



Research on Auditory Coordination in Piano Performance Teaching

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Abstract: At present, with the continuous enhancement of China's comprehensive social strength, the living standards of Chinese residents have been fully optimized, and material growth has been completed on the existing model. After the material is satisfied, the spiritual level of our residents has a higher level of pursuit. Among them, the piano, as an elegant and long-established instrument, can be used to play music and resonate with people. Therefore, the piano performance teaching in China pays attention to the cooperative practice of hearing, vision, and touch to ensure the effective improvement of piano performance. Relevant teaching methods allow students to immerse themselves in the wonderful music with the audience during the performance. This article will discuss the auditory coordination in piano performance teaching and explain how to comprehensively strengthen piano teaching in a reasonable and effective way.

Keywords: piano teaching, auditory coordination, piano performance, analysis and research

1. Introduction

Hearing is very important for piano practice. Through hearing, people can complete the relevant cognition of music, including sound waves and related physical properties. Psychological communication can be completed through hearing to ensure that students have a special understanding of music. For piano teaching, good hearing can not only distinguish the tone, rhythm, loudness, etc., but also distinguish the language image of music. In the subsequent performance process, full coordination can be achieved to ensure smooth performance. The player's overall understanding of music can be expressed through the piano keyboards. Therefore, in the piano teaching in China, the sense of hearing has been adjusted comprehensively to ensure that students can coordinate their fingers with the piano through hearing and realize their own unique cognition of piano scores.

2. The importance of hearing to piano performance teaching

In order to ensure the effectiveness of piano performance teaching, the auditory content must be fully studied. According to relevant analysis, hearing belongs to the category of music hearing in piano performance teaching, and it has very clear requirements on the judgment of players. To a certain extent, auditory performance requires more precision than other piano teaching methods. Hearing includes two major levels-namely "external hearing" and "inner hearing"^[1]. "External hearing" macroscopically means that students can use their ears to capture music and give relevant responses according to the music beat. As a sensory auditory system, in the process of connecting with the external world, the ear will have a certain mode of connection with the existing material sounds, which will affect the overall performance of the students.

In the overall tone, students perceive sound through their ears, and produce certain stimulus responses according to the vibration frequency of the sound. The higher the vibration frequency of the sound, the higher the pitch the students hear; conversely, the lower the vibration frequency, the lower the pitch^[2]. During performance, through hearing, you can recognize related tones and adjust your own performance mode. External hearing can make students clarify the role of the "lead" and ensure that each syllable has its own unique position. Take Yamaha pianos as an example. In a Yamaha piano, the difference between the two lowest keys is only 1.6 Hz, and the difference between the two highest keys is 235 Hz. Therefore, the relationship between treble and frequency is linear. Through external hearing, students can fully capture linear sounds. In the sound intensity, students judge the volume of music by ear. Under normal circumstances, students use the sound waves of the piano to judge the strength of the sound. The greater the amplitude of the sound wave, the louder the sound; the smaller the amplitude, the smaller the sound.

Piano performance takes the sound and loudness as the basic experience. Also taking a Yamaha piano as an example, the lower valve is 0dB, and the upper valve is 130dB. As the main sound characteristic, loudness can permeate notes through hearing to form environmental sound, which plays a positive role in suggesting the viewer's psychology. The

timbre can form an effective match with the student's brain ^[3], and form a comprehensive response through related sound waves. As a direct factor in the sense of hearing that controls mood, timbre can produce obvious connection effects with students' own emotional patterns. The different frequencies and amplitudes between tones can be effectively superimposed by multiple sound waves. Therefore, the quality of the piano played, the method of pronunciation, the transmission of strength, the sound transmission, and the environment are all factors that affect the tone. From a student's psychological point of view, when students feel that the tone has soft, bright, cheerful and other emotional themes, they can complete a full connection with the syllable.

In piano performance teaching, the notes mastered by beginners are usually cheerful, relaxed and soft. In the subsequent advanced performances, complex psychology such as melancholy and dimness is realized. The overall emotional penetration requires the performer to have a strong ability to control the tone ^[4]. In the process of playing the piano, an excellent player can not only transmit the tone, rhythm, and strength through the piano keys, but also modify the tone and rhythm spontaneously. Pure tone mixing can realize the organic combination of chorus and compound tone. As a sound material, "chord tone" is a compound sound with more than two syllables. The overlap is carried out according to certain rules, and the basis of overlap is directly related to the score. Because chord sounds are the most accessible and heard sounds for students, in piano performance teaching, teachers usually practice chord sounds when they perform auditory collaborative exercises for students.

"Inner hearing" is the key goal of students and teachers. "Inner hearing" pays attention to predictive hearing, comprehensively considers the accumulation of sound by players and learners, and completes the accumulation of relevant syllables through listening and practice. Before the performance, the performer can use the accumulated experience to complete the whole performance with inner hearing, and predict the result and the sound to be played. Through the mutual adjustment of the two, the full performance of notes is realized. Through predicting and adjusting the intensity, it is ensured that the music works, sound, tone, harmony, etc. are controlled, so that the performer can complete the musical imagination and achieve an emotional experience.

3. How to complete auditory coordination exercises in subsequent piano playing teaching

In the process of cultivating auditory synergy, teachers must pay attention to key training goals. In the teaching process, many teachers have some deviations in their key training goals, which leads to unsatisfactory teaching effects. As far as the existing teaching goals and teaching systems are concerned, the key training goal is to make students' auditory experience resonate with their inner feelings through related syllables during the performance process ^[5]. In the teaching process, the emotions between teachers and students can achieve a certain degree of communication. This phenomenon is called the inner feelings of students. The auditory collaborative exercises can be based on students' inner feelings to achieve a connection between vision and hearing. In the process of memorizing music scores, students realize visual communication according to various signs, and complete the connection with subsequent music, sound, etc., which can realize inner experience and related feelings.

Through vision and perception, music scores are quickly transformed into inner hearing. In the practice of performance, the external hearing and the inner hearing are fully integrated to complete the memory accumulation. Through the related impressions of music and other literary and artistic forms, emotional stimulation is completed to ensure that the conversion between syllables is completed in the performance, so that the auditory effect and piano performance are combined into one, reaching a higher standard. Therefore, teachers must teach in a reasonable and effective way. For example, in the teaching of Section 4 (taking Beethoven's "Moonlight Sonata" as an example), teachers should pay attention to students' control of the rhythm and melody of the "Moonlight Sonata" sound effects. Through subjective hearing, students' own feelings will be fully cultivated. Before starting the performance, the teacher will let the students listen to the "Moonlight Sonata" repeatedly through the piano video and feel the overall performance effect. To complete the hierarchical setting according to the different characteristics of the students. For students with a stronger foundation in learning, teachers can allow students to complete the advanced penetration of "Moonlight Sonata", and cultivate students' sense of high pitch and rhythm. For students who are not well-founded, teachers can allow students to fully perceive tone and intensity with their inner hearing to improve their appreciation. This can not only improve the students' aesthetic level, but also grasp the overall musical fluidity.

In addition, after the students complete the early appreciation, the teacher can demonstrate the performance, allowing the students to observe the teacher's related body movements and emotional penetration during the performance, so that the music can complete the emotional absorption of the students' inner hearing and vision under the external auditory

conditions. The melody element contains many elements such as pitch, rhythm, timbre and so on. The continuity and fluency of the melody itself will enrich the auditory experience of students.

Auditory analysis can effectively grasp the functional characteristics of related music and enable students to appreciate the unique style of "Moonlight Sonata" more truly and profoundly. After the teacher has completed the demonstration, students can perform a simulation exercise on a certain chapter of "Moonlight Sonata". According to the overall performance of the students, the teacher makes subsequent adjustments, including performance pitch, performance timbre, performance rhythm, performance intensity, performance melody, performance mode and other musical elements to enable students to complete a unified and coherent emotional expression and obtain complete auditory information.

In addition, teachers need to accurately demonstrate works. Taking into account that beginners usually use cheerful and relaxing music as the benchmark, the demo is based on "Ode to Joy"^[6]. Teachers can enable students to distinguish and understand the sound effects of "Ode to Joy", create a cheerful musical imagination space, and make students' inner and outer hearings resonate organically. In the process of playing, students can evolve "Ode to Joy" to a certain level according to their own understanding. In the process of non-stop performance and evolution, "Ode to Joy" is perfectly integrated with my own emotions. It should be noted that because students have different basic skills and different understanding of syllables, after students complete the conversion exercise "Ode to Joy", teachers need to subjectively penetrate the students to ensure the benchmark of the overall rhythm of "Ode to Joy".

4. Conclusion

In summary, in piano performance teaching, it is very important to carry out auditory coordination exercises for students. Auditory collaborative exercises can give students their own rich imagination, stimulate their own pursuit of timbre and intonation, and transform their inner feelings through syllables to form vivid and delicate rhythms. Students can realize autonomous coordination under the state of inner hearing. In the follow-up adjustment, teachers must pay attention to the initiative and effectiveness of students' overall learning. Auditory coordination can ensure the natural feedback of students' auditory nerves to a certain extent, help students' ears become their own tutors, and improve piano performance.

References

- [1] Fang Lan. Research and application of the cooperative training mechanism of hearing, touch and vision in piano performance teaching. *Friends of Humanities*. 2019; 000(003): 50.
- [2] Liu Huiyuan. Research on the coordination of hearing, touch and vision in piano performance. *Northern Music*. 2018; 038(003): 56-57.
- [3] Yang Chenchen. How to coordinate the sense of hearing, touch and vision in piano performance teaching. *The Voice of the Yellow River*. 2019; 000(005): 38-38.
- [4] Gu Yue. The collaborative study of hearing, touch and vision in piano performance teaching. *Northern Music*. 2018; 038(017): 52.
- [5] Wang Ziwei. Auditory, tactile and visual research in piano performance teaching from the perspective of synergy theory. *Journal of Heihe University*. 2018; 009(003): 113-114.
- [6] Chen Jingkun. The collaborative study of hearing, touch and vision in piano performance teaching. *Art Science and Technology*. 2018; 31(07):278.