

# The Influence of Speed Quality Training on the Development of Table Tennis

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**Abstract:** speed plays a very important role in table tennis. Therefore, this paper expounds the influence of speed quality training on the development of table tennis, discusses the manifestation of speed quality in table tennis, discusses the effect and influence of reaction speed, action speed and moving speed, and puts forward the method of speed quality training. The purpose of this paper is to improve the physical quality, technical and tactical level of Chinese table tennis players, maintain the advantages of table tennis, and promote the further development of table tennis in China.

## 1. Introduction

Table tennis, as a traditional advantage of our country, has been in the leading position in the world. For table tennis, speed plays a very important role in table tennis. Because the table tennis sports ground is small, the ball speed is fast, the table tennis sports track is changeable, the athlete must have the excellent speed quality to grasp the initiative in the competition, obtains the score superiority. Good speed quality helps athletes to play their own technical and tactical level. Therefore, the study of speed quality training can provide reference for the quality training of table tennis players, so as to improve the sports quality of table tennis players in China.

## 2. Speed Quality and Its Manifestation of Table Tennis

The sports quality of human body includes many contents, the most important two of which are strength quality and speed quality. The level of these two qualities directly affects the technical and tactical level of athletes, and is the guarantee for athletes to achieve good results. For table tennis, speed quality is very important. Because of the small playing field, the fast speed of table tennis and the fast changing situation, only with high sensitivity and coordination can the players make the best judgment in the first time. Therefore, in the daily training of table tennis players, training the speed quality of the players can fundamentally improve the response speed, movement speed and movement speed of table tennis players, so that the players can maximize their technical and tactical level. In a word, table tennis, as a comprehensive and strong sport, has higher requirements for the speed quality of human body. Its manifestations are mainly divided into the following three types: reaction speed, movement speed and action speed.

### 2.1 Reaction Speed

When the human body is stimulated by the outside world, the response ability is the response speed. In table tennis, because of the small area of the court, the range of activities of the players is limited, and the ball speed of table tennis is relatively fast. Table tennis players must make clear judgment on the ball's landing point and strength in an instant, eliminate the interference in the first time, and complete the swing. The whole process of it starts with the opponent's attack. Our players predict the track of table tennis from the moment when the opponent hits the ball, and the reaction ends when they make a swing. This series of actions is usually completed in half a second. In addition to judging the speed and landing point of table tennis, the players should also make tactics for each other's position and playing methods to fight back, which requires a high reaction speed for the players. In a word, the training of reaction speed in the daily training is beneficial to strengthen

the muscle memory of table tennis players, form the conditioned reflex, reduce the thinking time of players, and help table tennis players complete the technical action in the first time.

## **2.2 Action Speed**

Movement speed refers to the ability of athletes to complete a complete set of technical actions. In the competition, in addition to selecting targeted tactical play, athletes need to speed up the movement speed. By speeding up their own hitting rhythm, they can disrupt the rhythm of the other side, so as to gain advantages. Therefore, the movement speed is very important in table tennis. It can bring changes to the competition of the players, and can change the situation on the field in a short time. It is the basis for the players to enrich their tactics. Therefore, table tennis players must pay attention to the training of movement speed and increase the training of movement speed.

## **2.3 Moving Speed**

In most sports, the movement speed is a very important index, which is the basis for athletes to achieve good results. In table tennis, the movement speed can open up space for the players. Through the movement changes of the feet, the players can find the most suitable hitting position in a short time, complete the hitting action, increase the difficulty of the other side's hitting, so as to win the game. At present, some table tennis players can't gain the advantage on the field because of their poor moving speed, even if they have good hitting skills, and often lose points because of their poor sense of position. Some players have poor ability of lateral movement, even if they judge the landing point of table tennis, they can not reach a reasonable position to complete the stroke. Therefore, it is very necessary to train table tennis players' movement speed. The training of movement speed can fundamentally improve the adjustment ability of table tennis players, enhance their explosive power, and make their technical movements more stable.

## **3. Methods of Speed Quality Training**

Compared with some sports, table tennis requires more skills. Therefore, table tennis players must have a comprehensive sports quality, especially speed quality. The speed quality training of table tennis players can fundamentally improve the technical and tactical level of the players, so that the players can take the initiative in the competition. Table tennis is mainly divided into two parts, the first part is the foot movement of athletes, the second part is the swing of athletes. At present, some coaches' training requirements for these two parts are mainly technical training, ignoring the importance of speed quality training, which is very unfavorable for the development of table tennis. Coaches must change this rigid training concept, strengthen the proportion of players' speed quality training, carry out special training on the response speed, movement speed and movement speed of table tennis players, and promote the combination of table tennis speed training and technical training.

### **3.1 Training Method of Reaction Speed**

In most sports events, the evaluation standard of athletes' response speed is mainly the time of athletes' response to signal stimulation. For table tennis, visual signal stimulation is the main stimulus. Because, in the competition, table tennis players need to observe a number of information, such as: the distance between the opponent player and the table, the speed and strength of the swing. And in a short time for the observation of the content of analysis and collation, combined with their own situation to use targeted tactics to fight back, master the initiative on the court.

In the training of reaction speed, first of all, we should improve the concentration of table tennis players, make their muscles in a state of tension, always be ready to ensure that the athletes can react in the first time. Coaches can train athletes by giving instructions. For example: to make the athletes stand by in the ready position, the coaches call out a technical name at will, require the athletes to respond at the fastest speed, and quickly restore after completing the technical action. Through repeated training, it can improve the response speed of table tennis players, stimulate the athletes' Sports instinct, reduce the interference of athletes in the competition, and ensure the

athletes to play their due competitive level. In addition, the coach can also use the method of moving target to train the table tennis players, so that the players can complete the push and pull of forehand and backhand, make-up spike in different positions. Through a large number of simulation training, improve the effect of response speed training, so as to strengthen the athletes' muscle memory and improve the athletes' performance on the field.

### **3.2 Training Method of Movement Speed**

The contraction of fast muscle fiber is the key to improve athletes' movement speed. The thicker the fast muscle fiber, the faster the muscle contraction speed, so as to complete the work of overcoming resistance and improve athletes' movement speed. Table tennis players' batting action is mainly through the legs, the waist of the power to carry out the transmission of speed, swing arm action is the last link. Therefore, arm swing is the key to improve the speed of action. If table tennis players want to play high-quality counterattack, they must improve the speed of action.

In the daily training, in order to improve the movement speed of the athletes, the coaches can adopt the training method of timing and hitting the ball, so that the athletes can complete the push, pull, buckle and other technical actions within the specified time, and require the athletes to complete them at different speeds. The table tennis players can practice at a pace from slow to fast, and then from fast to slow. After the practice reaches a certain stage, the multi ball practice can also be carried out. Such a training method can not only improve the movement speed of the players, but also improve the players' sense of the ball, so that the players have a clearer judgment on the running track of table tennis in the competition.

### **3.3 Training Method of Moving Speed**

In table tennis, moving speed is very important. Table tennis players want to play high-quality counterattack, in addition to the need for better response speed and movement speed, but also need to use the foot movement to complete a fatal strike. In the competition of table tennis, in order to disturb the match rhythm of each other and increase the difficulty of each other's hitting, the players of both sides will consciously change the falling point of table tennis. Therefore, table tennis players must have a good moving speed, in order to finish hitting in the right position. The hitting position is the guarantee for players to play high-quality games. Table tennis players must choose a reasonable position and combine with high-speed footstep movement to improve the hitting quality.

In the training of table tennis players, coaches need to train the movement speed of table tennis players. In the training of moving speed, it is necessary to train the athlete's footwork. The contents of footwork training mainly include: single step, parallel step, step, jump step, cushion step, side step, cross step and small step. There is essential difference between the training of table tennis players' moving speed and that of track and field players. The training of track and field players' moving speed is mainly in straight line, which requires high acceleration ability. The speed training of table tennis players not only needs to improve the ability of straight-line movement and horizontal movement, but also needs to strengthen the combination of the two. In the process of training athletes, coaches can use the cross training method, select an area in the training field, draw a cross coordinate, and cross the intersection point.

## **4. The Influence of Speed Quality Training on the Development of Table Tennis**

### **4.1 Improve the Sensitivity of Athletes**

In competitive sports, any training may bring technical innovation and improve the overall level of athletes. In table tennis, the training of speed quality is an opportunity to improve the technical and tactical level of table tennis players. For table tennis players, sensitivity is very important. Because of the small playing field, the fast speed of the table tennis, the landing point changes a lot. Therefore, the sensitivity of table tennis players is highly required, and the training of speed quality can fundamentally improve the sensitivity of table tennis players. Through the speed quality training, the athletes can change their body posture freely in the competition, improve their ability

to adapt to the circumstances. In the competition process, the athletes can make changes in the shortest time, master the initiative on the field, and complete the conversion of attack and defense roles with ease. In addition, the speed quality training can also improve the physical control ability of the athletes, enable the athletes to complete the quick start and brake actions better, increase the threat of table tennis players' counterattack, and improve the competition ability of the athletes, so as to promote the further development of table tennis.

#### **4.2 Improve the Stability of Athletes**

In table tennis game, the situation on the field changes rapidly. In many cases, a fault of serving and an unreasonable position will lead to players losing the game. In addition, the results of competition are closely related to the interests of professional athletes. In some competitions, the psychological quality of players will also affect the normal play of players. In the competition, there are many uncertain factors, so the athletes must pay attention to the usual training. Therefore, the speed quality training of table tennis players can strengthen the athletes' muscle memory, reduce the interference in the competition, and avoid the situation that the greater pressure leads to the deformation of athletes' technical movements. Through a lot of training, athletes have formed a conditioned reflex. When they are in some passive situation, they can rely on instinct to make judgments, complete technical actions, reverse the adverse situation, and even reverse the game.

#### **5. Conclusion**

In the daily training of table tennis players, speed quality training is the key to improve the technical and tactical level of athletes. As a traditional competitive event, the competitive level of table tennis in China has always been in the forefront of the world, but if we want to achieve further development, we need to continue to carry out scientific and reasonable speed quality training, improve the reaction speed, movement speed and movement speed of athletes, fundamentally improve the sports quality of table tennis players, achieve more excellent results, and win honor for our country.

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