

# The Application of Alexander Techniques in Music

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**Abstract:** Instrumental performance is a process of matching the brain and body, especially when facing the piano. Beginners may encounter various problems during the piano learning period, such as memorizing scores, posture, sight singing and ear training. Incorrect playing posture often lays many hidden dangers, ranging from affecting the sound of the instrument to causing serious joint damage and interrupting the playing career. The "Alexander Technique" is a discipline that combines medical human body knowledge to help us understand the direction and working principle of body muscles, so as to correct incorrect playing posture and make the player's career go further and broader. This paper will be based on the practical application of the "Alexander technique" in piano teaching, explaining the benefits this technique brings to piano learners.

**Keywords:** Alexander Technique; Piano Application; Self Guidance.

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## 1. The Origin of Alexander's Technique

The Alexander Technique originated in London in the mid-20th century and was founded by Australian actor Frederick Matthias Alexander. It is a comprehensive course that combines medicine, psychology, education, kinematics, and other disciplines. The founder Alexander was once an excellent soloist, but later his singing career was forced to end due to his stiff body and inappropriate movements, which caused significant health problems for a long time, *"In the situation where doctors were unable to treat his vocal loss, Alexander decided to search for the problem himself. Through long-term self observation in front of the mirror, he finally found that whenever he recited or sang, his head would unconsciously tilt back, causing his neck to stiffen and his whole body to tense, squeezing his vocal cords. This poor body posture and improper force method were the main culprits causing his throat injury.[1]"* Through continuous exploration and countless experiments, Alexander developed a scientific exercise method for body relaxation, which perfectly solved his vocal loss and was named the "Alexander Technique". From then on, Alexander established professional training classes, founded schools, and trained specialized teachers of Alexander techniques to promote his theories and methods. Western scholars have been widely promoting the use of this technique since the 1980s. In piano performance and teaching, it is a piano teaching aid that can address the issue of physical tension during piano performance, enabling performers to achieve pleasant timbre and good musical expression.

## 2. Alexander's Core Theory of Skills

### 2.1. Atlanto Occipital Joint

The atlanto occipital joint is located between the first and second vertebrae of the cervical spine, and is composed of the joint between the atlas and occipital bones, also known as the C1-C2 joint. The tension in the neck muscles can cause tension in all muscles of the body. Habitual long-term stretching of the neck muscles during piano performance can lead to an imbalanced state of the entire body, and releasing overall tension must start with releasing the neck muscles.

During my studies in Paris, I had the privilege of studying at the home of Clicquot De Mentque Christine, a dance teacher at the École Nationale Supérieure in Paris and also an Alexander technique teacher. Each class practice began with a "bench practice": the practitioner would sit down in front of a mirror, emphasizing the word "direction", which refers to psychological cues that guide the head to extend upwards, in a forward direction, relax the whole body, and then guide the whole body to follow this forward and upward direction, gradually standing up, and finally walking in a circle. The whole process flowed smoothly, in one breath, and the body was as light as a swallow. The practitioner could feel that in the correct method, there were no other excessive movements in the body, and the blood felt circulation. The theory is that when the head can be balanced and placed at the connection between the head and the spine, that is, at the atlanto occipital joint at the top of the spine (the first cervical vertebra), the spine will naturally extend upwards. Using gravity, two invisible arrows will appear inside the body, causing the body muscles to be naturally pulled up, allowing the body to achieve the most comfortable state.

The most natural state of the human body is that the spine is in an "s" shape, which means that the side of the neck is naturally curved, and the waist is also curved. Since most of the nerves supporting the arms are in the neck, if the neck is stiff, such as when practicing the piano for a long time, it will tighten the muscles in the neck, causing tension in the pectoral muscles, sternocleidomastoid muscles, occipital muscles, superior trapezius muscles, scapular muscles, as well as weakness in the serratus anterior muscles, deep bending muscles of the cervical spine, and the middle and lower trapezius muscles. Due to poor posture causing muscle imbalance patterns, the arm's freedom of movement is restricted, making it difficult to exert force effectively. The medical name for this is "upper crossing syndrome".

To solve this problem, it is necessary to perform a lifting exercise: 1) Hold the chair with your right hand for fixation 2) Look at the left armpit position with your head tilted forward, face turned left and bent downward at a 45 degree angle. Use your left hand to press down on your head and gently apply downward pressure to achieve the stretching goal (Figure 1).

Or: Hold a tennis ball against the wall and press the end point of the scapula muscle with one hand, while swinging up and down with the other hand.



Fig 1. Relaxing scapular muscle exercises

If one raises their head excessively, it can cause compression of the neck muscles and pressure on the posterior spine where the nerves are distributed, leading to long-term neck pain. Therefore, Alexander emphasized the "nodding" movement, which involves moving the head up and down, to allow practitioners to relax the neck and achieve a comfortable state. The correct position is that the atlanto occipital joint is in the correct position, and the head cannot tilt forward or backward stiffly for a long time. This is a check that practitioners need to perform in front of the piano. Relaxing the neck muscles is the best state, without causing tension in other parts.

## 2.2. Hip Joint

The hip joint is the largest joint in the human body, the hub connecting the pelvis and lower limbs, and the main weight-bearing joint. It is composed of the hip socket and femoral head (Figure 2). The movement of the trunk must originate from the hip joint. We often emphasize the use of force from the waist, more accurately, the hip joint support. The body is led by the head to exert force in this area, rather than tilting upwards or forwards with the stomach



Fig 2. Hip joint position/Two points of focus

## 2.3. Ischium

Bone is a part of the hip bone, located behind and below the hip bone, including the upper iliac bone and the anterior and lower pubic bone. The ischium mainly forms the posterior column of the hip socket, which plays the main load-bearing role in human sitting (Figure 3). When sitting on the piano, the weight of the body needs to be on the ischium. Sitting too full or too far back will first hinder the support of the feet when landing. If the trunk does not have the support of the feet, the center of gravity of the body will inevitably be unstable, and all movements will lose stability and become uncertain. Sitting too deep can cause the center of gravity of the body to shift entirely to the seat, making it difficult for the performer to exert force while playing the piano. A good coordination between the ischium and hip joints is necessary for the performer to maintain a good state during the playing process. The inspection method is to play a note and immediately stand up without any other movements. Here, 'no

other movements' refers to sitting on the coccyx, tilting the body forward, and then performing additional movements to stand up. It is worth noting that the back needs to be completely relaxed, and the stability of the lower body leads to the flexibility of the upper body.

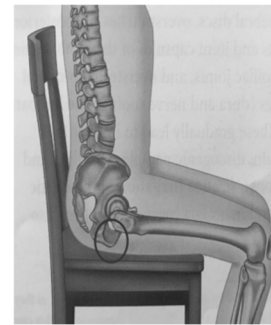


Fig 3. Sciatic bone/Located below and behind the hip bone

## 3. Self Guidance Theory

Alexander's technique emphasizes physical relaxation skills. In piano performance, opening the scapula can better allow strength to settle down. During my early piano learning, I used the wrong method to play for a period of time. When practicing, I often felt soreness in my right back muscle. There is a muscle relaxation training method that can fully open the scapula and hold a relatively strong stretch band with both hands, and open it to the width of both shoulders. A set of 15 exercises are conducted between each practice to make the body in a completely relaxed and comfortable state, which is also Alexander's emphasis on the natural state.

Under the influence of the environment or the difficulty of music score, our body muscles will unconsciously tense and contract. When reading the score, we can use another sound exhalation method to relax our body. When playing the piano, especially during trial practice (*d'échiffage*), we are uncomfortable with the score surface, which can easily cause our necks to tilt or our bodies to move forward in incorrect positions. As we have emphasized earlier, the tension in the neck muscles can lead to the stiffness of this limb, so we need to constantly adjust our own state to make our body in a normal and natural posture where we can exert force. The three essential elements for a skilled performer are music score recognition, sight singing and ear training, and musical sense. And the sense of music needs to be displayed through the piano with sharp fingers, which is closely related to the correct way of exerting force by the performer.

The higher the brainwave of the human body, the more unable it is to concentrate on practicing the piano. If a person is under a lot of daily pressure and in a busy state, the brainwave of the brain is in the high-frequency beta wave (22Hz-50Hz), and the person is in an anxious state. The alpha

wave (8Hz-13Hz) and theta wave (4Hz-8Hz) range, the body is relatively relaxed. If the brainwave enters the delta wave (0.5Hz-4Hz) range, the body enters a sleep state.

Alexander emphasizes spatial meditation. When the body is in an anxious state, we need to calm down and meditate, breathe regularly, and return to the most comfortable state. Below, I will share a body relaxation method: the most comfortable state of the body is lying on the ground with both knees up. Before each relaxation exercise, this posture can be used to relax the muscles of the body, accompanied by stable breathing, inhaling and exhaling (Figure 4) There are many methods to check in daily life, such as whether our body is in a relaxed and comfortable state, whether we feel light as a swallow when walking, sitting and standing normally on a bench, placing strength on the ischium, imagining an opposing arrow in the body, and scientifically proving that the correct posture will not cause muscle soreness.



Fig 4. Lying flat/The most comfortable position

#### 4. Does the Application of Alexander's Skills have a Positive Impact on Education?

Student B. always encounters bottlenecks when playing, as his right hand cannot accurately cross different intervals between his fingertips during fast playing, and he always plays the wrong notes. Through my conversation with him, I understand that he always involuntarily wants to play each note clearly and his wrist and elbow are very tense when playing. The student does not know what kind of body movements can be used to freely lift his fingers. The author asked him to return to the starting point of learning the piano, relax his body, and then perform a simple Alexander technique "bench training". He imagined his head as a hydrogen balloon and looked up to find direction. After several "sit up, sit up" training sessions, he then proceeded to single note training on the piano to eliminate excess notes. After the body movements, release the strength of the wrist and perceive the thighs and shoulders, The movement of the scapula and even the entire body, followed by an extended training from sitting with five fingers to the thumb, using a slow training method to separate sounds. As the body gradually develops perception, it is important to learn to pause.

Alexander said, "Pausing provides an opportunity for dialogue between reason and emotion.[2]" During the practice process, find an opportunity to pause at every point, reserve enough time to guide good body movements, and through repeated practice, erase previous muscle memories, form correct playing habits through time, and ultimately form a correct unconscious movement.

Based on several conversations, the students' physical form has further improved. Piano is a long-term practice that requires both mental and physical exertion. Improper use of muscles during instrument performance can cause the body to operate under overload for a long time, which will eventually manifest as a bodily alarm. This is a signal sent by the body,

and if this signal is ignored, it can interrupt the performer's career and even have a devastating impact.

#### 5. The Application of Alexander Techniques in Piano Education

Here, the author briefly lists several techniques to help students understand Alexander's skills and apply them to piano teaching:

1 Teachers can provide students with blank half body images to depict the position of the spine, allowing them to experience the position and structure of the spine.

1). Provide students with pictures of the shape of their spine. A normal human spine should have four naturally curved curves. By comparing the differences between the spine shape diagram and the blank half body diagram of the student, students can correct their understanding of the body structure.

2). Next, let the students experience the posture of sitting in front of the piano. And let them experience the center of gravity of their body when sitting.

2. Use your ears to distinguish whether the sound of keys pressed by your fingertips is transparent. Stand up in front of the piano and naturally hang your arms on both sides of your body. Use the most natural force of gravity to play the scale by pressing keys with your fingertips one by one. This requires sensing the transmission of force at each fingertip and the transparency of each note. The piano sound should not be loud or weak, and this requires the teacher or piano learner to have a keen sense of music to judge.

3. Hand hook training, Alexander's technique places great emphasis on spatial imagination, imagining the finger as a hook, the powerful and strong hook thrown out when the ship is anchored, but the other parts are ropes and soft. This method can be trained on a closed piano cover, effectively avoiding students paying too much attention to basic skills and causing the entire hand to become stiff.

4. When playing piano pieces with different speed requirements, the player's body movements will present different postures, so Alexander technique aims to find a balance between time perception and body coordination. For example, when playing the same movement segment, playing at different speeds allows students to feel the feedback of their bodies at different speeds, in order to adjust their body movements

5. Playing musical phrases requires the concept of "group", which requires the use of wrist and arm strength to help students find patterns in grouping their playing movements. This way, they can easily play the melodic backbone of the phrase or express the tension of the semitone progression.

6. Alexander once said, "When a performer plays an instrument, their body is actually another instrument. Only when the performer first plays their own 'instrument' well (referring to natural coordination), can they better play another instrument.[3]" It is not difficult to see that when playing an instrument, the performer needs to be familiar with and understand their own body, and know how to adjust their body state correctly to play the instrument better and perform music perfectly.

#### 6. Conclusion

The Alexandrian technique consists of three principles: consciousness, inhibition, and guidance. In the author's practice, the Alexandrian technique can scientifically benefit piano learners, solve fundamental physical problems, and has

high value in vocational education. This technique can not only be used as a piano learning technique, but also as a method to reduce anxiety. It can be well applied in students' stage performances or daily life. The Alexandrian technique is not only used in instrument teaching. According to data, it is a physical training method aimed at coordinating and recovering motor and psychological functions from various aspects such as stage, application, and psychology. It emphasizes how to cultivate good body usage habits and increase coordination between the brain and the body.

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