Analysis of Footwork Training in College Football Teaching Based on Computer Modeling and Simulation Software

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Abstract. Football receiving and passing technique is the foundation of football, while football footwork is the training foundation of football receiving and passing technique. So, strengthening footwork training in college football teaching is of great importance to students. At present, there are some problems in the football teaching in colleges and universities, such as it is difficult to change the position with the football, the center of gravity is not stable, the batting foot and supporting foot are not coordinated, the passing movement is not coordinated and so on. Based on this, this paper first analysis the practical application of footwork, and then uses computer modeling ideas to analyze the training methods of footwork in college football teaching.

Keywords: The Footwork Training, Football Teaching, Football Receiving and Passing Skills, Computer Modeling, Simulation Software

1. Introduction
The technique of receiving and passing is the technique of receiving and passing the ball, which is completed by one movement. It is commonly referred to as "one foot pass" technology, it falls into the more technically difficult category[1]. At present, there are some problems in the football teaching in colleges and universities, such as it is difficult to change the position with the football, the center of gravity is not stable, the batting foot and supporting foot are not coordinated, the passing movement is not coordinated and so on. Which seriously affects the quality of receiving and passing. These phenomena are caused by the students' tense movements before receiving and passing the ball, their judgment errors and unreasonable footwork[2].

Footwork technique can effectively improve the level of receiving and passing, which is of great significance in football training. The receiving technique requires the player to stay in place and move in multiple directions, including the cross step, sideshow step, forward and backward step, etc. The receiving technique requires the player to stay in place and move in multiple directions, including the
cross step, sideshow step, forward and backward step, etc. It is the key footwork of the player without the ball before he touches the ball[3].

2. The practical application on footwork in receiving and passing

2.1. Step up and catch the football

It is an indispensable skill and also a consciousness that students must have. In the usual training or competition students will make the mistake of waiting for the ball in place. In the process of waiting for the ball, it not only increases the probability of being robbed in the middle, but also delays the time of catching the ball. It is the most effective way to train the students' up-step approach to the ball from both skills. First, the teacher must let the students know the importance of going up to meet the ball. According to the situation, the students automatically adjust the speed and body position. Second, students must have a sense of progress. At the same time, students should also have skilled, standard, sensitive footwork. When receiving the ball from all directions, we can use the up-step approach skills according to the speed of the ball, the action must have initiative. When the weight is transferred from the heel to the full foot, the knee is slightly bent and the toe is pointed in the direction of the pass, which ACTS as a buffer. In this way, we can ensure the safety of passing and pave the way for connecting footwork[4].

2.2. Turn around and catch the football

When the ball is behind the body or behind the body, this requires the technique of turning to catch the ball, which requires a quick, swerving change of position. For example, when the ball is on the side or behind the body, the trainer is running forward. If we want to catch the ball, we must stop running fast, turn around and move back to the position where we can catch the ball. Especially when we take the final step, we need to adjust the supporting foot. First, students must judge the direction of the ball and the speed of the ball, then stop and turn around. Finally, we positioned ourselves for the next catch.

2.3. Catch and pass the football in fixed place

Catching and passing the football in fixed place is standing only and adjusting the body posture of the passing movement. For example, when the positive to the ball, the ball need to 30 ° direction passing, so he finished the passing movements in situ. We have to adjust the body posture, supporting feet in 45 ° direction passing. Some students always do not adjust their body position well when they are doing in catching and passing the football in fixed place. And at the same time, their supporting feet do not move in place, which resulting in the wrong position of the ball or the foot is not high enough from the ground, etc. It is not simply a matter of technology, it's a matter of body posture not being adjusted correctly. According to the above problems to make the following correction. First, we need to adjust our body position and posture. Second, we need to make regular passing movements. In the actual training, the standard movement of in-situ catch is the key point of the connecting ball technique. Only when we master the footwork can we pass the ball smoothly[5].

3. The Footwork Training in College Football Teaching

3.1. Turn your back and accelerate running training

Practice method: when turning around, the back foot is the axis, the front foot is rolling and grinding the ground in place, then turn your head, shoulders, and torso. We will move the front foot in the
desired direction and then accelerate. Each time we run 20 meters, practice 2, 3 times, interval 1 minute.

When we practice intensively, we do it in the following two ways. First, turn around on both sides. We will experience the rhythm of pushing in different directions. Second, a variety of starting positions turn. We will experience the body's ability to turn and accelerate in different poses. When training, we need to pay attention to lowering the center of gravity of the body, the body forward, smooth and fast. This type of exercise improves speed and agility.

3.2. "T" running training
Practice method: The distance of each marker is 5 meters. Practitioners should sprint to the point ② from the point ①, and then slide to the point ③, then step to the point ④. Finally, run back to the point ①. The teacher can divide the trainers into 2 or 3 groups. Each group will run 4 times, and the interval between the groups will be 1 minute. The "T" running training is shown as thefigure 1.

![Figure 1. The "T" running training](image)

The "T" running training can improve the trainer's quick change ability, displacement ability and reaction speed ability, when they develop linear motion[6].

3.3. "Y" running training
Practice method: The distance of each marker is 5 meters. Practitioners should sprint to the point ② from the point ①, and then Use the front intersection step to the point ③, and then after the intersection step back to the point ②, use the sideward step to the point ④, and then step back to the point ①. The teacher can divide the trainers into 2 or 3 groups. Each group will run 4 times, and the interval between the groups will be 1 minute. The "Y" running training is shown as the figure 2.

![Figure 2. The "Y" running training](image)

The "Y" running training can improve the trainer's obtuse Angle acceleration, body coordination and balance.

3.4. "S" running training
Practice method: The distance of each marker is 5 meters. Practitioners should sprint to the point ② from the point ①, and then the point ③, point ④ and point ⑤. The teacher can divide the trainers into 2 or 3 groups. Each group will run 4 times, and the interval between the groups will be 1 minute. The
"S" running training is shown as the figure 3.

![Figure 3: The "S" running training](image)

The S running training can improve the trainer's physical flexibility and coordination.

3.5. "W" running training

Practice method: The distance of each marker is 5 meters. Practitioners should sprint to the point ② from the point ①, and then use the side slide step to the point ③, use the back step to the point ④, and then use the pad step to the point ⑤. The teacher can divide the trainers into 2 or 3 groups. Each group will run 4 times, and the interval between the groups will be 1 minute. The "W" running training is shown as the figure 4.

![Figure 4: The "W" running training](image)

The W running training can improve the trainer's gravity control ability, control balance ability.

4. Conclusion

Footwork training method has obviously improved the physical quality, basic skills and competition ability of college football players. This article analyzes the footwork training in college football teaching by using computer modeling and simulation software, and draws a conclusion. First, footwork training can improve the physical quality of athletes, mainly enhancing the agility and mobility. Second, footwork training can improve the accuracy of athletes' basic skills. It is hoped that teachers in colleges and universities can pay more attention to the students' footwork training, which can improve the learning and application of basic skills.

References

[1] Du xinyang. Practice and exploration of football in primary school [J]. New curriculum: primary school, 2014 (5): 128-129.

[2] Zhang aihong, study tour army. An effective way to promote the sustainable development of primary school football [J]. Youth sports, 2014 (2) : 29-30

[3] Hou mengru, liu lei, xu yonghuan. Exploration of football "English letter" training method [J]. Journal of guangzhou sports university, 2016, 36 (06):117-122.

[4] Meng qing. Experimental study on the influence of core strength training on football players' ability to move quickly [D]. Beijing sport university, 2010.
[5] Long Teng. Discussion on the application of e-sports software in college football teaching[J]. Contemporary Sports Science and Technology, 2014(17): 95-96.

[6] Tian Qingzhu. Research on the Application of "Dynamic Hierarchical Teaching Method" in College Football Optional Course [D]. Soochow University, 2009.1-36.