contexts within the Islamic world (Maarif et al., 2018). For example, his work detailed the construction of the *maqamat*, demonstrating his synthesis of mathematical precision and artistic sensibility. His understanding of harmonics also provided a theoretical basis that later influenced Western musical developments.

Al-Farabi described the nature of musical sounds as a combination of quantitative and qualitative properties, emphasizing that pitch (frequency) and timbre (harmonics) are inseparable in producing meaningful musical experiences. He argued that different musical modes and rhythms could evoke distinct emotions, showing an early understanding of the relationship between mathematical structure and human affect (Al-Farabi, 1998). He further explained the relationships between musical sounds could be expressed mathematically through ratios of frequencies, which determined intervals and tuning systems and ensured harmony in performance. This mathematical approach not only reinforced the logical structure of music but also offered educators a framework to support students' cognitive development in both musical and mathematical domains.

### **Pedagogical Dimension**

In music education, Al-Farabi stressed the importance of integrating theoretical knowledge with practical skills. He advocated for a balanced curriculum that nurtures creativity and critical thinking through music. He emphasized the ability to discriminate, reason deductively, and understand the relationships between different pieces of information (Al-Farabi, 1987). Al-Farabi insisted that the study of music should not only focus on performance but also include its philosophical and ethical dimensions, ensuring that learners develop a holistic understanding of the art (Rauf et al., 2013). His pedagogical insights are particularly relevant today, as modern education strives to bridge the gap between academic theory and practical application.

## **DISCUSSION**

### **Relevance of Al-Farabi's Theory of Music in Interdisciplinary Approach**

Al Farabi's music theory has influenced cultures and eras throughout history (Al-Farabi, 1987). His seminal work, *Kitāb al-Mūsīqā al-Kabīr (The Great Book of Music)*, was translated into Hebrew

around the 12th century, and ideas from it were rendered into Latin and circulated in medieval European scholarly writings, enabling European thinkers to engage with and adapt his concepts on musical theory, intervals, and classification (Naroditskaya, 2009). Central to his approach is the understanding of music as a causal system, where the human mind naturally seeks to comprehend the effects of auditory stimuli on cognition and behavior (Nurysheva & Tercan, 2022). Al-Farabi emphasized that human cognition acquires information through three forces: the senses, imagination, and thought, which together mediate the psychological and emotional impact of music (Nurysheva & Tercan, 2022).

Al-Farabi's work exemplifies an interdisciplinary approach, defined as the integration of knowledge, methods, and perspectives from multiple disciplines to address complex issues (Repko & Szostak, 2025). His synthesis of philosophy, mathematics, psychology, and cultural insights demonstrates this approach, highlighting how music theory can simultaneously inform cognitive, emotional, and cultural understanding (Al-Farabi, 1987). Al-Farabi's emphasis on the universality of music aligns with contemporary efforts to use music as a bridge between cultures. His insights into the psychological effects of music have also found relevance in music therapy and cognitive studies. For instance, his works have inspired modern scholars to explore the relationship between music and neural pathways, highlighting its impact on memory, emotions, and behavior (Nurysheva & Tercan, 2021). Additionally, Al-Farabi's interdisciplinary approach has influenced modern fields such as ethnomusicology, where the study of music is deeply connected to cultural anthropology and sociology, as it has adopted anthropological aims, presumptions, and practices (Reyes, 2012). Despite this rich legacy, little attention has been given to the systematic integration of these insights into music curricula that combine cognitive, emotional, and cultural learning outcomes.

Al-Farabi's focus on the interdisciplinary nature of music corresponds closely with educational goals that aim to create well-rounded learners. In Western academia, music education has increasingly recognized the importance of integrating theoretical knowledge with practical skills, a principle that Al-Farabi advocated over a millennium ago (Schippers, 2010). However, few studies have explored how his interdisciplinary perspectives could be systematically applied in contemporary curricula. In the Malaysian context, Sun and Wong (2024) noted that Malaysian primary school teachers demonstrated a solid understanding of music education and popular music, and they asserted that music education could contribute to students' overall development. However, there has been limited focus on connecting Al-Farabi's theoretical insights, including his detailed analysis of musical scales, intervals, and mathematical principles, with practical teaching approaches that enhance both cognitive and creative skills (Nicholson, 2021).

In addition, Al-Farabi's insights into the psychological effects of music connect to modern pedagogical strategies using music to enhance cognitive and emotional development. This connection is evident because Al-Farabi theorized that different melodies and musical modes influence the emotions and mental states of listeners, providing a framework for understanding how music can shape cognition and emotion (Al-Farabi, 1987). Aligned with this view, studies have shown that music can improve memory retention, encourage emotional intelligence, and stimulate creativity (Bokiev et al., 2018; Boustani & Al Abdwani, 2023; Waterhouse, 2006). Al-Farabi's categorization of melodies based on their emotional impacts offers a structured way to use music as a tool for psychological well-being and effective learning. For instance, in classrooms where music is integrated into lessons, students often show improved focus and reduced anxiety (Jiang, 2024), outcomes that align with Al-Farabi's views on the therapeutic potential of music.

In higher education, particularly in music conservatories and universities, Al-Farabi's theories provide a historical and philosophical context that deepens students' understanding of music as both an art and a science (Rauf et al., 2013). His works are studied alongside Western theorists such as Pythagoras and Boethius, highlighting the global connection of musical traditions (Farmer & George, 1925). While his integration of philosophical, mathematical, and psychological dimensions of music is intellectually impressive, it can be argued that some of his theoretical constructs remain abstract

and may be challenging to translate directly into contemporary pedagogical practice (Korthagen, 2010). Furthermore, the balance between artistic expression and scientific rigor in his approach requires careful interpretation, as the emphasis on rational order may risk underestimating the experiential and improvisational aspects of music (Rujiter, 2023). Through his integration of philosophy, mathematics, psychology, and cultural insights, Al-Farabi's ideas encourage students to approach music from an interdisciplinary framework that promotes critical thinking and cultural appreciation (Yuldashev, 2026). Educators must critically navigate between preserving the philosophical depth of his work and adapting it to practical classroom realities (Syafitri & Mu'minin, 2024).

## **Application of Al-Farabi's Theory of Music in Malaysian Educational Context**

### ***Philosophical Foundation***

According to Abdullah (2007), the Malaysian Ministry of Education implemented music education in primary schools in 1983, while a new secondary school music curriculum was completely developed in 1996. Malaysia, with its rich multicultural heritage, provides a conducive ground for applying Al-Farabi's music theories. Traditional Malaysian music, such as *gamelan* and *dikir barat*, embodies the integration of mathematical precision and emotional expression, principles echoed in Al-Farabi's universal principles of music that transcend cultural boundaries (Matusky & Beng, 2017). In the Malaysian context, this perspective supports a multicultural approach to music education, where diverse musical traditions can be explored and appreciated while emphasizing shared principles such as rhythm, melody, and emotional expression. As mentioned by Meddegoda (2015), the *maqam* system, which Al-Farabi elaborated upon, shares similarities with certain modal structures in traditional Malaysian music, suggesting a historical and conceptual connection. However, previous research has not addressed the systematic incorporation of Al-Farabi's music theory into Malaysian school curricula.

### ***Application Strategies in Malaysian Schools***

The study of these intricate rhythms, harmonic structures, musical tuning and scales can be incorporated into Malaysia's school curricula to reinforce students' understanding of fractions, ratios, and proportions. Research on Al-Farabi's work demonstrates that arithmetic operations such as addition, multiplication, and division can be applied to his interval ratios, providing students with practical, hands-on opportunities to connect mathematical concepts with real musical relationships (Oshanova, 2020). Malaysian teachers can design interdisciplinary lessons in which students not only learn musical modes and *maqamat* but also develop essential mathematical skills, enhancing numeracy through the inherent structure and patterns of sound by integrating Al-Farabi's theory into music education (Nurysheva & Tercan, 2021).

The use of music therapy, informed by Al-Farabi's insights, is another area where his theories could be effectively applied in Malaysia. Programs designed for students with special needs or those dealing with stress and anxiety could benefit from his detailed exploration of music's psychological effects. According to Lonsdale and Kuan Boon (2016), music therapy techniques can incorporate exercises and movement that promote relaxation, improve posture, and enhance physical well-being, thereby mitigating the risk of musculoskeletal disorders. Music therapists can employ techniques like imagery, relaxation exercises, and cognitive-behavioral therapy to help musicians manage performance anxiety and build resilience. Collaboration between educators, psychologists, and musicians could lead to innovative applications of his ideas in both mainstream and special education settings.

Additionally, Al-Farabi's ideas on the shared mathematical and emotional foundations of music across cultures could serve as a foundation for cross-cultural music programs that highlight Malaysia's multicultural identity. This approach would provide students with a deeper appreciation

of their cultural heritage while also connecting them to universal principles of music (Dockan et al., 2025). Recognizing Malaysia's multicultural landscape, a main feature of the Malaysian music education system is the emphasis on developing culturally diverse music programs (Kwan Yie & Chiu, 2017). One of the four standards outlined in the Integrated Curriculum for Primary Schools mandates that students appreciate the various forms of Malaysian music and culture (Wong et al., 2016). This standard focuses on multicultural music education, while the remaining standards concentrate on other aspects of music, primarily rooted in Western classical traditions. Existing studies rarely examine the integration of Al-Farabi's interdisciplinary music principles into multicultural music education programs. The goal of incorporating multicultural music is to expose children to the diverse musical and cultural expressions of Malaysia's various ethnic groups, facilitating an understanding of their unique characteristics and promoting mutual respect and tolerance among these cultures.

In the Malaysian educational setting, music is increasingly recognized as a tool for enhancing unity and creativity among diverse communities (Jamaludin et al., 2024). Al-Farabi's emphasis on the scientific and emotional aspects of music could enrich the national curriculum, promoting a deeper appreciation of both traditional and contemporary forms of music. Furthermore, his philosophical approach to music education aligns with Malaysia's aspirations to cultivate holistic and culturally rooted learners (Tan & Li, 2005). Wong et al. (2016) affirmed that music classes that emphasize these dimensions could help students develop empathy and mutual respect, key values in Malaysia's multicultural society. For instance, integrating Al-Farabi's theories into the teaching of Malaysian instruments such as the sape and rebab could deepen students' understanding of their cultural significance and theoretical foundations (Dawe, 2001).

Furthermore, Al-Farabi's pedagogical emphasis on integrating theory and practice aligns with Malaysia's efforts to modernize its educational curriculum. For example, music programs in Malaysian schools often include both traditional and contemporary elements, but the theoretical aspects are sometimes overlooked. According to Bokiev and Ismail (2021), nearly all Malaysian ESL teachers reported that one of the main challenges faced when using music and songs in their instruction was identifying the songs that would serve the purpose of the lesson, match the proficiency level of their students and be appropriate for classroom use. Al-Farabi's structured approach to scales, modes, and the psychological effects of music can help educators to create more comprehensive programs that cater to diverse learning needs.

Overall, mandatory music education for Malaysian school students can be justified as a component of holistic education grounded in both philosophy and empirical research. From Al-Farabi's perspective, music functions as a disciplined science that cultivates intellectual reasoning, emotional balance, and ethical refinement (Meddegoda, 2015; Syafitri & Mu'minin, 2024). Aligned with this view, contemporary studies indicate that structured music education enhances cognitive development, including memory retention and creativity, while supporting emotional intelligence and self-regulation (Bokiev et al., 2018; Boustani & Al Abdwani, 2023; Waterhouse, 2006). Within Malaysia's multicultural context, research on culturally relevant music pedagogy further shows that music education promotes social interaction and intercultural understanding among diverse student groups (Dockan et al., 2025; Wong & Chiu, 2017). Collectively, these findings support the integration of Al-Farabi's interdisciplinary music philosophy into Malaysia's curriculum to enhance academic, emotional and social value while supporting educational harmony in a plural society such as Malaysia.

### ***Challenges and Opportunities***

While the potential benefits of applying Al-Farabi's music theory in education are immense, challenges remain. One significant obstacle is the limited availability of resources and expertise related to his works. Yie and Ying (2017) highlighted that the problem occurs when teachers' approaches are inadequate and unreliable, leaving students with little comprehension of the context,

function, and significance of the musical examples. Translating his complex ideas into practical teaching methods requires dedicated research and training for educators. Moreover, it takes a sophisticated strategy for achieving a balance between his theories' traditional elements and the demands of modern education.

The challenges presented by implementing Al-Farabi's music theories also offer exciting opportunities for innovation. Collaboration between academic institutions, cultural organizations, and policymakers can drive the development of new curricula and teaching materials grounded in Al-Farabi's principles. In today's digital age, music education is undergoing a transformation. Online pedagogy is revolutionizing how students learn to sing, with new approaches significantly impacting vocal music instruction. These advancements not only enhance students' singing skills but also open new possibilities for the future of music education (Chang, 2022; Schiavio et al., 2021). Key trends in online pedagogy include virtual choirs and ensembles, online interactive masterclasses, digital voice analysis, online music theory training tools, and virtual reality (VR) and augmented reality (AR) experiences (Longlong & Luen, 2023). In addition, digital platforms and online courses have the potential to democratize access to Al-Farabi's theories, enabling educators and students worldwide to benefit from his insights.

In conclusion, while implementing Al-Farabi's music theory in education presents challenges, its potential benefits are significant. As we address the need for resources and expertise, and by embracing innovative approaches like online pedagogy and digital platforms, educators can unlock the transformative power of Al-Farabi's ideas. This will not only enrich music education but also enhance a deeper understanding of music's role in personal and societal development.

## CONCLUSION

Al-Farabi's works in music theory and education demonstrate that music is far more than the notes we hear. It reflects life, thought, emotion, and even the universe itself. Although articulated centuries ago, his ideas remain relevant, showing how deeply music is woven into human understanding. Across cultures, Al-Farabi's theories inspire musicians, thinkers, and educators. In Malaysia, his principles offer a rich foundation for nurturing a deeper appreciation of local musical traditions, encouraging both preservation and creative growth. This philosophical inquiry affirms that education becomes more meaningful when it reflects culture, history, and human values.

Al-Farabi's influence extends well beyond music. His cosmological view, for example, presents music as a mirror of the harmony found in the universe. In Islamic thought, this aligns with the belief that creation reflects divine order: the cosmos operates according to God's laws, and its harmony points to His perfection. This idea also reflects that music not only as sound, but as something that connects human to the wider order of creation. It gives music a sense of purpose, beauty, and unity that modern educators and musicians can still appreciate. Psychologically, Al-Farabi understood that music shapes emotions and behavior. Today, his insights are being utilized in areas including music therapy, emotional development, and mental well-being. He recognized that different musical modes could influence a person's mood and character, an idea that continues to guide educators who want to support students not only academically but emotionally.

His work in mathematics also shows how carefully he studied music. Al-Farabi highlighted the deep relationship between sound and numbers by analyzing intervals, ratios, and musical structures. This mathematical foundation offers a powerful means of connecting music with logical thinking and problem-solving, an approach that aligns well with the interdisciplinary learning employed in many modern classrooms. As a teacher, Al-Farabi believed that music could build good character and sharpen the intellect. He saw music education as something that should be guided with care and purpose, combining both technical skills and moral development. His ideas suggest that education should aim to develop well rounded individuals, not just performers or exam takers.

In Malaysia, his ideas offer meaningful possibilities. They can inspire music curricula that honor both Islamic heritage and local musical traditions such as gamelan and dikir barat (Abdul Rahman, 2025; Fitriah et al., 2025; Wong & Augustine, 2017). His psychological insights can support school programs that use music to help students manage emotions and build confidence. His mathematical approach can help teachers design lessons that connect rhythm and pattern with numeracy skills. Most importantly, his holistic educational philosophy aligns with Malaysia's goal of nurturing balanced, ethical, and creative learners.

To conclude, the lasting relevance of Al-Farabi's ideas shows that ancient knowledge still has much to offer to the modern world. His works continue to inspire scholars and teachers everywhere, emphasizing that music is not only an art, but a means to cultivate the mind, nurture ethical values, and connect with cultural heritage. Integrating music into education shapes character, promotes social harmony, and deepens understanding of the world.

### RECOMMENDATION

Based on the conclusion, it is proposed that Malaysia's current education system could adopt Al-Farabi's holistic educational approach to enhance interdisciplinary learning and intellectual engagement across various fields. His philosophical ideas on harmony, balance, and the integration of intellect and emotion could guide pedagogical techniques that combine multiple disciplines in meaningful ways. For instance, in subjects like philosophy, ethics, or social sciences, teachers could use case studies, debates, and reflective exercises to illustrate how the principles governing the natural world can be applied to human relationships, societies, and personal development. Incorporating Al-Farabi's ideas into mathematics and science education is another possible approach. His exploration of mathematical ratios in the context of music could be included in lessons on algebra, geometry, or physics, providing students with real-world applications of abstract concepts. His idea of knowledge as universal and interconnected supports collaborative and cross-cultural learning techniques, including international workshops, joint research projects, and global exchange programs, which represent an effective means of shared intellectual traditions. Finally, public awareness campaigns could play a significant role in promoting Al-Farabi's intellectual legacy to a wider audience. These campaigns might include academic conferences, exhibitions, documentaries, and publications that highlight the historical connection between Islamic and Southeast Asian intellectual traditions. Integrating Al-Farabi's ideas into the broader educational framework and public discourse would not only preserve his contributions but also ensure that his teachings continue to inspire future generations.

### ACKNOWLEDGEMENT

The authors gratefully acknowledge all individuals who contributed to the successful completion of this paper.

### FUNDING

No specific grant or funding was received from any public, commercial, profit, or non-profit organization. Therefore, this research was self-funded, and an earlier version of the report was presented at the Postgraduate Colloquium 2025 at the International Islamic University Malaysia.

### REFERENCES

Abdel Haleem, M. A. S. (Trans.). (2004). *The Qur'an*. Oxford University Press.

- Abdullah, M. H. (2007). Music education in Malaysian public school: Implementation issues and challenges. *Jurnal Pendidikan Bitara UPSI*, 1(1), 30–41.
- Abdul Rahman, N. (2025). *Unlocking the potential: Exploring the impact of digitalisation on Malaysian music industry practices* (Doctoral dissertation, University of Liverpool).
- Abedin, M., Billingsley, B., & Nassaji, M. (2017). Entrenched compartmentalisation and students' abilities and levels of interest in science. *School Science Review*, 99.
- Al Farabi. (1964). *Kitab al Siyasa al Madaniya* (F. Najjar, Ed.). Imprimerie Catholique.
- Al Farabi. (1968). *Ihsā' al ulūm: Enumeration of the Sciences* (U. Amin, Ed., 3rd ed.). Librairie Anglo-Égyptienne.
- Al Farabi. (1969). *Falsafah Aristutalis (Philosophy of Aristotle)* (M. Mahdi, Trans.). In *Al Farabi's philosophy of Plato and Aristotle*. Cornell University Press.
- Al Farabi. (1987). *Al-Tanbih 'ala Sabil al-Sa'ada* (J. al-Yasin, Ed.). Dar al-Manahil.
- Al Farabi. (1998). *Kitāb al-mūsīqī al-kabīr: Grand book of music* (E. Neubauer, Ed.). Institute for the History of Arabic-Islamic Science. (Vol. 61, Publications of the Institute for the History of Arabic-Islamic Science: Series C, Facsimile editions)
- Al-Farabi (2012). *Arā' Ahl Madīnah al-Fadīlah*. Cairo: al-Handawi.
- Al-Ghazālī, A. H. (1982). *Ihyā' 'Ulūm al-Dīn* (Vols. 1–5). Beirut: Dār al-Ma'rifah.
- Al-Ghazālī, A. H. (2000). *The incoherence of the philosophers (Tahāfut al-Falāsifah)* (M. E. Marmura, Ed. & Trans.). Provo, UT: Brigham Young University Press. (Original work published c. 1095)
- Bokiev, D., Bokiev, D., Aralas, D., Ismail, L., & Othman, M. (2018). Utilizing Music and Songs to Promote Student Engagement in ESL Classrooms. *International Journal of Academic Research in Business and Social Sciences*, 8(12). <https://doi.org/10.6007/ijarbss/v8-i12/5015>
- Bokiev, D., & Ismail, L. (2021). Malaysian ESL teachers' beliefs and practices regarding the use of music and songs in second language teaching. *Qualitative Report*, 26(5), 1497–1521. <https://doi.org/10.46743/2160-3715/2021.4350>
- Boustani, N., & Al Abdwani, T. (2023). The Effect of Music on Communication Ability: A Case of Vocabularies. *Journal of Business, Communication & Technology*, 1–12. <https://doi.org/10.56632/bct.2023.2101>
- Carla, S., Rubia, F., Diego, L., Ovigli, D., & Colombo Junior, P. (2017). Interdisciplinarity in education: Overcoming fragmentation in the teaching–learning process. *International Education Studies*, 10(10), 71. <https://doi.org/10.5539/ies.v10n10p71>
- Carr, D. (2006). The significance of music for the promotion of moral and spiritual value. *Philosophy of Music Education Review*, 14(2), 103–117. <https://doi.org/10.1353/pme.2007.0001>
- Chang, Z. (2022). The use of online vocal training programs as a means to develop creative thinking and vocal prowess. *Interactive Learning Environments*, 31(10), 7214–7225.
- Dawe, K. (2001). People, Objects, Meaning: Recent Work on the Study and Collection of Musical Instruments. *The Galpin Society Journal*, 54. <https://www.jstor.org/stable/842454>
- Dockan, D., Aguilar, C., Vasil, M., Gault, B. M., Jones, J. D., Giebelhausen, R., & Adorno, S. S. (2025). General music pedagogies through the lens of culturally relevant pedagogy. *Journal of General Music Education*, 39(1), 31–39. <https://doi.org/10.1177/27527646251369863>
- Eisner, E. W. (2002). *The arts and the creation of mind*. Yale University Press.
- Elzamzamy, K., Bader, R. K., & Bircan, F. B. (2024). Contemporary scholarship on classical Islamic psychology: A scoping review. *Journal of Muslim Mental Health*, 18(1), 2. <https://doi.org/10.3998/jmmh.6025>
- Escala, N., Herrera-Pavo, M. Á., Guitert, M., & Romeu, T. (2024). Educational experiences integrating the arts into teaching practice in primary education in Ecuador. *Thinking Skills and Creativity*, 54, 101671. <https://doi.org/10.1016/j.tsc.2024.101671>
- Farmer, H. G. (1925). The influence of music: From Arabic Sources. *Proceedings of the Musical Association*, 52(1), 89–124.
- Firdaus, A. M., & Shukor, K. A. (2020). Al-Farabi dalam sumbangan kepada perkembangan ilmu falsafah Islam [The contribution of al-Farabi in developing Islamic philosophical knowledge]. *Al-Munzir*, 13(1), 73–87. <https://doi.org/10.31332/am.v13i1.1734>

- Fitriah, L., Jazuli, M., Wadiyo, W., & Sugiarto, E. (2025). The role of Malay gambus music in education and cultural preservation: A case study. *Jurnal Eduscience*, 12(5), 1259–1267. <https://doi.org/10.36987/jes.v12i5.7500>
- Gani, N., & Halim, F. (2024). Strategic leadership and effective management: Bridging the gap between TVET curriculum and industry needs in Malaysia. *Journal of TVET and Technology Review*, 2, Article 006. <https://doi.org/10.30880/jttr.2024.02.02.006>
- Granot, R., & Shair, N. (2019). The origin and power of music according to the 11th-century Islamic philosopher Ibn Sīnā. *Journal of the Royal Asiatic Society*, 29(4), 585–598. <https://doi.org/10.1017/S1356186319000178>
- Hyde, K. L., Lerch, J., Norton, A., Forgeard, M., Winner, E., Evans, A. C., & Schlaug, G. (2009). Musical training shapes structural brain development. *Journal of Neuroscience*, 29(10), 3019–3025. <https://doi.org/10.1523/JNEUROSCI.5118-08.2009>
- Islamov, U. (2021). Al-Farabi about language and culture of speech. *British View*, 6(1), 1–6.
- Jamaludin, J., Md Noor, H., Ismail, M. J., & Harith, M. A. (2024). Designing creative music education materials for school children in Malaysia: Implications for policy and teaching practices. *Environment-Behaviour Proceedings Journal*, 9(SI22), 7–12. <https://doi.org/10.21834/e-bpj.v9iSI22.5806>
- Jiang, J. (2024). Impact of music learning on students' psychological development with mediating role of self-efficacy and self-esteem. *PLOS ONE*, 19(9), e0309601. <https://doi.org/10.1371/journal.pone.0309601>
- Khalaf Allah, M. A. H. (2020). A new reading of the educational dimensions in al-Farabi's philosophy. *Journal of Oriental Studies*, 94(3), 43–48. <https://doi.org/10.26577/jos.2020.v94.i3.05>
- Korthagen, F. A. J. (2010). The relationship between theory and practice in teacher education. In *International encyclopedia of education* (pp. 669–675). Elsevier. <https://doi.org/10.1016/B978-0-08-044894-7.00638-2>
- Kwan Yie, W., & Chiu, M.-Y. (2017). Issues and challenges in teaching multicultural music amongst primary music teachers in Malaysia. *Malaysian Music Journal*, 6, 98–110. <https://doi.org/10.37134/mjm.vol6.1.6.2017>
- Li, X. (2025). The philosophical evaluation of Aristotle's music aesthetics thought. *International Journal of Education and Humanities*, 18, 234–237. <https://doi.org/10.54097/v29jdc02>
- Li, Y., & Sun, R. (2023). Innovations of music and aesthetic education courses using intelligent technologies. *Education and Information Technologies*, 28, 13665–13688. <https://doi.org/10.1007/s10639-023-11624-9>
- Longlong, C., & Luen, L. C. (2023). New trend in online pedagogy for college vocal music education in the digital era. *International Journal of Academic Research in Progressive Education and Development*, 12(4), 923–930. <https://ijarped.com/index.php/journal/article/view/852>
- Lonsdale, K., & Ong, K. (2016). Playing-related health problems among instrumental music students at a university in Malaysia. *Medical Problems of Performing Artists*, 31(3), 151–159. <https://doi.org/10.21091/mppa.2016.3028>
- Maarif, S., Wahyudin, W., Raditya, A., & Perbowo, K. S. (2018). Introducing geometry concept based on history of Islamic geometry. *Journal of Physics: Conference Series*, 948, 012040. <https://doi.org/10.1088/1742-6596/948/1/012040>
- Mahdi, M. (1990). Al-Fārābī's imperfect state: Review of Richard Walzer. *Journal of the American Oriental Society*, 100(4), 691–726.
- Matusky, P., & Tan, S. B. (2017). *The music of Malaysia: The classical, folk and syncretic traditions* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315223025>
- Meddegoda, C. P. (2015). Musical traces of Hindustani culture in Malay ghazal (Doctoral dissertation, Universiti Putra Malaysia). Universiti Putra Malaysia
- Murphy, A. K. C. (2023). The importance of music in the second language classroom (Doctoral dissertation). ProQuest Dissertations & Theses Global. (Publication No. 30491817)

- Naroditskaya, I. (2009). Review of *The Philosophy of Music* by Abu Nasr Muhammad al-Farabi. *Journal of Asian Music*, 40, 133–137.
- Nicholson, T. (2021). Surprising connections in extended just intonation: Investigations and reflections on tonal change (Master's thesis, University of Victoria). <https://doi.org/10.13140/RG.2.2.31938.30405/2>
- Nuryшева, G., & Tercan, N. (2021). Al-Farabi's philosophy of music "The Legality of Music." *Central Asian Journal of Art Studies*, 6(1), 10–26. <https://doi.org/10.47940/cajas.v6i1.318>
- Oshanova, H. (2020). Mathematical foundations of music by Al-Farabi. *Bulletin of Abai KazNPU. Series of Physical and Mathematical Sciences*, 71(3), 24–30. <https://doi.org/10.51889/2020-3.1728-7901.03>
- Plato. (1943). *The Republic* (A. Bloom, Trans.). Basic Books. (Original work published ca. 380 B.C.E.)
- Rauf, M., Ahmad, M., & Iqbal, Z. (2013). Al-Farabi's philosophy of education. *Educational Research International*, 1(2), 85–94.
- Repko, A. F., Szostak, R., & Buchberger, M. P. (2025). *Introduction to interdisciplinary studies* (4th ed.). SAGE Publications, Inc.
- Reyes, A. (2012). Urban ethnomusicology: A brief history of an idea. *Lidé města / Urban People*, 14(2), 193–205.
- Ruijter, S. (2023). Embracing the "wrong" in classical music interpretation: About finding balance between tradition and creativity in classical music performance. *Journal of Trial and Error*, 3, 15–21. <https://doi.org/10.36850/h3yn-bd82>
- Schellenberg, E. G. (2004). Music lessons enhance IQ. *Psychological Science*, 15(8), 511–514. <https://doi.org/10.1111/j.0956-7976.2004.00711.x>
- Schiavio, A., Biasutti, M., & Antonini Philippe, R. (2021). Creative pedagogies in the time of pandemic: a case study with conservatory students. *Music Education Research*, 23(2), 167–178. <https://doi.org/10.1080/14613808.2021.1881054>
- Schippers, H. (2009). *Facing the music: Shaping music education from a global perspective*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195379754.001.0001>
- Small, C. (1998). *Musicking: The meanings of performing and listening*. Wesleyan University Press.
- Strong-Wilson, T., Ehret, C., Lewkowich, D., & Chang-Kredl, S. (Eds.). (2019). *Provoking curriculum encounters across educational experience: New engagements with the curriculum theory archive* (1st ed.). Routledge. <https://doi.org/10.4324/9780429058110>
- Sun, K. T., & Wong, K. Y. (2024). The impact of popular music on primary music education: A comparative study of Chinese and Malaysian teachers' perspectives. *Malaysian Journal of Music*, 13(2), 77–98. <https://doi.org/10.37134/mjm.vol13.2.5.2024>
- Syafitri, L., & Mu'minin, N. (2024). Grounding Al-Farabi's musical philosophy through Stecu's song: Integration of art, spirituality, and Islamic education. *International Journal of Education and Literature*, 3, 16–21. <https://doi.org/10.55606/ijel.v3i3.213>
- Syeed, S. S. (2022). Islamic and Western methodological approaches towards the study of life sciences. *Revelation and Science*, 12(2). <https://doi.org/10.31436/revival.v12i2.335>
- Tan, P. L. (2006). *Approaches to learning and learning values: An investigation of adult learners in Malaysia* (Doctoral dissertation, Queensland University of Technology).
- Tercan, N. (2020, April 6–9). Al-Farabi's philosophy of music. Paper presented at the International Scientific Conference of Students and Young Scientists "Farabi World," Al-Farabi Kazakh National University.
- Vaughn, K. (2000). Music and mathematics: Modest support for the oft-claimed relationship. *The Journal of Aesthetic Education*, 34(3/4), 149–166. <https://doi.org/10.2307/3333641>
- Waterhouse, L. (2006). Multiple intelligences, the Mozart effect, and emotional intelligence: A critical review. *Educational Psychologist*, 41(4), 207–225. [https://doi.org/10.1207/s15326985ep4104\\_1](https://doi.org/10.1207/s15326985ep4104_1)
- Whitfield, S. (2010). Music: Its expressive power and moral significance. *Musical Offerings*, 1(1), Article 2. <https://doi.org/10.15385/jmo.2010.1.1.2>

- Wong, C., & Augustine, C. (2017). Malay gamelan: Approaches of music learning through community music. *International Journal of Academic Research in Business and Social Sciences*, 7(11). <https://doi.org/10.6007/IJARBS/v7-i11/3562>
- Wong, K. Y., & Chiu, M.-Y. (2017). Issues and challenges in teaching multicultural music amongst primary music teachers in Malaysia. *Malaysian Music Journal*, 6, 98–110. <https://doi.org/10.37134/mjm.vol6.1.6.2017>
- Wong, K. Y., Pan, K. C., & Shah, S. M. (2016). General music teachers' attitudes and practices regarding multicultural music education in Malaysia. *Music Education Research*, 18(2), 208–223. <https://doi.org/10.1080/14613808.2015.1052383>
- Yöre, S. (2012). Maqam in music as a concept, scale and phenomenon [Kavram, dizi ve olgu olarak müzikte makam]. *Zeitschrift für die Welt der Türken / Journal of World of Turks*, 4(3), 267–286.
- Yuldashev, F. A. (2024). Philosophy of music in Muslim medieval culture. *Journal of Arts and Humanities*, 7(3), 1–5. <https://doi.org/10.5281/zenodo.10790088>
- Yuldashev, F. A. (2026). Music as an object of philosophical knowledge in the teachings of Al-Farabi. *American Journal of Social Sciences and Humanity Research*, 6(1), 15–20. <https://doi.org/10.37547/ajsshr/Volume06Issue01-05>