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RESEARCH ARTICLE

Perceptions and Teaching Practice on Musical Imagery Training among Chinese Piano Teachers

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ABSTRACT

This study investigates the perceptions and teaching experiences of Chinese piano teachers regarding the integration of musical imagery training in piano teaching. Through a qualitative research design and purposive sampling, twelve piano teachers participated semi-structured interviews and class observations. Subsequently, three participants implemented the most musical imagery training strategies were invited in the second round of interviews and observations. Eight strategies related to musical imagery training were identified, categorized into notational audiation, inner ear, and mental rehearsal. The implementation process involved three key steps: thinking, communication, and experience, Notably, a multi-strategy combined approach was favored. The four strategies—breaking down music, listening to recordings, performing with eyes closed, and visualizing successful performances—were frequently applied. However, this study revealed participants' limited familiarity with musical imagery training, leading to sporadic incorporation into teaching practices. It emphasizes the need to enhance teachers' comprehension of musical imagery for effective integration into piano pedagogy.

Contribution/Originality: The current study contributes to the existing body of knowledge by investigating the implementation of musical imagery and the teachers' perceptions of it in the teaching practice. It offers valuable insights into the conditions, processes, and approaches underpinning the integration of musical imagery training in the piano education in China.

1. Introduction

Piano performance was an advanced artistic form inclusive of three senses: auditory, visual, and kinesthetic (Wang, 2019). Similarly, musical imagery was a mental ability including three aspects of visual, kinesthetic, and auditory (Godoy & Jorgensen, 2012).

Musical imagery during piano performance involved using kinesthetic imagery, transferring from visual imagery to kinesthetic imagery, and applying visual and auditory imagery to musical scores (Meister, Krings, Foltys, Boroojerdi, Müller, Töpper, & Thron, 2004). Proficient individuals had the capacity to enhance their performance through the utilization of musical imagery, a subjective experience involving sensory outcomes and/or actions linked to a skill, even in the absence of external stimuli or actual execution of actions (Zatorre & Halpern, 2005). According to Brown and Palmer (2013), auditory imagery involved mentally imagining sounds or musical sequences in the absence of actual auditory input, providing a subjective experience akin to hearing. Kinesthetic imagery encompassed mentally simulating physical movements without their actual execution, offering a subjective experience akin to the sensations during physical performance (Brown & Palmer, 2013; Lotze, 2013). As per Balteş and Miu (2014), visual imagery pertained to the process of associating music with mental images through memory-dependent mechanisms in the context of music-induced emotions. It involved the capacity to mentally generate or retrieve visual images while engaging with music. In addition, Clark, Williamon and Aksentijevic (2012) defined musical imagery also involved the musician's projection of emotion in music performance. Grassi, Meneghetti, Toffalini, and Borella (2017) demonstrated that professional musicians frequently outperform their non-musician counterparts in sensory, motor, and cognitive skills, particularly in various auditory tasks. This superiority was attributed to the intricate integration of sensory, motor, and cognitive processes demanded by musical instrument playing. The sustained and repetitive practice of these skills over an extended period was likely to contribute significantly to cognitive functioning.

For athletes and dancers, imagery could be used to induce motor motions which is a common performance-enhancing strategy. Meanwhile, it was believed that imagery ability may be developed through practice (Cumming & Williams, 2012). The value and efficiency of imagery as a psychological transformation mechanism for peak performance have been amply shown by several studies, especially in the field of sport (Cumming & Ste-Marie, 2001; Olsson, Jonsson & Nyberg, 2008; Robin, Dominique, Toussaint, Blandin, Guillot & Her, 2007; Wright, McCormick, Birks, Loporto & Holmes, 2015) and dance (Franklin, 2013; Goldschmidt, 2002; Hanrahan & Vergeer, 2001; Nordin & Cumming, 2005; Pavlik & Nordin-Bates, 2016). In light of these findings, several studies examined the role of imagery in music performance. Wright, Wakefield and Smith (2014) proposed that both musicians and sportsmen frequently utilize imagery as additional training assistance to improve performance. The aforementioned studies suggested that research on imagery in musical contexts has tended to demonstrate that visualization is a useful tool for enhancing musical performance, especially when used in tandem with an auditory model and physical practice. Keller (2012) implied that music performance comprised a variety of components that were facilitated by covert auditory, kinesthetic, and/or visual imagery, consequently, it makes sense to try to use musical imagery more to achieve a quality performance.

In China, most studies proposed that the main issues in piano learning are technical (Jia, 2020; Xu, 2017; Ying, 1981), musical (Jiang, 2006; Liu, 2020; Ma, 2007) and psychological (Jiang, 2011; Wang, 2008; Yang, 2014), and the relevant training should be carried out to address all three aspects. It is believed that by prioritizing the development of fundamental skills and encouraging children to explore and study, true progress in musical proficiency can be attained (Kuang, Chen & Guo, 2018).

Only a few Chinese scholars put forward the suggestion that musical imagery needs to be trained and applied in piano teaching and performance. Specifically, Zhang (2011)

investigated the viability and importance of incorporating imagery training which included visual, auditory, and kinesthetic into piano education and performance. She suggested that the three levels of memory, control, and imagination were representations of musical imagery, which was a trainable skill. On this basis, Wang (2013) also highlighted the importance of musical imagery in navigating technical challenges, and comprehending and interpreting music. In addition, musical imagery in piano teaching and performance had been discussed separately, like visual imagery (Wang, 2012), auditory imagery (Yang, 2008), kinesthetic imagery (Pi, 2022). However, the relevant research only provided suggestions about musical imagery training, lacking the empirical data and feasible measures. It can be seen that musical imagery was an important mental ability that students needed to cultivate for achieving good piano performance but musical imagery training was not well-researched yet in China.

Thus, the present study seeks to address the gap of piano teachers' perceptions toward musical imagery training and their practice of it in the context of piano education and performance in China.

1.1. Research Objectives

This study aims to explore the teaching experiences and perceptions related to the implementation of musical imagery among piano teachers in China.

1.2. Research Questions

In this study, there are two research questions:
i. What are the musical imagery training strategies proposed and practiced by piano teachers in China?
ii. What are the teachers' perceptions towards implementing musical imagery training?

1.3. Definition

Musical imagery refers to two meanings: One aspect includes visual imagery, auditory imagery, and kinesthetic imagery (Godoy & Jorgensen, 2012); the other aspect relates to the ability in notation audiation, inner ear, and mental rehearsal (Lotze, 2013). In this study, both meanings were operationally used for discussing the specific musical imagery strategies and implementation.

2. Literature Review

2.1. Musical Imagery Training

Musical imagery contained auditory, visual, and kinesthetic that could be used to mimic a real experience to create a more profound performance (Bowes, 2009; Connolly & Williamon, 2004). Musical imagery could provide support to musicians in performance, memorizing, or composing music (Aleman, Nieuwenstein, Böcker & de Haan, 2000). According to Beaty, Burgin, Nusbaum, Kwapil, Hodges and Silvia (2013), having musical imagery was a positive and enjoyable experience, and the musical imagery could be trained.

According to Lotze (2013), musical imagery training among musicians had been mainly divided into three aspects, including the silent reading of music scores, the motion simulation of ideal sound, and the mental practice away from the piano. To be specific,

the silent reading of music scores was an advanced skill whereas one could "hear" the music scores that were read without playing on an instrument, which was called "notational audiation". It would result in auditory imagery (Brodsky, Henik, Rubinstein & Zorman, 2003; Brodsky, Kessler, Rubinstein, Ginsborg & Henik, 2008). The motion simulation of ideal sound refers to the "inner ear", which could control movement in piano performance through auditory feedback (Gieseking & Leimer, 2013). The connection between the inner ear and sounds was a result of the mutual conversion between visual imagery and kinesthetic imagery (Chappell, 1999; Johnson & Klonoski, 2003; Meister, Krings, Foltys, Boroojerdi, Müller, Töpper & Thron, 2004). The mental practice away from the piano refers to "mental rehearsal", which involved the use of imagery to simulate a performance without physical movement. This strategy had been found to be effective in enhancing musicians' memorization and psychological state (Davidson-Kelly, 2014). Thus, there were three kinds of musical imagery training strategies, which were notational audiation, inner ear, and mental rehearsal.

Furthermore, proficient individuals like athletes or musicians could elevate their performance by harnessing the imagery ability, mentally envisioning the actions or sensory outcomes linked to their skill (Brown & Palmer, 2013). In both athletes and musicians, imagery techniques complemented physical training, involving kinesthetic, visual, and auditory components; in musicians, kinesthetic imagery improved performance and aided in memorizing the emotional concept of a musical piece (Lotze & Halsband, 2006). Musicians utilized motor imagery extensively to improve performance and memorize musical concepts, with vividness of imagery positively correlating with training duration (Lotze, Scheler, Tan, Braun & Birbaumer, 2003). According to Pecenka and Keller (2009), musically trained individuals outperformed non-musicians in both musical and non-musical auditory imagery tasks. Specifically, musicians demonstrated greater resistance to interference when maintaining auditory images in working memory. Furthermore, auditory imagery abilities were found to improve with increasing musical experience. Auditory imagery abilities tended to enhance with greater musical experience, there was a positive correlation between the duration of musical training and the acuity of auditory pitch images (Janata & Paroo, 2006).

2.2. Four Ws of Imagery Use

Munroe, Giacobbi, Hall and Weinberg (2000) conducted a qualitative study to identify and describe the aspects of athletes' imagery use: where, when, why, and what. This framework illuminated the four Ws of imagery use, encompassing various contexts such as practice, pre-competition, competition, and post-competition. By examining athletes' experiences, the study expanded existing knowledge on why and for what purposes athletes utilize imagery. Based on the four Ws framework developed by Munroe et al. (2000) and Phelps (2017) investigated whether athletic trainers employed imagery and examined the aspects of what, where, when, and why they engaged in imagery practices. The research utilized an online questionnaire administered to a sample of 219 athletic trainers representing various position titles. The study highlighted that the trainers should undergo proper imagery training and incorporate that in training their athletes.

Furthermore, Nordin and Cumming (2005) employed a qualitative study by using semi-structured interviews with 14 male and female dancers based on the four Ws framework. The findings revealed valuable insights into the content and reasons underlying dancers' use of imagery. It also showcased a wide array of individual differences in both the types of imagery used and the reasons driving their usage.

On the basis of four Ws framework of imagery used among athletes (Munroe et al., 2000) and dancers (Nordin & Cumming, 2005), Bowes (2009) investigated the imagery use among singers and developed the 4Ws framework in singing. A purposive sampling of 15 solo classical vocal professionals, comprising sopranos, mezzos, tenors, and a baritone, participated in semi-structured interviews based on the four Ws framework. The study effectively described the imagery characteristics of vocalists which engaged visual, auditory, and kinesthetic senses. This multisensory approach was crucial for vocalists to create and refine their performances. In summary, the study demonstrated that imagery among vocal professionals served various cognitive and motivational functions, mirroring the practices observed in competitive athletes. Additionally, the study revealed parallels between vocalists and dancers regarding the artistic and healing functions of imagery that could be employed for preparing and attaining the optimal performance.

In the current study, the four Ws of Imagery Use offers a framework for examining teachers' perceptions related to musical imagery training. Additionally, the dialogic theory (Todorov, 1984) was drawn upon for investigate the specific implementation of musical imagery training in teachers' teaching practice.

2.3. Dialogic Theory

The dialogic theory was developed by the Russian philosopher and literary theorist Mikhail Bakhtin (Todorov, 1984). Todorov (1984) provided an overview and analysis of Mikhail Bakhtin's dialogical principle, that is, language was fundamentally dialogic which had social and interactive nature. It delved into the concepts of heteroglossia (the coexistence of multiple voices) and polyphony (the interaction of different perspectives). It also explored Bakhtin's understanding of the self as inherently dialogic and the ways in which individuals developed their identities through interaction and dialogue with others. According to Koschmann (1999), collaborative learning was seen as a theory of pedagogy, emphasizing that learning was enhanced when it occurred in settings of joint activity. It proposed the inclusion of Bakhtin's ideas on "talk" and "dialogic" as a basis for reconceptualizing learning into computer-supported collaborative learning.

Wegerif (2011) presented a dialogic theory of thinking and learning how to think, which was influenced by Piaget and Vygotsky. The author explored three central concepts—dialogue, thinking, and learning—to demonstrate that the process of learning to think involved a transformation in one's self-identification toward embracing dialogue. By analyzing three short interaction fragments in a primary school classroom, Wegerif (2011) developed and examined the concepts of dialogue, thinking, and learning within his theoretical framework to explore effective strategies for fostering children's thinking abilities. The study revealed that active engagement in dialogues empowers students to construct meaning, develop reasoning abilities, and enhance their thinking processes.

Furthermore, according to Wegerif (2016), the concept of literacy was expanded to involves learning to read, write and convers that carry meaning, which were not separated from thinking. Drawing on the dialogic theory, literacy education should foster openness to others, allowing individuals to engage responsively with different voices. This approach promoted empathy and curiosity, creating a teaching environment that encourages dialogue and does not stifle these essential qualities. Wegerif (2016) suggested that students should be immersed in a meaningful flow of dialogue, which

motivated and engaged them, before developing specific literacy skills required for understanding and expressing themselves in various contexts.

3. Research Methods

3.1. Research Design

The study employed a qualitative research design, specifically focusing on phenomenological inquiry. According to Creswell (2013), qualitative research is suitable for exploring "*how people interpret their experiences, construct their worlds, and attach meaning to their lives*" (p. 24). To gain a comprehensive understanding of teachers' perspectives and explore the implementation of musical imagery training in their teaching practice, a two-round investigation was conducted, utilizing semi-structured interviews and lesson observations as data collection methods.

The primary objective of Round One was to identify the specific strategies related to musical imagery training during participants' teaching practice. The primary objective of Round Two was to gain an in-depth understanding of teachers' perceptions and implementation on musical imagery training.

3.2. Participant and Methods

Twelve piano teachers were purposefully selected to participate in Round One interviews. The selection criteria were based on their varying levels of teaching and study experience, that is, who hold degrees above bachelor, and work in different music institutions for more than five years. From the pool of teacher participants in interviews, one student of each teacher was randomly selected to participate in Round One observations. In order to collecting more data related to musical imagery, three teachers from Round One interviews were selected for the Round Two interviews and two students of each teacher were selected to participate in Round Two observations. The selection criteria were based on the findings in Round One, that is, who implemented musical imagery strategies more frequently in Round One observations.

Prior to the investigation, a simple survey was used to gather demographic information about teacher participants and student participants. Interview guides were prepared to generate comprehensive data. Interviews were recorded, transcribed, and reviewed by participants. Twelve students were selected from each teacher for video-recorded lessons before a performance deadline. Building on the insights gained from the first round, the second round of interviews aimed to delve into teachers' perceptions and implementation of the musical imagery training strategy. Following this, six students were chosen for video-recorded lessons.

The data from two rounds of interviews were analyzed using Interpretative Phenomenological Analysis (IPA). The two rounds of observations were analyzed using Video Data Analysis (VDA) according to the pre-designed observation checklists.

4. Results

4.1. Results from Round One

As a result of data analysis and triangulation of the Round One interviews and observations, there were eight strategies related to the musical imagery training identified in dealing with different learning issues. The musical imagery training

strategies were identified based on the description of musical imagery, that is, without external sensory stimuli or no actual execution of actions (Zatorre & Halpern, 2005). They can be divided into three types: notational audiation, inner ear, and mental rehearsal (Lotze, 2013).

As shown in Table 1, the musical imagery strategies were listed along with the specific identified condition. The strategies were used when certain stimuli were missing, such as the presence of music score (visual), sound (auditory), or movement (kinesthetic).

Table 1: The Identified Musical Imagery Strategies

Musical Imagery Strategies	Specific Identified Condition (lacking stimuli)
Notational audiation (Brodsky et al., 2008)	
S1. Singing the melody and tapping the beat with a foot	kinesthetic/auditory
S2: Break down the music into small sections and imagine how the tricky parts are executed	kinesthetic/auditory
Inner ear (Gieseking & Leimer, 2013)	
S3. Finger exercises without physical keyboard	auditory
S4. Rote-learning and teacher demonstration	visual
S5. Listening to the recordings by different musicians	kinesthetic/visual
S6: Performing with the eyes closed	visual
Mental rehearsal (Davidson-Kelly, 2014)	
S7: Overcoming "catastrophizing" thinking	visual/auditory/kinesthetic
S8: Visualizing a successful performance	visual/auditory/kinesthetic

Note. S is an abbreviation for "Strategy".

Specifically, the two strategies including "Break down the music into small sections and imagine how the tricky parts are executed" (S2) and "Performing with the eyes closed" (S6) were observed from the classes. The other six strategies were mentioned by teachers in the interviews. However, it was found that they were applied less during the observations. Teachers preferred technical training such as repeated exercises to reinforce muscular memory in order to tackle the learning issues.

Additionally, according to the interviews and observations, teacher 5, teacher 8 and teacher 12 were recognized as those who had knowledge about musical imagery and applied musical the related strategies more frequently. Therefore, they were selected to participate in the Round Two investigation.

4.2. Results from Round Two

Based on the data analysis, the findings were drawn from two aspects: (1) the teachers' perceptions on musical imagery training; and (2) the teachers' teaching practice of musical imagery training.

4.2.1. Teachers' perceptions on musical imagery training

Based on the analysis, the narratives provided by teachers 5, 8, and 12 were examined to ascertain their perspectives on musical imagery training. The interviews about their perceptions followed after the 4 W framework in which inquiries related to "what," "where/who," "when," and "why". Specifically, "what" pertained to their understanding of musical imagery training; "where/who" focused on the sources of their knowledge on

musical imagery or the individuals who instructed them in this regard; “when” revolved around the appropriate timing for initiating musical imagery training for their students; and “why” delved into the rationale behind teaching training musical imagery.

a) What do you understand about musical imagery training?

Teacher 5 pointed out that she never heard about the relevant definition of musical imagery prior to participating in this study, while teacher 8 and teacher 12 demonstrated certain knowledge and understanding of the term. However, they experienced musical imagery during their performance and career. Therefore, teacher 5 said "it is like a magic that sometimes you can hear the music even there is no sound". Teacher 8 explained musical imagery as “a special feeling in the heart which you can play follow it." Teacher 12 proposed that it was “an ability that you can imagine music like a picture in your heart”.

b) Where do you learn about the musical imagery? Or who taught you about musical imagery?

The teacher participants mentioned several keywords in their narratives, including “experience”, “teacher”, “father” and “relevant papers”. It suggests that teachers’ perceptions of musical imagery training were shaped by a range of sources, including their own practical experiences, guidance from mentors, and exposure to scholarly resources.

c) When do you think it is appropriate to start musical imagery training for your students?

Based on the findings, it was suggested that musical imagery training should be tailored to the individuals and ideally initiated at an early stage. Moreover, they stated that the effectiveness of musical imagery training was closely tied to students’ consistent and long-term dedication. Factors such as students’ comprehension of the training, the duration of their practice sessions, and their accumulated performance experiences played crucial roles in the development of musical imagery ability.

d) Why do you train musical imagery for students?

Firstly, teachers recognized musical imagery as a highly significant ability that can greatly benefit piano learning, elevating performance levels and fostering interest in the process. Secondly, those teachers who had better understandings and practice towards musical imagery have been influenced by their own experiences with previous teachers who emphasized this ability. They viewed their former teachers as role models and recognized the value of incorporating musical imagery training in their teaching. As a result, they considered it essential to pass on the knowledge and practice to their own students, believing it would enhance their performative abilities.

According to the data, the three teachers had different way of articulating the scholarly definition of musical imagery. They regarded it as a distinctive ability with potential efficacy in enhancing piano learning and performance. According to them, while musical imagery might have an innate component, it could also be cultivated through educational endeavors. Nevertheless, its implementation was acknowledged to be demanding, necessitating dedicated time, patience, and student commitment. Moreover, the teachers highlighted the importance of their own comprehension of musical imagery

played a pivotal role in their own learning process. Additionally, engaging in frequent performances was identified as conducive to the organic development of students' musical imagery. The cultivation of musical imagery relied not only on pedagogical guidance but also on various external stimuli to prompt reflection and envisioning for achieving an optimal performance. It was recommended to encourage students to actively take part in real-time performance, as it provides a stimulating milieu for training musical imagery.

4.2.2. Teachers' teaching practice of musical imagery training

In Round Two interviews, there were extended discussions of implementing the musical imagery training process among the three teacher participants. Two questions emerged. They were "What are the steps when you implement such strategies in your teaching routines?" and "What kind of strategies do you encourage your students to do more during this learning process?".

a) What are the steps when you implement such strategies in your teaching routines?

Based on the interviews, it was found that in the course of implementing musical imagery training, the implementation can be encapsulated as follows: "initiated by encouraging students to engage in reflective thinking and apply the strategies, followed by a subsequent phase of discussion or evaluation of outcomes. If necessary, students may re-attempt the strategies." Additionally, teachers' instructions included several keywords like "asking", "imitating", "thinking", "reflecting", "answering", "feeling", "hearing", "trying". From the narratives, they appeared to enjoy giving children space for reflection and engaging in conversation with them to better understand their mental process. Therefore, the specific implementing process of musical imagery training strategies could be generated into three major steps namely "thinking, communication, and experience".

During this round of observations which involved six student participants, this cyclic instructional pattern was noted, and its repetition or streamlining was contingent on the specific progress exhibited by students' development and teachers' teaching routines. It was found that for the older and experienced students, teachers tended to spend more time training their musical imagery ability, and highlighted the "thinking" and "communication" in the process of implementing strategies ("experience").

b) What kind of strategies do you encourage your students to do more during this learning process?

The musical imagery training took place under teachers' monitoring and in the form of mock tests. As shown in Table 2, there were eight musical imagery training strategies presented in the lessons, which listed after the eight student participants.

Table 2: The Implementation of Musical Imagery Training Strategies in Teaching Practice

	The First Class	**The Second Class**	**The Third Class**
Student 1	S4	S5	Others
Student 2	S5	S3, S8	S6, S8
Student 3	S2, S5	S8, S6	S2, S5, S6, S8
Student 4	S2, S5	S2	S7
Student 5	S3, S5	S5, S6	S5, S8

Student 6	S2, S5	S2, S8	S2, S5, S6, S8

Note. S is an abbreviation for "Strategy".

Based on the above, the four musical imagery training strategies (S3, S5, S6, S8) were the most frequently used in classes (as shown in Table 3), and they could be in various combinations.

Table 3: The Four Frequently Used Musical Imagery Training Strategies

S2	break down the music into small sections and imagine how the tricky parts are executed
S5	listening to the records by different musicians
S6	performing with the eyes closed
S8	visualizing a successful performance

5. Discussion

5.1. Implementation on the Basis of Wegerif's Dialogic Theory

The narratives of the three teacher participants were analyzed and three steps regarding the teaching process— "thinking", "communication" and "experiencing"— were identified and coded from their responses. These steps represent key aspects regarding how they conducted their lessons, which coincides with the dialogic theory proposed by Wegerif (2011).

Based on the lesson observations, "thinking" and "communication" played important role in "experiencing" how to implement the musical imagery training. Notably, the teachers demonstrated encouragement and maintained a positive attitude throughout these two processes, while the students exhibited favorable responses during experiential learning. This observation reinforces the significance of the dialogic theory developed by Wegerif (2011). The dialogic theory emphasizes the effectiveness of dialogue to initiate children's thinking (Wegerif, 2011). By incorporating dialogic practices into the teaching, teachers can create opportunities for students to engage in meaningful discussions, express their thoughts, and exchange ideas with peers. This interactive and collaborative learning environment enables students to construct their understanding actively and develop critical thinking skills.

Furthermore, it is noteworthy that in the selection and implementation of strategies, there is a notable inclination towards adopting a multi-strategy combination approach. Specifically, the four musical imagery training strategies namely S2, S5, S6, S8 were the most frequently used and applied in various combinations, often in combined approach. The effectiveness of the multi-strategy approach has been demonstrated in previous studies such as Ángel, Lucía, García, and Manuel's (2017) research in the field of English writing.

5.2. Perceptions of Musical Imagery Training on the Basis of Four "W"

According the Round One, it is evident that piano teachers in China have an insufficient knowledge of musical imagery training. However, numerous studies stated the importance of musical imagery training in piano learning and performance (Aleman et al., 2000; Beaty et al.,2013; Hodges & Sebald, 2011; Zhang, 2011). The purpose of Round Two interviews was to explore the perceptions toward musical imagery training among piano teachers who had better awareness and adopted the approach more frequently.

By doing so, valuable insights were obtained to serve as a reference of how to implement musical imagery training in piano lessons. The following discussion is based on the four W framework proposed by Munroe et al. (2000).

5.2.1. The first "W": What

The findings indicated that even teachers who employ musical imagery relative frequently lack a thorough understanding of this term which could impact the specific implementation but did not impede teachers' perception of its importance. Regarding musical imagery training, their approach to training was largely influenced by their own past learning and performing experiences.

5.2.2. The second "W": Where

The finding suggested that teachers' perceptions of musical imagery training were shaped by a range of sources, including their own practical experiences, guidance from mentors, and exposure to scholarly resources. Janata and Paroo (2006) proposed that imagery abilities tend to improve with increased musical experience. Additionally, teacher's role is heavily emphasized in shaping students' musical imagery implementation (Sun, 2010; Yin & Tang, 2018; Huang, 2018).

5.2.3. The third "W": When

Based on the findings, it was suggested that musical imagery training should be tailored to the individuals and ideally initiated at an early stage with a long-term cultivation. Ma (2014) also proposed that strengthening auditory and rhythmic training from an early age could be helpful for developing and improving the piano education in China. According to the insights from studies by Grassi et al. (2017), Janata and Paroo (2006), it was emphasized the importance of extensive and consistent training, suggesting the need for repeated practice to enhance musical imagery.

5.2.4. The fourth "W": Why

It was worth noting that all the participants acknowledged the importance of musical imagery as an essential ability. And, the three teachers who had better understandings and practice towards musical imagery have been influenced by their own experiences with previous teachers who emphasized this ability. As indicated in prior research, teachers (Haddon, 2007) and musical experience (Janata & Paroo, 2006) play crucial roles in musical imagery training. As a result, they consider it essential to pass on this knowledge and practice to their own students, believing it will enhance their performative abilities.

However, as many researchers pointed out that in the context of piano education in China, there was a gap in the quality of teachers and a need for improvement in their professional level (Dong, 2018; Mou, 2008; Sun, 2013; Yan, Li & Liu, 2021; Yang, 2019; Zeng & Xie, 2013; Zhang & Huang, 2003; Zhou, 2003). The findings indicated that insufficient understanding or awareness of musical imagery among teachers can impede the effective implementation of music imagery training in piano lessons.

6. Conclusion

This study sheds light on teachers' perceptions and implementations of musical imagery training within the context of piano instruction in China. The research reveals that due to a prevailing lack of familiarity with musical imagery training, its incorporation into teaching practices has been sporadic. Nevertheless, some teachers have integrated these strategies based on personal experiences, guidance from mentors, and scholarly resources. These teacher participants acknowledge the pivotal role of cultivating musical imagery as an essential skill for long-term piano learning.

Additionally, the study underscores the pivotal role of enhancing teachers' comprehension of musical imagery in effectively integrating it into their pedagogical approaches. In essence, the limited knowledge of musical imagery among educators significantly influences its application within their teaching practices.

Regarding the implementations of musical imagery training, the implementation process predominantly encompasses three key stages: "thinking", "communication", and "experience" which indicated that the guidance of dialogic theory should be paid attention on in the realm of musical imagery training. Moreover, eight strategies were identified and implemented by participating teachers, which were categorized into three types of notational audiation, inner ear, and mental rehearsal. Notably, four of these strategies including break down the music into small sections and imagine how the tricky parts are executed (S2), listening to the recordings by different musicians (S5), performing with the eyes closed (S6), and visualizing a successful performance (S8) were frequently utilized, often in various combinations, indicating their feasibility and effectiveness.

In conclusion, this study offers valuable insights into the conditions, processes, and approaches underpinning the integration of musical imagery training in the piano instruction in China. Further research could focus on developing teachers' training on musical imagery to enhance piano teachers' understanding and application of this skill.

Ethics Approval and Consent to Participate

This research project received ethical approval from the Universiti Malaya Research Ethics Committee (UMREC) with the reference number UM.TNC2/UMREC_2314. Participants provided consent to participate in the study and their identities were kept confidential in accordance with ethical guidelines.

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Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest with respect to the research, authorship, or publication of this article.

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