

Musical Literacy Development: The Case of Qin Zheng Playing Techniques of Zhou Wang

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ABSTRACT

The Qin Zheng, an ancient Chinese musical instrument, embodies centuries of cultural heritage and artistic expression. Amidst its strings, melodies resonate with stories of ancient China, reflecting the country's rich history and cultural identity. The objective of this study is to analyze the Qin Zheng playing techniques of Zhou Wang in musical literacy development. The research investigates Zhou Wang's historical development, pedagogical approach, and playing techniques through a qualitative analysis. The study focuses on the Xi'an Conservatory of Music as the primary research site, where Zhou Wang has taught and mentored students for over three decades. Key informants include Zhou Wang herself, her students, and colleagues in the field of Chinese musical education. Data analysis involves structured interviews, observations of performances and teaching sessions, and transcription of musical examples. The findings reveal Zhou Wang's mastery of Qin Zheng techniques, including intricate right-hand and left-hand skills, and their significance in fostering musical literacy development. The study highlights the potential benefits of integrating music education, particularly traditional Chinese music like Qin Zheng, into curricula as a means to enrich students' language skills, cognitive abilities, and emotional intelligence.

Key words: Qin Zheng, Zhou Wang, Literacy Development, Music Education, Traditional Chinese Music

INTRODUCTION

The Qin Zheng, a traditional Chinese musical instrument, embodies centuries of cultural heritage and artistic expression. Amidst its strings, melodies resonate with stories of ancient China, reflecting the country's rich history and cultural identity. Among the modern virtuosos of Qin Zheng, Zhou Wang stands out as a prominent figure, renowned for her mastery of the instrument and her profound impact on literacy development through music (Whitener & Shu, 2018; Deng, 2020; Silverberg, 2022; Juan et al., 2023).

The Qin Zheng, often referred to simply as the Qin, holds a significant musical instrument in Chinese culture, dating back over 3,000 years (Yung, 2017). It served historically as a representation of sophistication and intellect that both academics and artists cherished. In contemporary times, Qin Zheng continues to captivate audiences worldwide, preserving traditional melodies and embracing innovative techniques (Han, 2001; Zhang & Lam, 2022; Li & Choatchamrat, 2024).

Zhou Wang emerges as a central figure in the contemporary Qin Zheng landscape. Born and raised in the artistic milieu of the Xi'an Conservatory of Music, her passion for music and teaching was nurtured from a young age. Following her academic pursuits, Zhou Wang transitioned

from performer to educator, dedicating herself to the cultivation of new talents and the preservation of Chinese musical heritage.

Despite the cultural significance of the Qin Zheng, there remains a gap in understanding how its playing techniques contribute to literacy development. While music has long been recognized as a tool for cognitive and emotional growth, the specific impact of Qin Zheng's playing techniques, especially those exemplified by Zhou Wang, on literacy remains underexplored. Therefore, there is a need to investigate the relationship between Qin Zheng's playing techniques and literacy development to appreciate better the instrument's educational value (Demaine, 2015; Roongruang, 2022; Duan & Choatchamrat, 2023).

The primary objective of this study is to analyze the Qin Zheng playing techniques of Zhou Wang in musical literacy development. By examining Zhou Wang's approach to playing the Qin Zheng and its effects on literacy acquisition and enhancement, this study aims to uncover the educational potential inherent in traditional Chinese music (Tan, 2016; Wu & Boonsrianun, 2023).

The role of Qin Zheng's playing techniques in literacy development holds several implications. Firstly, it sheds light on the broader educational benefits of music, particularly in enhancing language skills, cognitive abilities, and

emotional intelligence. Educators and policymakers can integrate music education more effectively into curricula by elucidating the mechanisms through which Qin Zheng's playing techniques contribute to literacy, thereby enriching students' learning experiences (Han, 2001).

In conclusion, the exploration of Qin Zheng's playing techniques in literacy development not only advances our understanding of the educational benefits of music but also highlights the enduring relevance of traditional Chinese instruments in contemporary society. By using the virtuosity of Zhou Wang and the timeless melodies of Qin Zheng as our guides, we set out on this research journey to understand the harmonious relationship between music and literacy.

Research Question

- How do Zhou Wang's Qin Zheng playing techniques contribute to musical literacy development?

LITERATURE REVIEW

The intersection of music and literacy development has garnered significant attention in educational research. Scholars have explored how musical activities, including playing instruments, singing, and rhythmic exercises, can enhance various aspects of literacy, such as phonological awareness, vocabulary acquisition, and reading comprehension (Anvari et al., 2002; Standley, 2008; Hannon & Trehub, 2005). However, while studies have demonstrated the positive effects of music on literacy skills, few have explicitly focused on the Qin Zheng, a traditional Chinese musical instrument, and its playing techniques.

There is a growing interest in understanding the educational value of traditional instruments like the Qin Zheng in Chinese music education. Researchers have highlighted the importance of preserving cultural heritage through music education and have explored the cognitive, emotional, and social benefits of learning traditional Chinese instruments (Gromko, 2005; Liu & Liu, 2018; Wang, 2013). However, limited empirical research exists on how specific playing techniques of the Qin Zheng, particularly those exemplified by virtuosos like Zhou Wang, contribute to literacy development.

The theoretical framework guiding this study draws from multiple disciplines, including music education, literacy studies, and cognitive psychology. The socio-cultural theory of literacy development, which holds that social interactions, cultural practices, and symbolic systems all influence literacy acquisition, serves as the theoretical foundation for the research. (Vygotsky, 1978) According to this perspective, musical activities are cultural tools that mediate learning experiences and scaffold literacy development.

Furthermore, the research theory incorporates elements of cognitive processing theory, which emphasizes the role of cognitive mechanisms in learning and skill acquisition (Anderson, 1983). Within this framework, the study examines how the intricate playing techniques of Qin Zheng engage cognitive processes related to auditory perception,

motor coordination, and memory retrieval, thereby facilitating literacy development.

Moreover, the research theory integrates principles of music cognition, which elucidate how musical experiences influence cognitive functioning and emotional processing (Levitin, 2006; Patel, 2014). The study aims to uncover the underlying mechanisms through which music enhances literacy skills by exploring the cognitive and affective dimensions of Qin Zheng's playing techniques.

The research theory adopts an interdisciplinary approach, drawing on insights from music education, literacy studies, and cognitive psychology to elucidate the intricate relationship between Qin Zheng's playing techniques and literacy development. By synthesizing theoretical perspectives and empirical evidence, the study seeks to provide a comprehensive understanding of the educational value of traditional Chinese music in fostering literacy skills.

METHOD

Scope of Content

The scope of this study encompasses an in-depth analysis of the playing techniques utilized by Zhou Wang, a prominent figure in the realm of Qin Zheng music, and their impact on musical literacy development. The focus will primarily be on understanding how the mastery of Qin Zheng's playing techniques contributes to the overall literacy skills of individuals, particularly in the context of Chinese musical education. Various aspects of Zhou Wang's playing techniques, including finger movements, string pressing methods, and musical expression, will be explored to provide a comprehensive understanding of their role in literacy development.

Selection of Key Informants, Research Site, and Research Tools

This study aims to delve into the intricate playing techniques of Zhou Wang in the realm of Qin Zheng music and their influence on literacy development. By examining the selection of key informants, research sites, and research tools, this study sheds light on the profound impact of Qin Zheng music on literacy development, particularly within Chinese musical education, as shown in Table 1.

Data Analysis

Utilizing qualitative research methods and insights regarding Zhou Wang's mastery of Qin Zheng techniques and their influence on literacy skills among her students. Through rigorous analysis, key findings will be synthesized to provide a comprehensive understanding of the relationship between Qin Zheng's playing techniques and literacy development within the context of Zhou Wang's instructional approach. Moreover, comparative analysis may be conducted to explore variations in playing techniques among different students and their corresponding literacy outcomes, contributing to a nuanced understanding of the role of Qin Zheng music in literacy development.

Table 1. Selection of key informants, research site, and research tools

Aspect	Details
Key Informants	<ul style="list-style-type: none"> - Zhou Wang: Prominent figure in Qin Zheng music, renowned for her mastery of playing techniques and teaching expertise - Students of Zhou Wang: Individuals who have received instruction from Zhou Wang in Qin Zheng music - Colleagues and peers: Other professionals in the field of Chinese musical education who have insights into Zhou Wang's teaching methods and playing techniques
Research Site	<ul style="list-style-type: none"> - Xi'an Conservatory of Music: Zhou Wang's primary institution for teaching Qin Zheng music and mentoring students - Performance venues: Locations where Zhou Wang regularly performs Qin Zheng's music, providing insights into her playing techniques
Research Tools	<ul style="list-style-type: none"> - Interview Form: Structured questionnaire designed to elicit detailed responses from Zhou Wang, her students, and colleagues regarding Qin Zheng's playing techniques, teaching methodologies, and observations on literacy development - Observation Form: Tool for systematic observation of Zhou Wang's performances, teaching sessions, and interactions with students to capture nuances of her playing techniques and instructional strategies

RESULTS

The Historical Development of Zhou Wang

It unveils a narrative deeply intertwined with her upbringing, educational journey, and profound commitment to the art of Qin Zheng's playing techniques. Growing up within the nurturing confines of the Xi'an Conservatory of Music's campus, Zhou Wang was enveloped in an environment pulsating with artistic fervor. Her parents, esteemed educators at the conservatory, were her guiding lights, instilling in her a profound love for music and an unwavering reverence for the teaching profession. These formative influences left an indelible mark on Zhou Wang's ethos, laying the groundwork for her future endeavors in the realm of Qin Zheng's playing techniques.

Despite attaining a degree of renown within the entertainment industry, Zhou Wang harbored aspirations for further self-improvement. This drive led her to seek admission into the Department of Folk Music at the prestigious Central Conservatory of Music. Embarking on this educational odyssey marked a pivotal juncture in Zhou Wang's journey, propelling her towards a transformative trajectory. Following the completion of her master's degree in 1991, Zhou Wang transitioned from the role of performer to that of an educator, a shift that would come to define her illustrious career in the ensuing decades.

For the past thirty years, Zhou Wang has been steadfast in her dedication to teaching, channeling her passion for music

into shaping the next generation of Qin Zheng enthusiasts. Her pedagogical strategy, based on her extensive knowledge and rich experiences, has produced outstanding results, solidifying her position as a leader in Chinese musical education. Through her tireless efforts, Zhou Wang has not only taught her students technical prowess but also a deep appreciation for the cultural heritage that Qin Zheng embodies.

Central to Zhou Wang's instructional methodology is the playing techniques intrinsic to the art of Qin Zheng. These techniques serve as the cornerstone of her pedagogy, providing students with the requisite skills to navigate the intricate nuances of this ancient musical tradition. Zhou Wang's mastery of the Qin Zheng technique, which she achieved under the wise guidance of her father, Zhou Yanjia, is evidence of both her innate talent and her unwavering commitment to excellence. Zhou Wang's teaching encompasses the full spectrum of Qin Zheng's proficiency, from the delicate art of finger manipulation to the nuanced interplay of melody and rhythm.

Zhou Wang's skillful application of various playing styles and techniques is an example of the breadth and depth of her pedagogical repertoire. Zhou Wang's performances exude a rare blend of virtuosity and emotional resonance, whether evoking the melancholy strains of a lament or the jubilant cadence of a festive melody. Through her generous and candid musical persona, Zhou Wang imparts valuable lessons not only in technical proficiency but also in the expressive potential of Qin Zheng.

In addition to her technical prowess, Zhou Wang's teaching philosophy embodies a profound reverence for tradition tempered by a keen awareness of contemporary sensibilities. While grounded in the rich tapestry of Shaanxi regional music, her approach incorporates elements from diverse Zheng schools and other musical traditions. This amalgamation of influences reflects Zhou Wang's commitment to preserving the essence of Qin Zheng while ensuring its relevance in the modern age.

The legacy of Zhou Wang's contributions to the field of Qin Zheng education extends far beyond the confines of the classroom. Through her unwavering dedication and pioneering spirit, she has played a pivotal role in advancing the cultural heritage of the Qin Zheng, ensuring its continued vitality and relevance in a rapidly evolving world. As the custodian of a venerable tradition, Zhou Wang stands as a beacon of inspiration for aspiring musicians and educators alike, embodying the timeless allure of the Qin Zheng and its transformative power in shaping lives and enriching communities.

Zhou Wang's Playing Technique

Right-hand skills

The analysis of Zhou Wang's Qin Zheng playing techniques sheds light on the intricate skill set required to perform contemporary works with technical mastery. In contemporary Qin Zheng repertoire, Zhou Wang employs a nuanced approach to right-hand techniques, emphasizing the utilization of the big finger, index finger, and ring finger to achieve

expressive depth and control. Central to her technique is the big finger, denoted by the symbol “大,” which encompasses techniques such as the big finger joint support, big finger support split, and big knuckle long shake. The oversized finger bracket, also known as the continuous quick single bracket, necessitates a smooth flow and maintenance of speed, frequently with the ring finger’s assistance. Zhou Wang often uses this technique, known as “,” in performances such as Qu Yun’s “Xiang Shanshegu,” which exemplifies the bold nature of Shaanxi music. Additionally, Zhou Wang incorporates the index finger to enrich the musical expression further, ensuring a dynamic and compelling rendition of contemporary Qin Zheng’s works, a song Xiang Shanshegu skills example as shown in Figure 1.

The examination of Zhou Wang’s Qin Zheng playing techniques within the realm of literacy development reveals a profound integration of technical expertise and artistic expression. Notably, Zhou Wang’s rendition of Quyun’s “Crying Sentiment” showcases her adept utilization of the continuous fast speed of the giant finger technique, exemplifying the intricate nuances inherent in contemporary Qin Zheng’s performance, as shown in Figure 2.

This technique not only underscores Zhou Wang’s mastery of Qin Zheng’s playing but also highlights the role of musical proficiency in fostering literacy development. Through her skillful execution of Qin Zheng techniques, Zhou Wang not only preserves traditional musical heritage but also contributes to the cultivation of cultural literacy, thereby enriching the educational landscape.

A notable technique employed by Zhou Wang is the “Trill” (Chan Yin), denoted by rapid vibrations of the fingers immediately after picking the string. This technique, characterized by subtle fluctuations in pitch and a mellow tone, adds depth and richness to her performances, as shown in Figure 3.

Unlike kneading, which involves more pronounced fluctuations in pitch, trilling imparts simplicity to the sound wave while maintaining musical elegance. Mastery of this technique grants musicians the freedom to infuse their performances with expressive nuances, underscoring its significance in musical proficiency and literacy development. Through her adept utilization of techniques such as trilling, Zhou Wang not only showcases her mastery of Qin Zheng but also contributes to cultural enrichment and educational advancement in the realm of literacy.

The double-string big finger press is one of Zhou Wang’s noteworthy techniques. This technique, commonly utilized in various works, accentuates the musical momentum, particularly in passages requiring rapid execution. It is imperative to ensure uniformity in the touch of both strings while striking them with vigor. For instance, Zhou Wang’s rendition of the allegro section in Zhou Yanjia’s “Qin Sangqu” exemplifies the adept application of this technique, as shown in Figure 4.

Zhou Wang’s extensive knuckle extended shake technique exemplifies the fusion of the methods above, particularly the big finger support wedge. This amalgamation results in the big knuckle-long shake, characterized by its extended duration and robust execution. It is essential to maintain consistent speed and apply full strength while executing this technique to ensure the cohesion and tension of the musical piece. Additionally, careful attention must be paid to the positioning and angle of the big finger to achieve optimal results. Specifically, the giant finger should be tilted slightly forward and perpendicular to the string, focusing on maintaining a lower contact angle with the string. A prime example of this technique in action is evident in the rendition of Qu Yun’s “Xiang Shanshegu,” as shown in Figure 5.



Figure 1. A song xiang shanshegu skills example
Source: li fanbo, transcription from fieldwork in March 2023



Figure 2. Part of crying sentiment
Source: li fanbo, transcription from fieldwork in March 2023



Figure 3. Part of Qin sangqu song
Source: li fanbo, transcription from fieldwork in March 2023

Left-hand skills

Building upon traditional left-hand techniques such as pressing, kneading, and sliding in Qin Zheng music, Zhou Wang incorporates the unique practice of utilizing the big finger to press the strings. This technique facilitates smooth transitions and upward or downward progressions within Qin Zheng's compositions, ensuring the continuity of the melody during performances. The position of the tiger's mouth determines which string to press with the big finger and depends on intervals like octaves, fifths, sixths, fourths, etc. Among these intervals, the fourth degree, according to the string, is the most prevalent, given that Shaanxi music predominantly employs the fourth and fifth degrees as musical elements. Consequently, the frequent utilization of the big finger to press the fourth degree according to the string is essential in capturing the essence of Shaanxi music, as exemplified in works like "Desolate Song," as shown in Figure 6.

Zhou Wang is a renowned Shaanxi musician known for her mastery of the octave chord technique. This technique is crucial in achieving desired musical effects and is used to demonstrate octave intervals in her performances. For example, when executing the octave "fa" with the big finger, Wang uses the index, middle, and ring fingers to change the bass's "mi" into "fa" and the higher octave's "mi" into "fa". This technique is particularly evident in compositions like "Daoqing Song," where it is used to convey musical nuances, underscoring its significance in Wang's repertoire, as shown in Figure 7.

Innovation and learning skills

For instance, Zhou Wang has modified and developed the wheel finger technique, which comes from the Pipa instrument, for use in Qin Zheng performances. Drawing inspiration from the wheel fingers of the Pipa, Zhou Wang has

refined techniques such as the three-wheel fingers and four-wheel fingers, allowing for seamless transitions between notes and facilitating wave-like musical development. While primarily serving an embellishment role, the wheel finger technique adds a layer of beauty to Zhou Yuguo's "Yun Shangsu" song, as shown in Figure 8.

Additionally, Zhou Wang uses the slippery trill technique, which the symbol denotes, to convey the subtle nuances of "two changes of sound" and reduce unpleasant auditory effects. Zhou Wang uses the slippery trill in a different way than Henan Zheng, pressing a relatively stable pitch at first and then gradually sliding down to the critical tone or backbone tone. This technique is exemplified in the application within Wei Jun's "Wu Lingyin" song, as shown in Figure 9.

Qin Zheng Performance and Literacy Development

In contemporary Qin Zheng's performance, Zhou Wang's rendition not only relies on technical mastery for overall control but also emphasizes the expression of charm. Central to this is the concept of Qin Yun, wherein Zhou Wang's interpretation infuses "two changes of voice" or "crying" with distinct national music features, portraying a unique linear beauty. From a technical perspective, the performance of the left-hand plays a crucial role in reflecting the charm of Qin Zheng. Techniques such as vibrato, rubbing, and glissando extend the sound beyond its natural conclusion, creating a captivating linear rhythm that embodies charm. Trill, denoted, accentuates grace notes by vibrating backbone notes. At the same time, glissando adds flavor expression through various approaches, such as the minor third glissando or the glissando of mi and la, which is particularly effective in conveying a sense of helplessness. Kneading sound is also familiar in expressing the charm of Qin Zheng, as it allows the original notes of the right hand to float gently on both sides of the main note, akin to moonlight on water.



Figure 4. Part of qin sangqu song
Source: li fanbo, transcription from fieldwork in March 2023



Figure 5. Part of xiang shanshegu's song
Source: li fanbo, transcription from fieldwork in March 2023



Figure 6. Part of desolate song
Source: li fanbo, transcription from fieldwork in March 2023



Figure 7. Part of daoqing song

Source: li fanbo, transcription from fieldwork in March 2023



Figure 8. Part of yun shangsu song

Source: li fanbo, transcription from fieldwork in March 2023

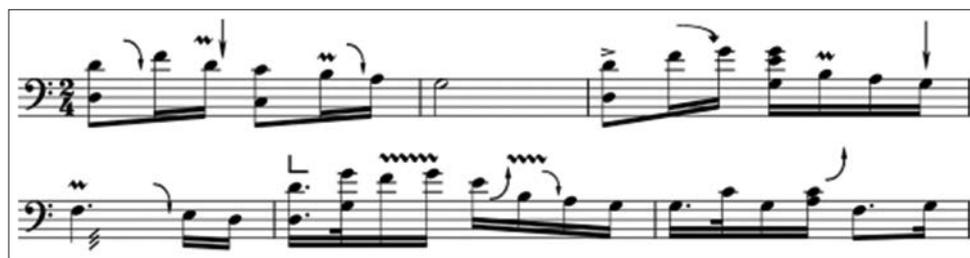


Figure 9. Part of wu lingyin song

Source: li fanbo, transcription from fieldwork in March 2023

These techniques, whether used individually or in combination, contribute to the overall charm of Qin Zheng's performance. However, Zhou Wang's ability to authentically convey this charm extends beyond technical proficiency; it requires a deep understanding of Shaanxi music aesthetics and a personal connection to the emotional depth of the music. Consequently, cultivating this understanding of charm demands immersion in Shaanxi music and a continual exploration of Qin Zheng's works, allowing for its nuanced expression on stage through dedicated practice and reflection. Through this holistic approach to performance, Zhou Wang effectively captures the essence of Qin Zheng's charm, enriching the cultural heritage of Chinese musical tradition and contributing to literacy development in the realm of traditional music performance.

DISCUSSION AND CONCLUSION

The study presented a comprehensive exploration of Zhou Wang's historical development and playing techniques in the context of Qin Zheng music, examining both her upbringing and educational journey, as well as her pedagogical approach and performance skills. This discussion will analyze the findings in light of the existing literature and theoretical principles, assess their consistency, and offer insights into the significance of Zhou Wang's contributions to Qin Zheng's education and performance.

Zhou Wang's upbringing within the nurturing environment of the Xi'an Conservatory of Music's campus, under the guidance of her parents, educators at the conservatory, underscores the importance of early exposure and familial influence

in shaping musical talents (Anderson, 1983; Standley, 2008). Her transition to the Central Conservatory of Music for further education reflects a commitment to continual self-improvement and academic excellence (Vygotsky, 1978). The emphasis on her master's degree completion in 1991 and subsequent shift to an educator role highlights the pivotal role of formal education in nurturing and refining musical expertise (Gromko, 2005; Demaine, 2015).

Zhou Wang's pedagogical strategy, grounded in her extensive knowledge and rich experiences, aligns with the theoretical principles of effective teaching and learning (Levitin, 2006; Tan, 2016). Her focus on technical proficiency and cultural appreciation mirrors the findings of Anvari et al. (2002), who demonstrated the interplay between musical skills and cognitive development in early education. Additionally, Zhou Wang's integration of diverse Zheng schools and musical traditions reflects an innovative approach to cultural preservation and relevance (Liu & Liu, 2018; Whitener & Shu, 2018).

The analysis of Zhou Wang's playing techniques provides valuable insights into the intricate skill set required for contemporary Qin Zheng's performance. Her adept utilization of right-hand techniques, such as the big finger support split and trill, showcases technical mastery and expressive depth (Hannon & Trehub, 2005; Patel, 2014). Similarly, her incorporation of left-hand techniques like the octave chord demonstrates a nuanced understanding of musical nuances and stylistic elements (Roongruang, 2022).

In conclusion, the research findings on Zhou Wang's historical development, pedagogical approach, and playing techniques in the context of Qin Zheng music are consistent

with theoretical principles and existing literature on music education, cognitive development, and cultural preservation. By thoroughly analyzing her contributions, the study underscores the importance of individual talent, formal education, and innovative pedagogy in advancing traditional musical traditions. Furthermore, it highlights Zhou Wang's role as a transformative figure in Qin Zheng's education and performance, serving as both a custodian of cultural heritage and a beacon of inspiration for future generations of musicians and educators.

REFERENCES

- Anderson, J. R. (1983). *The architecture of cognition*. Harvard University Press.
- Anvari, S. H., Trainor, L. J., Woodside, J., & Levy, B. A. (2002). Relations among musical skills, phonological processing, and early reading ability in preschool children. *Journal of Experimental Child Psychology*, 83(2), 111-130. [https://doi.org/10.1016/S0022-0965\(02\)00124-8](https://doi.org/10.1016/S0022-0965(02)00124-8)
- Demaine, K. R. Y. S. T. A. L. (2015). Musical roots for healing: The role of music as therapy in traditional Chinese medicine. *Therapists creating a cultural tapestry: Using the creative therapies across culture*, 154-169.
- Deng, H. (2020). *Making the Intangible Tangible: Rediscovering Music and Wellbeing through the Guqin Culture of Modern China*. The Florida State University.
- Duan, L., & Choatchamrat, S. (2023). Preserving Literacy and Education of Dong Pipa Cultural Heritage in Guizhou Province, China. *International Journal of Education and Literacy Studies*, 11(3), 183-190. <https://doi.org/10.7575/aiac.ijels.v.11n.3p.183>
- Gromko, J. E. (2005). The effect of music instruction on phonemic awareness in beginning readers. *Journal of Research in Music Education*, 53(3), 199-209. <https://doi.org/10.1177/002242940505300302>
- Han, M. (2001). *Historical and contemporary development of the Chinese zheng* [Doctoral dissertation] University of British Columbia.
- Hannon, E. E., & Trehub, S. E. (2005). Metrical categories in infancy and adulthood. *Psychological Science*, 16(1), 48-55. <https://doi.org/10.1111/j.0956-7976.2005.00779.x>
- Juan, L., Jirajarupat, P., & Yinghua, Z. (2023). The Transmission of Guqin Musical Instrument Knowledge Literacy and Its Reflection Study in Guizhou Province, China. *International Journal of Education and Literacy Studies*, 11(2), 22-29. <https://doi.org/10.7575/aiac.ijels.v.11n.2p.22>
- Levitin, D. J. (2006). *This is your brain on music: The science of a human obsession*. Dutton.
- Li, D., & Choatchamrat, S. (2024). Preservation and Literacy Transmission of Pipa and Guzheng Duets in Pu Dong Style. *International Journal of Education and Literacy Studies*, 12(1), 133-139. <https://doi.org/10.7575/aiac.ijels.v.12n.1p.133>
- Liu, J., & Liu, P. (2018). The integration of Chinese culture into the music classroom: A Chinese music curriculum model. *Bulletin of the Council for Research in Music Education*, 215, 43-62.
- Patel, A. D. (2014). The evolutionary biology of musical rhythm: Was Darwin wrong? *PLoS Biology*, 12(3), e1001821. <https://doi.org/10.1371/journal.pbio.1001821>
- Roongruang, P. (2022). Research on Inheritance and Development of Shandong Yun-Juan Zheng Music Art in Shenyang Conservatory of Music. *Asian Journal of Arts and Culture*, 22(1), 255091-255091. <https://doi.org/10.48048/ajac.2022.255091>
- Silverberg, A. L. (2022). *A Contemporary History of the Chinese Zheng (Vol. 1)*. Hong Kong University Press. <https://doi.org/10.5790/hongkong/97898888754342.001.0001>
- Standley, J. M. (2008). Does music instruction help children learn to read? Evidence of a meta-analysis. *Update: Applications of Research in Music Education*, 27(1), 17-32. <https://doi.org/10.1177/8755123308322270>
- Tan, L. (2016). Towards an ancient Chinese-inspired theory of music education. *Music Education Research*, 18(4), 399-410. <https://doi.org/10.1080/14613808.2015.1122751>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wang, L. (2013). Reflections on teaching and learning the pipa in Chinese music education. *Bulletin of the Council for Research in Music Education*, 197, 67-75.
- Whitener, J. L., & Shu, F. (2018). Sharing global musics: An introduction to the music of China. *Music Educators Journal*, 105(2), 18-27. <https://doi.org/10.1177/0027432118811587>
- Wu, Y., & Boonsrianun, P. (2023). Literacy Transmission of Mulao Folk Songs during the Zoupo Festival in Luocheng, Guangxi Zhuang Autonomous Region, China. *International Journal of Education and Literacy Studies*, 11(3), 208-216. <https://doi.org/10.7575/aiac.ijels.v.11n.3p.208>
- Yung, B. (2017). An audience of one: the private music of the Chinese literati. *Ethnomusicology*, 61(3), 506-539. <https://doi.org/10.5406/ethnomusicology.61.3.0506>
- Zhang, B., & Lam, C. W. (2022, January). The making of a successful Chinese instrumentalist in the West: A case study of the pipa player Wu Man. In *Ethnomusicology Forum* (Vol. 31, No. 1, pp. 101-123). Routledge. <https://doi.org/10.1080/17411912.2022.2055600>