

Practical Exploration of Movement Transfer Theory in Table Tennis Teaching

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ABSTRACT. *The movement transfer theory has a wide applicability as a classic theory of sports training. Research methods such as literature data method, questionnaire survey method, expert interview method and mathematical statistics method are used to explore the principle of movement transfer in table tennis teaching. The research shows that students often develop new skills when they learn new skills. There is a high correlation between the phenomenon of mutual transfer with the acquired skills, and the occurrence of these phenomena will have a significant impact on the learning efficiency and quality of students. Therefore, the rational use of the law of positive movement in physical education can promote students' learning efficiency and improve the actual teaching effect.*

KEYWORDS: *Movement transfer, table tennis, teaching*

1. Introduction

As a classic theory in the field of sports training, movement transfer theory is widely used and has high theoretical and practical value. Sports psychology believes that the transfer of motor skills refers to the impact of the learning of one motor skill on the learning of another motor skill. In the study of applying the principle of motor skill transfer in physical education, Ma Qiwei divided it into three types: positive transfer, negative transfer, and zero transfer [1]. The new skills learned are positively affected by already mastered motor skills, and are often referred to as positive transfer. For example, students with a dance foundation will learn quickly when practicing sports, because the transfer of motor skills has a positive effect; The new skills learned are negatively affected or disturbed by the already acquired motor skills, which is called negative transfer. Zero transfer means that the new skills learned are not affected by the acquired motor skills. Zhang Weixue found in the teaching research on the racket-type net confrontation project that there is a phenomenon of movement of sports skills among table tennis, badminton, and tennis [2]. At present, many colleges and universities require non-physical majors to be proficient in two or more fitness skills according to the National Physical Education Teaching Guidelines for General Colleges and Universities. Two different sports skills will encounter some problems during the learning process. For example, badminton and table tennis sports, although both belong to the net category, but

when learning forehand attacks, due to different ways of attacking the ball, There are obvious differences between the two in the use of sports technology. Therefore, the influence of negative transfer between the two needs to be eliminated, and the positive transfer effect should be exerted as much as possible. This requires physical education teachers to accurately grasp the movement transfer theory, to reasonably use the theory of positive transfer of sports skills, to guide students to improve their ability to analyze and solve problems, and to improve learning efficiency through in-depth learning and continuous accumulation; Arrange teaching progress, effectively organize teaching, improve teaching methods, update teaching concepts, and thereby improve teaching quality [3].

2. Research objects and research methods

2.1 Research Object

The total of 360 students from Guangxi Normal University, who are non-sports majors in class 2018, will be selected for the second semester of 2018-2019.

2.2 Research methods

2.2.1 Literature method

According to the needs of research, in the theoretical preparation process, through Chinese CNKI, check out the textbooks and monographs of related disciplines such as sports training, sports physiology, physical education design, table tennis, etc., and use the Internet resources to check a large amount of literature on movement transfer theory data.

2.2.2 Expert interview method

Through email inquiry and telephone consultation, they exchanged and interviewed with 16 experts in related fields. Experts gave guiding suggestions, which helped the effective application of sports skills transfer theory in physical education.

2.2.3 Questionnaire survey method

According to the research progress, the questionnaire was reasonably designed and revised and improved after being reviewed and evaluated by experts. A total of 360 questionnaires were distributed to students, of which 356 were valid questionnaires, and the recovery rate was 98.89%.

2.2.4 Mathematical Statistics

SPSS25.0 digital analysis and statistical software was used to process and analyze the collected valid questionnaires.

3. Results and analysis

3.1 The status of students' cognition on movement transfer theory

According to the questionnaire survey, among the students who elect table tennis in the second semester of 2018-2019, 76.62% of the students understand the movement transfer theory, and 22.27% of the students do not understand. It can be seen from the students' degree of understanding of the movement transfer theory that students currently have a certain understanding of the application of the movement transfer theory in learning, which has laid a foundation for teachers to use the movement transfer theory in teaching, use scientific teaching methods effectively, and improve teaching quality. solid foundation.

3.2 Application of movement transfer theory in forehand attack of table tennis

Table tennis forehand is the basic content of table tennis teaching. First of all, in the way of holding rackets, a grip between badminton and tennis is usually used. In the first semester of 2018-2019, badminton and tennis items were selected. Of my classmates can quickly grasp when learning to hold a table tennis forehand. However, the forehand attack method is significantly different from the tennis and badminton grip methods. When studying forehand hitting a spin on table tennis, students who have taken tennis have a higher degree of mastery and a better learning effect.

By analyzing the forehand strokes of tennis, badminton, and table tennis, it is found that both table tennis and tennis use the rotation of the shoulder joint, hip joint, and waist to complete the batting action, and the two are the same; and In tennis and badminton, there is a phenomenon of positive transfer of athletic skills in terms of ground rotation and weight transfer. Therefore, in the teaching link, reasonable use of the badminton, table tennis and tennis's sports skills is being transferred, so that students can more effectively master the technical motor of table tennis forehand attack. In addition, it was found in the teaching that students who had taken tennis in the first semester, due to the different forces of fingers, wrists, and arms in the way of hitting, also had negative transfer. Table tennis forehands mainly use the forearm to complete the shot; while badminton hits, the emphasis is on the whipping action of the fingers and wrists; when tennis hits, the cooperation of the arms and fingers work hard. Due to the obvious difference in the use of sports skills when the three players hit the ball, students often make mistakes when they learn table tennis forehand attacks, and some even use tennis to hit the table tennis with their fingers and wrists. Not only is this easy to cause movement deformation, affecting the impact of the ball, over time, but also cause serious injuries to the wrist and elbow. Therefore, in the classroom, the impact of negative transfer should be eliminated as much as possible. Teachers repeatedly emphasize and correct wrong actions, so that students can fully understand the differences between the three, and thus improve the teaching effect.

3.3 Application of positive transfer in table tennis teaching

The table tennis motor needs to complete the batting action in fast movement. Therefore, good step movement is one of the important factors that affect students' ability to improve table tennis. However, in practical teaching, due to the lack of teaching methods, repeated training often makes students feel boring. In view of this situation, through the induction and research of basic footwork in football, badminton, and table tennis, using the positive movement transfer theory, and using a variety of combined exercises, it not only makes students feel novel and interesting, but also affects the pace of table tennis. Learning has the effect of doing more with less. There is a certain positive transfer in the use of table tennis and tennis. Although the size of the playing fields of the two are different, there are many similarities in the use of basic steps, such as the use of parallel steps, slide steps, and cross steps. Up, and a small broken pace before hitting the ball; while football, as the basis of the table tennis motor, played a positive role in starting, changing direction, and retreating. Therefore, in the teaching practice of table tennis steps, we will learn some methods of football and badminton step training, such as rope ladders, and combine different steps together to give full play to the positive transfer of the two table tennis step skills. Means have also stimulated students' interest in learning.

3.4 Application analysis of movement transfer in table tennis rubbing

Rubbing is a difficult point in the teaching of table tennis, and it is also the main content of the final assessment. In the classroom teaching, many students are often confused about the grip mode and the angle of the ball when they are doing the ball rubbing action. Through research, it is found that although table tennis rubbing ball is similar to badminton rubbing near net ball and tennis net interception technique, the use of table tennis, badminton, and tennis is obviously different in the use of the previous step. When rubbing the ball in the table tennis, you need to do the same step first, and then do the rubbing action while playing the same side foot; when badminton is approaching the small ball, first cross the step, and then the same foot as the clapper; In the tennis volley, the opposite is required, and it is required to take a step before putting on the opposite leg. Many elective badminton and tennis students often fail to make correct moves because of wrong steps. Therefore, in the teaching application of table tennis rubbing teaching, the three have a negative transfer phenomenon. Teachers should focus on correcting the use of the same and different feet to explain the effects of negative transfer of motor skills and improve the learning efficiency of students.

3.5 Application of movement transfer in table tennis serve

Serving is an important part in table tennis teaching. Table tennis serve can be divided into lower spin serve, upper spin serve and side spin serve according to the different spins and the change of the landing point. Downspin serve is the most basic way of hitting a table tennis ball. Technically, the pedal is required to turn back and shoot at the same time. The ball is hit at the highest point of the toss and the top of

the head. This is similar to the volleyball serve and the badminton high ball. In addition, volleyball's overhand serve, badminton high-distance ball and table tennis serve hit the highest point above the head. In the specific action link, when badminton hits the high back ball in the backcourt, it is required to pat the head parallel to the front of the net and turn sideways to hit the ball forward. Students who choose the volleyball project require waist-to-belt rotation coordination when they learn the serve technique. Force, this point is also required in the serve of table tennis. To sum up, there is a phenomenon of positive transfer of motor skills between the three at this stage.

4. Conclusion and suggestion

4.1 Conclusion

Studies have shown that when studying table tennis serve, students who have taken badminton and volleyball are better than students who have taken other sports; students who have taken tennis have learned to play table tennis forehand hitting spin and backhand cutting ball. The effect is obviously superior. In addition, in the teaching process of table tennis and badminton, there is a positive transfer phenomenon in the use of table tennis and badminton in parallel, sliding, and cross steps; the forward arc of the table tennis ball. There is a positive transfer of athletic skills between badminton killing and volleyball smashing. However, in the course of learning table tennis rubbing skills and forehand attack, found that although students who have taken badminton can quickly grasp the volley motor, they can also step forward in front of the net and the forehand stroke. Affected by a certain negative transfer, it is easy to cause movement deformation and needs to be corrected repeatedly. Therefore, the positive movement transfer theory skills should be reasonably used in badminton sports teaching to avoid the impact of negative transfer of sports skills to improve the learning efficiency of students.

4.2 Suggestion

(1) Enrich teaching theories, improve teaching methods, and make reasonable use of the positive movement transfer theory. Physical education teachers in colleges and universities must continuously learn the teaching theories and methods, understand the relationship between different sports events, and accumulate more effective teaching methods. Find common points between different sports events in college physical education, analyze and compare similar technical motors, and get targeted guidance to make teaching results more effective. In teaching practice, it is necessary to flexibly and reasonably use the movement transfer theory skills and give full play to the role of positive transfer of sports skills, so as to improve the teaching quality of table tennis physical education in colleges and universities, and then improve students' physical fitness.

(2) Master the movement transfer theory skills to stimulate students' initiative and creativity. In the process of physical education, we should encourage and motivate students to learn and stimulate their interest in learning. Through diversified

teaching methods, help students master the movement transfer theory skills. When students encounter difficulties in sports practice, they should be guided and corrected in a timely manner to continuously strengthen students' cognitive ability and athletic ability.

References

- [1] Ma Qiwei. Sports Psychology [M]. Beijing: Higher Education Press, 1996: 154-156.
- [2] Zhang Weixue. Theoretical Research and Application of Transfer Characteristics in the Teaching of Holding Net-based Countermeasure Items [D]. Shanghai: Shanghai Institute of Physical Education, 2011: 36-38.
- [3] Si Dandan. Investigation and Analysis on the Application of Sports Skill Transfer Theory in Badminton Teaching [D]. Xi'an: Xi'an Institute of Physical Education, 2014: 16-18.