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Analysis of the Theory and Value of Multidimensional System Feedback Method Applied to Tennis Teaching in Universities

Changai Zhang*, Yiyuan Yang

School of Physical Education, Liupanshui Normal University, Liupanshui, Guizhou, China.

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Corresponding author: Changai Zhang, School of Physical Education, Liupanshui Normal University, Liupanshui, Guizhou, China.

Abstract

The multidimensional system feedback method is a teaching method based on "information theory", which is committed to making full use of useful information in tennis teaching, mobilizing students' active thinking, and taking the cultivation of students' innovative ability and creative thinking as the direction of tennis teaching method reform. In order to improve the teaching effect and teaching quality of college tennis courses, the theoretical basis of multidimensional system feedback method in college tennis teaching is explored by combining feedback theory, cybernetics, subjective education theory and motivation theory, and the value of multidimensional system feedback method in college tennis teaching is explored from the aspects of teaching effect, teaching mode and students' interest, which is aimed at providing reference for the better implementation of tennis teaching and providing references to the research on the theory of tennis teaching. The purpose is to provide a reference for the better implementation of tennis teaching practice and to provide a reference for tennis teaching theory research.

Keywords

Multidimensional system feedback method, college tennis, tennis teaching

Tennis is popular among students in university, but the teaching of tennis is still based on traditional teaching methods, which largely affects the overall quality of tennis teaching (Ou Jilin, 2020). With the deepening of physical education reform, feedback teaching theory has gradually matured, and the theory is widely used in the practical research of physical education. Multi-dimensional system feedback method is developed on the basis of feedback teaching theory, which aims at applying knowledge and developing ability, highlighting the information exchange between teaching and learning and learning and the timeliness of information feedback, and improving the quality of classroom teaching (Liang Xiaojun, 2015). The multidimensional system feedback method has a significant effect on the improvement of students' creative consciousness and tactical innovation ability (Dong Taisheng, 2018). Based on this study, the theory and value of the multidimensional system feedback method applied to tennis teaching in colleges and universities are discussed in order to improve the quality of tennis teaching.

1. Theoretical basis of multidimensional system feedback method applied to college tennis teaching

1.1 Multidimensional system feedback method and feedback theory

Feedback theory is an important theoretical support for the implementation of multi-dimensional feedback teaching.

The term feedback appears in cybernetics and is based on the human brain's absorption of information. The human brain cannot continuously and uninterruptedly absorb and understand the received information, and at the same time, the brain's time in absorbing and understanding information also varies according to individual differences, so it needs to reasonably control the information input to the brain.

During tennis instruction, teachers take into account the differences that exist among individual students, use a combination of multidimensional feedback teaching methods to analyze students' learning abilities and follow feedback control theory to teach multidimensional feedback and control the frequency of information output. Under the guidance of teaching objectives, students' ability to output knowledge is strengthened, especially the ability to demonstrate tennis technical movements and teach beginners. In tennis technique teaching, teachers transmit tennis technique information to students from both visual and auditory aspects by demonstrating technical movements and explaining movement essentials. The teaching process pays attention to the internal and external feedback of information, students give internal feedback by recording videos and other ways, and the teacher implements external feedback by inspecting and correcting errors in the classroom, so as to improve the learning of technical movements and improve the teaching efficiency.

1.2 Multidimensional system feedback method and cybernetic principle

Teaching activity is a kind of control process, and control theory runs through the whole process of teaching. The teaching system is a control system. In this system, the teacher is the controller, the student is the control, and the control goal is the teaching goal (total goal, sub-goal). The activity of the system is a purposeful and active activity, which is dynamic and needs to be regulated by negative feedback. Since both the controller and the controlled are subjective and active people, unlike objective and passive people and machines, both sides need to constantly demand themselves with the necessary conditions and work closely together to achieve the best control goals.

The multidimensional system feedback method is the use of control methods in teaching. Several basic control methods have a wide range of uses and are of great inspiration to help us reform our teaching methods. For example, the principle of conjugate control is often applied to solve key problems in teaching. For example, in tennis forehand stroke, students hit the ball with their arms and cannot experience the correct force, so they can use the explanation of "open-door-close" to help them understand.

1.3 Multidimensional system feedback method and subjective education theory

The theory of subjective education studies the subject of educational activities from the field of education, the subjectivity of students as the subject of educational activities, and the status, ability, role, and intersubjectivity of student subjects in their object-based learning, cognitive, and interactional activities.

The teacher, as the leader of teaching activities, needs to play the role of a good leader of students' learning, to make students the subject of the course teaching and to lead them in various ways to quickly master the course content according to their current learning abilities and their knowledge perceptions. The teacher collects data on students' daily activities from different levels and provides objective evaluations for students according to the teaching objectives so that students have a clearer picture of their own stage of learning. Since changes in student behavior during the learning process are caused by changes in experience, the acquisition of experience dominates the learning process. In the learning process of tennis, the classroom teacher demonstrates and explains, collectively corrects mistakes, the classroom activity is not only in the teacher arranging training tasks, but in the students discovering, thinking, and carefully going to digest and understanding the technical actions, devoting time to practice, so as to acquire the technical actions, giving full play to the main role of students.

1.4 Multidimensional system feedback method and motivation theory

In the teaching process, the need to master the knowledge of psychology, from motivation psychology theory to analyze the teaching work motivation, can cause the internal drive of the activity and all the activity behavior, a strong internal drive to guide students, which is also an important factor to determine the degree of acceptance, liking and attentiveness of students to new things.

In the teaching process, teachers need to analyze the actual state of different students from the level of motivational psychology, and in order to ensure the smooth progress of teaching, they need to understand how much different students like things and determine the learning motivation of each student, and on this basis, they can then flexibly choose motivational tools to attract student's attention to the course content, and they can also guide students to communicate with teachers in depth during the motivation process, thus This allows both sides to grasp their own information and to eliminate the gap between them to a great extent, so that the teaching work can be promoted smoothly. Under the theory of

motivation psychology, the application of a two-way feedback mechanism can allow students to discover their own shortcomings, and change the traditional passive teaching methods of students on the cultivation of students' abilities, students have long been passively accepting the knowledge imparted by teachers, it is difficult to stimulate students' learning initiative, the use of multi-dimensional feedback teaching method can stimulate students to spontaneously learn the corresponding knowledge, which can significantly improve the tennis course teaching It is also of great significance for the cultivation of students' comprehensive ability.

2. The value of the multi-dimensional system feedback method applied to tennis teaching in colleges and universities

Under the background of Chinese curriculum reform, tennis option courses in colleges and universities have also changed. In the past, the teaching requirements in tennis courses were not high, students only needed to understand the development history of tennis and master the basic serve, forehand, and backhand technical movements, while the teaching methods used were too single and the demonstration cases were too one-sided, which affected the teaching effect. The multi-dimensional system feedback method gives full play to teacher-led mobilization of students' learning interest in college tennis teaching.

2.1 Improve the teaching effect

Under the role of the new curriculum reform, the educational objectives of college tennis courses are also greatly enhanced, and the use of traditional one-sided single demonstration and explanation method can no longer meet the requirements put forward by the Ministry of Education of the People's Republic of China for the teaching of college physical education courses, the traditional course teaching is based on a single technical imitation exercise, but ignores the impact of the students' understanding of the subject knowledge situation on their activity performance, if the teaching cannot be reasonably carried out to improve the If the students cannot reasonably carry out the teaching work to improve their thinking activities, they will inhibit their initiative to learn tennis because of the single technical imitation training, which will also have a great inhibiting effect on the cultivation of students' independent thinking ability, and students cannot be interested in tennis lessons under the single teaching mode, and there is also the disadvantage of being too dependent on the control, only imitating the action but not knowing the principle of the action, thus falling into a bad cycle, which not only cannot This will not only fail to improve students' mastery of tennis skills, but also inhibit students' brain activity, which will affect the teaching effect of the course if it is not improved (Qiao Yanbin, 2022).

2.2 Innovative teaching mode

In view of the fact that the teaching mode of tennis courses in colleges and universities is not scientific, therefore, during the reform of tennis option courses, it is very important to innovate the teaching mode, and in order to advocate the effectiveness of teaching, multidimensional feedback teaching method is introduced in the tennis courses in colleges and universities to analyze the students objectively and systematically, to grasp the students' ability in all aspects, and to stimulate the students' learning initiative by using multidimensional teaching method, so that it can solve the problem of traditional single The influence of the traditional single training method on the formation of tennis course teaching. Secondly, under the role of the multi-dimensional feedback teaching method, the information exchange and feedback between students' teaching materials and teachers' peers can be realized. The use of multi-dimensional feedback teaching methods allows teachers to understand the situation of students' stage learning, which facilitates teachers to design teaching programs flexibly and enhance the effectiveness of teaching. For example, if the teacher proposes a forehand stroke, you can conduct an in-depth discussion with students to analyze why the ball is often out of bounds and find out the common errors that exist in the tennis hitting process. The two-way discussion process between teachers and students not only enables students to actively participate in classroom activities but also changes the previous passive learning situation of students (Yu Songkun, 2022). The use of multi-dimensional feedback teaching methods in the teaching process provides feedback on a variety of information so that the information received can be used to make a comprehensive judgment on the students' learning abilities and strengthen the internal feedback so as to enhance and consolidate the students' technical action level, which is exceptionally crucial to the development of students' abilities.

2.3 Stimulate students' interest

Teachers need to use teaching methods reasonably during the teaching period, taking into account the differences of individual students, in order to improve scientific and reasonable teaching, teachers should analyze students

systematically under the multi-dimensional feedback teaching method, understand students' own abilities and their outstanding advantages, according to the students' ability to absorb the knowledge, adopt diversified teaching methods in the process of students' understanding of the knowledge, you can deepen students' understanding of the knowledge through different teaching methods, and deepen students' understanding of the knowledge through different teaching methods. Teaching methods, deepen students' understanding of the degree of knowledge and the degree of perception, from a multi-dimensional, multi-level starting point according to the needs of students' ability to cultivate, in order to enable students to form a good disciplinary literacy needs to be reasonably used to stimulate students' sense of independent learning, thereby increasing the sense of achievement.

After the multi-dimensional feedback teaching method is applied to the college tennis course, it can change the inhibiting effect of traditional single teaching on the formation of students' thinking, so that students can better master tennis knowledge under the multi-dimensional teaching method, and teachers can also grasp the learning situation of students at different stages through multi-dimensional feedback teaching analysis, and carry out targeted teaching work according to the results obtained from the analysis, and cultivate students to form comprehensive ability so that students The new teaching mode can stimulate students' passion to learn the course content, thus improving the level of tennis teaching and fulfilling the educational objectives of the Ministry of Education for talent training (Gu S, 2020).

3. Conclusion

By analyzing and exploring the theoretical basis and application value of the multidimensional system feedback method in college tennis teaching, the key points in the teaching process are sorted out. Teachers should fully grasp the application skills of the multi-dimensional system feedback teaching method, and integrate it into the content of college tennis teaching activities, at the same time, they should also flexibly master the use of teaching methods, from a multi-dimensional point of view to carry out the training of students' tennis skills to improve their mastery of tennis skills and tactics, so that the students can automatically and spontaneously tennis theoretical knowledge with the actual movement and practical use of good combination, stimulate students' interest in learning and improve their ability to learn. This will enable students to spontaneously combine the theoretical knowledge of tennis with the actual movements and practical application, and stimulate students' interest in learning and internal motivation.

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