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Program Construction of Tennis Service Training on Student's Tennis Classes at Xi'an Physical Education University

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Abstract

Background and Aim: The tennis serving technology is the most difficult technology for students to learn and master. This research aimed to construct a tennis serving training program for Xi'an Physical Education University students.

Materials and Methods: The participants of this research were 36 people, through purposive sampling, the participants included 5 experts to conduct preliminary expert interviews, 7 experts to test the reliability and validity of the index with IOC, 15 experts to reach an expert consensus on the tennis service training program with Delphi method, 9 experts to discuss the tennis serve training program with a focus group. Using mean, standard deviation, median value, and coefficient of variation to analyze the data. The IOC value of the tennis serve training program was 0.94.

Result: The result shows that the scientific nature of the training program index of the tennis special class students of Xi'an University of Physical Education, the rationality of the time proportion allocation, the suitability of the training content intensity, the comprehensiveness and logic of the tennis serving training program have been recognized and supported by the experts. Finally, 3 first-level indicators, 13 second-level indicators, and 35 third-level indexes were obtained.

Conclusion: The core concept and technical training in the first level index is the basis of mastering the tennis serve, physical training and psychological training are fundamental to strengthening and improving the tennis serve technology, to improve the tennis serve each is indispensable. According to the individual differences of students to carry out a reasonable training program, we need to conduct comprehensive learning and training to improve the serving level of college tennis students.

Keywords: Tennis Serving; Training Program; Tennis Class Student

Introduction

Throughout the Australian Open, the US Open, the French Open, and Wimbledon, every point between the players starts from the serve, and the serve is the only tennis technology that is not directly restricted and influenced by the opponent and can directly score, and it is one of the most difficult key tennis skills to master. Since Lina won the Australian Open, and French Open grand slam champion, tennis in China promotion speed has greatly improved, not only promoting tennis technology, tennis and tennis venues, and the development of the construction but also accelerating the pace of college tennis, tennis has become the Chinese college student's special sports choice when one of the most popular sports. Because the vast majority of tennis students did not contact tennis before entering the university, not a special training in tennis, the mastery of the basic technology of tennis is the fundamental learning task of tennis students. In the long-term teaching and training of tennis technology, we found that the tennis

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service technology is the most difficult technology for students to learn and master, which is not only difficult to master but also more difficult to improve. Therefore, how to make the tennis special students master the various tennis service technologies as soon as possible and effectively play the function of the tennis service technology in the competition has become an urgent problem to be solved in the teaching and training of the current tennis sports technology. The tennis special students meet service technology is difficult to learn and difficult to play problem, it is world tennis players pay special attention to the problem, which requires tennis teachers must build a set of effective tennis service technology training plans, through the scientific system of teaching and training, let tennis special students master various service technology as soon as possible, and effective application in the game, this is the practice of tennis teaching and training requirements, it is also the theory of tennis teaching and training needs.

The tennis serve technique usually includes the Kick serve technique, Flat serve technique, and Slice serve technique. Although these serve techniques' characteristics and requirements are different, the athletes can only complete the following action requirements: By appropriate grip, effective preparation posture, throwing the ball with appropriate height and orientation, upper and lower limb smooth serving rhythm, strong "hitting" action chain and appropriate hitting point can the high quality be served. High-level athletes serve technical specification, smooth, powerful, and fast, with high success rate, accuracy, ball speed, and side spin or topspin, the players in the game can always control the maximum speed, strength, rotation, and tricky point to serve, to serve the biggest aggression, and from the momentum and psychological suppression. On the other hand, general tennis students usually have the following problems: (1) many students do not pay attention to the study of normative service technology in the cognition of tennis, thinking that the bottom line technology is good can play well, but cannot realize the important role of service technology in the competition; (2) the training method of improving the service technology level is relatively single, the targeted special practice is lacking, there is no systematic and step-by-step training system; (3) the service game is poor and the application ability is insufficient. When students master the serve technique, they usually put most of the practice weight on the first serve (usually the flat serve) and rarely practice the second serve. Many students focus on improving their speed and strength and rarely focus on practicing the second serve the drop point and rotation. While improving the quality of the service, students will increase their error rate, to become passive. Students are lacking in the choice of the landing point and type of service; (4) Due to the great difficulty and the slow improvement, most students are afraid of difficulties and lack the initiative to improve the service technology.

Objectives

To construct a tennis serving training program for Xi’an Physical Education University students.

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Literature Review

1. Research on the core concept aspects of tennis serving

Tennis serve as one of the main techniques in a competitive tennis game, is not only the beginning of each point but also by oneself and not controlled by only technology (Jin Zongxue et al., 2018), high-level players generally throw their tennis, body back, the racket over the head, then use the distortion of the body racket to front or side hard swing, tapping or cutting in the overhead of the tennis, the tennis quickly into the other's court, to destroy the other side of the ball, to obtain advantage. Excellent tennis serving technology is excellent, is its indispensable means of attack, the use of strong and accurate serve, scoring can get from the momentum and psychological suppression of the opponent.

Xing Xiaoyuan (2017) conducted a study of some technical statistics of the Australian Open, He explained the problems of the technical aspects of the grip, the height of the ball, the stability of the throw, the position of the hitting point, and the direction of the rebound, He thinks the main problems that affect the serve skills are: the shot is not a sweetheart, The throwing ball is unstable, Failure does not strike the balance, Weak serve, slow speed of the ball support is unstable; He put forward his views on the development trend of serve: the physical quality of the players is becoming more and more excellent and comprehensive, Serving technical action is more and more detailed, rich, Tennis has been moving towards speed, power, and precision.

Liu Na (2019) proposed that serving technology is an important factor affecting the performance of tennis players in competitions and that problems such as weak serving ability and non-standard movements will directly affect the performance of tennis players. Often a scientific and reasonable serve requires athletes to spend a lot of time practicing, as an important factor affecting the game mentality of athletes, serve plays a key role. With the change of times, the fast serve began to rise, and at the same time, people paid more and more attention to tennis. In this case, it is necessary to improve the serving skills of the tennis players.

In tennis, serve is one of the most important techniques, is the beginning of the tennis game, is also the beginning of the attack, and is the only technique that cannot be influenced by the opponent and can be implemented according to their ideas. In the tennis match can score the score, in the technical statistics of the whole game, a high-quality serve occupies an important position, An accurate and aggressive serve, not only can be directly scored, but a powerful serve can also encourage the morale of the athletes, expand the results, play the role of disrupting the tactical layout of the other side and hurt the spirit of the other side.

Hold the clap is a way of holding a racket and hitting the ball during a game. When the racket hits the ball, the grip method affects the angle of the racket surface and affects the speed, rotation, and placement of the racket. General grip includes continental (handshake grip), Eastern (semi-Eastern or all-Oriental, usually used for backhand grip), and Western (semi-Western or all-Western, usually used for straight hand grip). Most players change their grip during the game. The main grip is a continental serve, which can make the wrist more flexible, make the racket surface hit the back and side of the ball, control the rotation degree and direction of the serve, and is conducive to the completion of the internal movement of the swing arm when hitting the ball (Sun Jian, 2018). The continental grip (the bottom joint of the index finger is pressed on the upper part of the second side) is the preferred grip for the best tennis players in the world (Dai Yaoyao, 2021). According to the current situation of college students'

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cognition of the core concept of tennis serving technology, the paper divides the core concept of serve into grip racket, standing position, and technical action stage of serve.

The technical factor is the most direct factor affecting the serve and is the concentrated embodiment of the player's technical level. According to the technical purpose and task (Xing Xiaoyuan, 2017), the whole serving process is divided into six stages as Figure 1: 1) Prepare the standing position stage: from the emergence of serve consciousness to the moment of separating the racket from the ball; 2) the ball stage: the moment of separating the hand; 3) transition stage: the maximum moment of knee bending; 4) backward swing stage: the lowest moment behind it; 5) forward swing stage: the moment after hitting the racket; 6) Follow-up stage: the moment after strike. Today's best tennis players combine rotation and Angle to make the serve faster and faster.

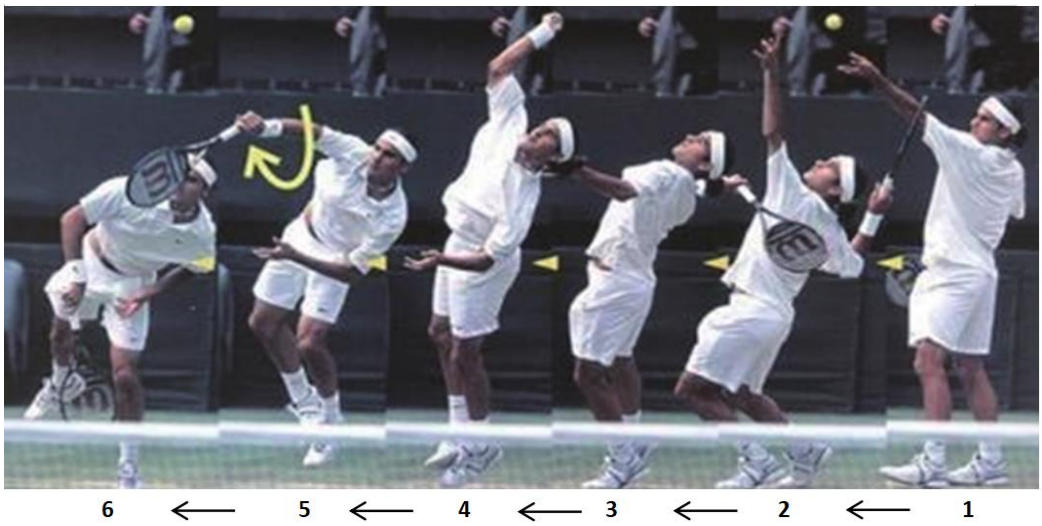

Figure 1: Six stages of the tennis serving

2. Research on the technical training of tennis serving

Zhang Shen (2022) proposed that serving techniques are divided into three types (flat strike, cutting, and rotation), and the quality of serving is mainly reflected in the speed, angle, and rotation. Serve is the technical action of the first stage of the tennis match, and a good serve will contain the opponent to a certain extent. The first serve technique on the hard ground is mainly directly scored as the target, and on the red court is mainly targeted to ensure the success rate of the first serve. The technical quality and success rate of the serve plays a key role in the process of the game. The first scoring rate and the second scoring rate can reflect the results of the game.

Zhou Daiqi (2019) found in some professional tennis matches that the speed and accuracy of the world's top tennis players are both their strengths. In the tennis serve, speed and rotation are the keys to the serve, while the Falling point is the key to controlling the direction of the ball. During the shot, the tap and cut serve have different flight paths. The pumping often produces a very fast straight-line speed, while the cutting tennis ball is relatively low, but it can produce rotation and change the trajectory of the serve, which is also a threat. The factors affecting the quality of the serve technology are generally speed, falling point, and rotation.

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Tang Haochen (2020) adopts the literature data method, video observation method, mathematical statistics method, logical analysis method, and other scientific research methods, By observing videos of 39 games in Federer's 2015-2018 Grand Slam hardcourt event, Prothe serving stage, Federer pursued a higher ACE ball for direct scoring in four seasons, An average of more than 10 ACE balls per game per year, Federer's overall play in the even division is a speed, rotation, Falling point strong attack to ensure a 60% scoring rate, The goal is to use serve to achieve oppression, While the increases increased changes in a steady state, The Falling point of the three angles is relatively average, Increase the difficulty of opponent prediction. Federer's four seasons showed high use of the outer corners, allowing large angles to pull out of the air and create a better chance for the third shot. The utilization rate of the inner corner of the second shot has increased year by year, which restricts the opponent in a passive state, effectively weakens the threat of receiving serve, and realizes the active scoring with the help of strong forehand shots.

World high-level tennis players are more detailed in terms of accuracy and variation. The development of precision serving is becoming an inevitable trend. In terms of serve points, Federer and Wawrinka, when facing key points, will choose a high winning rate and good hidden serve points, with the inner and outer corner points as the main serve points. The difference is. Federer's serve is flexible and hidden, while Wawrinka controls most of Federer's backhand position and attacks Federer's backhand position (Liu Yonggui, 2019).

To sum up, if you can master one of the three elements when serving, you will not be dragged by your opponent; if you can master two of the factors, you can be a good server; if you can use all three elements, you can master the initiative in tennis games.

3. **Research on the physical fitness training of tennis serving**

The physical quality here mainly refers to the performance of the special quality to the special ability. The special physical qualities of tennis players are divided into strength, speed, endurance, sensitivity, and flexibility (Ke Yong and Peng Jianjun, 2018). Some scholars have analyzed the importance and training methods among tennis players from different perspectives, focusing on maximum strength, explosive strength, and endurance; the speed of movement, and endurance are mainly based on aerobic and anaerobic endurance, and focus on training methods (Ke Y & J Peng, 2018; Wang Jinhua, 2019).

At present, most of the domestic and foreign studies have the same classification of special tennis quality, including five aspects strength, speed, endurance, flexibility, and sensitivity. This study is consistent in the division of classification and classification of special physical qualities of athletes. For example, strength quality is the first condition, movement speed and movement speed help athletes complete difficult skills, and sensitive quality can help athletes better collect sports neurons to help athletes maintain efficiency (Wang Ying, 2018). These qualities influence each other, and their development level is greatly related to the athletes' competitive ability.

Wang Xianfeng (2019) proposed that in high-level tennis competitions, especially in the key stage of the competition, the height and weight factors of the athletes play a very important role in the intense attack and defense switch serve. The technical quality and success rate of serving plays a vital role in the competition. After studying Li Na's serve, he believed that the aggression of the first serve and the stability of the second serve.

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Properly adding the rapid strength training of the forearm muscles can improve the level of tennis serving. Xing Xiaoyuan (2017) put forward that many excellent players will have their knees bent when serving, so that the knees bending will have greater strength. This principle of lever, increasing the power of hitting the ball, is also an effective way to improve the speed of serving. However, due to the different physical qualities of the athletes, different athletes should choose the bending Angle and squatting depth in line with their knee endurance. Therefore, it turns out that increasing the squat depth is beneficial to the serve.

Domestic studies have shown that there is a relationship between the speed of the racquet. Jiang Ting and Qi Bing (2016) studied the relationship between head speed and accuracy and found that the head speed was higher than the average level, especially the forehand speed; the author found that the speed and speed.

Tennis players need to have good flexibility to serve, catch, and save the ball efficiently, especially in the waist, hip, and femoral muscles. Wang Siyuan (2019) selected sitting forward flexion as the evaluation index in the construction of the physical fitness index for young female tennis players in Hubei Province.

Tennis physical quality training to fully consider the sports characteristics and athletes' physical quality should be for the current physical condition, to carry out scientific and reasonable tennis physical quality training, master the training intensity and content, and according to the college students 'specialty, training conditions, training status to carry out special training, ensure the physical quality training target feasible to make college students in the long-term exercise continuously promotion and development, to promote the progress of college students' tennis sports.

5. Research on psychological training

Psychological training plays a very important role in the training of young tennis players because the two sides of the competition should not only compete for the results of professional training but also have the competition of psychological quality. If the athletes lose the psychological battle on the field, then it will affect their performance. On the contrary, good psychological quality will play to their actual level, and may even excel (Long Ping, 2017). Psychological training plays a very important role in the athletes to play a real tennis level. In the usual tennis teaching, it is especially necessary to pay attention to the training of the athletes' self-confidence and attention.

Lin Liqiu (2020) uses the literature, teaching experiments, and mathematical statistics research methods, according to the theory of the psychological training of higher vocational colleges sports professional tennis students serve success rate of target intervention training, through the design of four groups of different difficulty requirements to explore the target setting training and serve the relationship between the success rate. The results showed that after the experiment, the serve success rate of each group showed significant differences ($P < 0.05$), and the multiple comparisons of different difficulty target groups found that the medium difficulty target setting training had the best effect on improving the serve success rate.

In the process of tennis training, focus is necessary. Only the players can concentrate their attention to achieve good results in the game. In the process of hitting the ball, the players should concentrate their attention and completely focus themselves on tennis (Long Ping, 2017). However, it is not easy to achieve full concentration, in peacetime you need to strengthen the training of attention

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work. First, training to simulate interference should be carried out there are many external interference factors in the competition, such as spectators, referees, etc., in the training need to set certain interference items, in the process of hitting the ball, athletes can be appropriately required to face the sun or in the windy field training. Second, should establish operational procedures, operation help athletes focus on the game, is the so-called who is born, due to the long-term training game is not easy to error, third, should set effective goals, target individuals but very important, reasonable set goals help athletes to keep high concentration, steadily achieve the goal set, the athlete's mentality is more likely to keep calm, which can effectively enhance the confidence of the athletes.

About the meaning of psychological training, psychological training in tennis games, and training role and significance and psychological training on the success rate of tennis serving, scholars have some research, but the psychological factors on the success of tennis serving research is not system, here, based on the existing theory platform, based on the questionnaire results, to explore the construction of tennis serving training program.

In conclusion, to have high-quality tennis serving technology, it can be seen that the construction of the training program is the objective need of the training program is the requirement; it is the only way to explore the rules of teaching and training. In terms of the previous tennis training program and through the form of an expert questionnaire, according to the training program index proposed by the experts, the focus of the serving technical training program is highlighted, to establish the training program of tennis serving technology.

Conceptual Framework

The conceptual framework for this research is as follows:

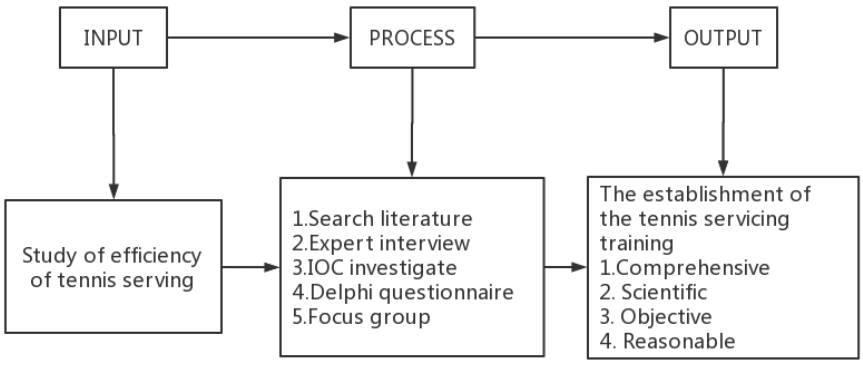

Figure 2: Conceptual framework

Methodology

1. Type of research

Investigated Research

2. Population and sample size

The participants of this research were 36 people, including senior tennis scholars, senior tennis teachers, senior coaches, experts in tennis professional direction, tennis club coaches, and retired professional tennis players and students. 5 experts to conduct preliminary expert interviews, 7 experts

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to test the reliability and validity of the index with IOC with an in-depth interview method, 15 experts to reach an expert consensus on the tennis service training program with the Delphi method, 9 experts to discuss the tennis serve training program with a focus group.

3. Research tools

1. Structural interview outline: Outline of Interview Questions for the tennis serving training program: core concepts, technical training, physical training, psychological training, etc.

2. IOC questionnaire of tennis serving training program index. The preliminary first-level, second-level, and third-level indicators were subject to expert questionnaires.

3. Expert consensus questionnaire for use in the Delphi method. An expert consistency test was conducted with two rounds of the Delphi method.

4. Focus groups to discuss the tennis serve training program. Focus groups were conducted to verify the effectiveness of the training program.

4. Data Collection

Stage 1: Through literature review, the expert interview outline was established, 5 experts were interviewed, and data were collected.

Stage 2: The IOC questionnaire of 7 experts was used to obtain the IOC value.

Stage 3: The Delphi method was used to issue expert questionnaire consultation forms to 15 experts, and two rounds of questionnaires were distributed and recovered. Then derive the mean, standard deviation, coefficient of variation, and median value.

5. Data Analysis

Data analysis was performed by using SPSS 26.0 software. Using mean, standard deviation, median value, and coefficient of variation to analyze the data. The Mean value is an indicator of the trend in the data set. The standard deviation can reflect the dispersion of a data set. The median is used when the resulting values are arranged in the order of increasing (or decreasing) if the number is odd, the middle value or if the number is even, and the average of the middle two values. The coefficient of variation is the percentage of the standard deviation of a set of data and its mean, and it is a relative indicator of the dispersion of the data.

Results

1. 7 experts performed the IOC results:

Table 1: IOC (Index of Congruence) Analysis

Item	Sample Size	$\overline{X}$	IOC Value
65	7	61.03	0.94

According to Table 1, After the calculation, we obtained an IOC value of 0.94. It shows that the training scheme index has reliability and validity.

2. Results of the second round of Delphi questionnaire survey conducted by 15 experts:

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Table 2: First-level index consistency results

First-Level Indicators	N	$\bar{X}$ ±SD	Median	Coefficient of Variation	Result
A. Core concepts	15	4.93±0.258	5	0.052	Qualified
B. Technical training	15	4.80±0.458	5	0.086	Qualified
C. Physical training	15	4.80±0.414	5	0.086	Qualified
D. Psychological training	15	4.73±0.458	5	0.097	Qualified

Table 3: Second-level index consistency results

Second-Level Indicators	N	$\bar{X}$ ±SD	Median	Coefficient of Variation	Result
A1. Hold the clap	15	5±0	5	0.000	Qualified
A2. Serving position	15	4.8±0.414	5	0.086	Qualified
A3. Serving stage	15	4.867±0.352	5	0.072	Qualified
B1. Technical type of Serving	15	4.8±0.414	5	0.086	Qualified
B2. Method of Serving	15	4.867±0.352	5	0.072	Qualified
B3. Elements of Serving	15	4.933±0.258	5	0.052	Qualified
C1. Power	15	4.867±0.352	5	0.072	Qualified
C2. Speed	15	4.667±0.488	5	0.105	Qualified
C3. Pliable and tough	15	4.533±0.516	5	0.114	Qualified
C4. Sensitive coordination	15	4.467±0.516	4	0.116	Qualified
D1. Psychological orientation	15	4.8±0.414	5	0.086	Qualified
D2. Attention	15	4.867±0.352	5	0.072	Qualified
D3. Self-confidence	15	4.6±0.507	5	0.11	Qualified

Table 4: Third-level index consistency results

Third-Level Indicators	N	$\bar{X}$ ±SD	Median	Coefficient of Variation	Result
A11.Continental grip	15	4.933±0.258	5	0.052	Qualified
A12.Eastern way backhand	15	4.733±0.458	5	0.097	Qualified
A21.Foot up	15	4.933±0.258	5	0.052	Qualified
A22.Foot back	15	4.933±0.258	5	0.052	Qualified
A31.Throw the ball lead	15	4.933±0.258	5	0.052	Qualified
A32.Whip hit the ball	15	4.933±0.258	5	0.052	Qualified

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Third-Level Indicators	N	$\bar{X}$ ±SD	Median	Coefficient of Variation	Result
A33.Follow-up landing	15	4.933±0.258	5	0.052	Qualified
B11.The first serve	15	4.733±0.458	5	0.097	Qualified
B12. The second serve	15	4.933±0.258	5	0.052	Qualified
B21.Flat serve	15	4.8±0.414	5	0.086	Qualified
B22. Side-spin serve	15	4.933±0.258	5	0.052	Qualified
B23. Top-spin serve	15	4.933±0.258	5	0.052	Qualified
B31.Falling point elements	15	4.933±0.258	5	0.052	Qualified
B32.Speed elements	15	4.533±0.516	5	0.114	Qualified
B33.Spinning elements	15	4.667±0.488	5	0.105	Qualified
B34.Rhythm elements	15	4.933±0.258	5	0.052	Qualified
C11.Upper limb strength training	15	4.467±0.516	4	0.116	Qualified
C12.Lower limb strength training	15	4.867±0.352	5	0.072	Qualified
C13.Outburst force training	15	4.867±0.352	5	0.072	Qualified
C14.Core strength training	15	4.733±0.458	5	0.097	Qualified
C21.Action speed training	15	4.867±0.352	5	0.072	Qualified
C22.Maximum speed training	15	4.867±0.352	5	0.072	Qualified
C31.Shoulder joint flexibility training	15	4.8±0.414	5	0.086	Qualified
C32.Hip flexibility training	15	4.533±0.516	5	0.114	Qualified
C41.Coordinate training of the hands and eyes	15	4.8±0.414	5	0.086	Qualified
C42.Coordination training of the upper and lower limbs	15	4.8±0.414	5	0.086	Qualified
C43.Coordination training between the left and right sides	15	4.867±0.352	5	0.072	Qualified
D11.The rotation of the serve	15	4.667±0.488	5	0.105	Qualified
D12.The speed of the serve	15	4.6±0.507	5	0.11	Qualified
D13.The landing point of the serve	15	4.733±0.458	5	0.097	Qualified
D14.Serve the goal (inner pursuit)	15	4.933±0.258	5	0.052	Qualified
D21.Interference training	15	4.667±0.488	5	0.105	Qualified
D22.Set the target	15	4.933±0.258	5	0.052	Qualified
D31.Self-suggestion	15	4.933±0.258	5	0.052	Qualified
D32. Mental preparation	15	4.467±0.516	4	0.116	Qualified

According to Table 1, Table 2, and Table 3. The indicators of the tennis serve training program reached the consensus of the experts.

3. 9 experts used focus groups to discuss the tennis service training program, and think that scientific, and effective.

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Based on previous studies, according to 4 First-Level indicators, 13 Second-Level indicators, and 35 Third-Level indicators construct a Tennis serving training program for tennis class students at Xi'an Physical Education University (Figure 3).

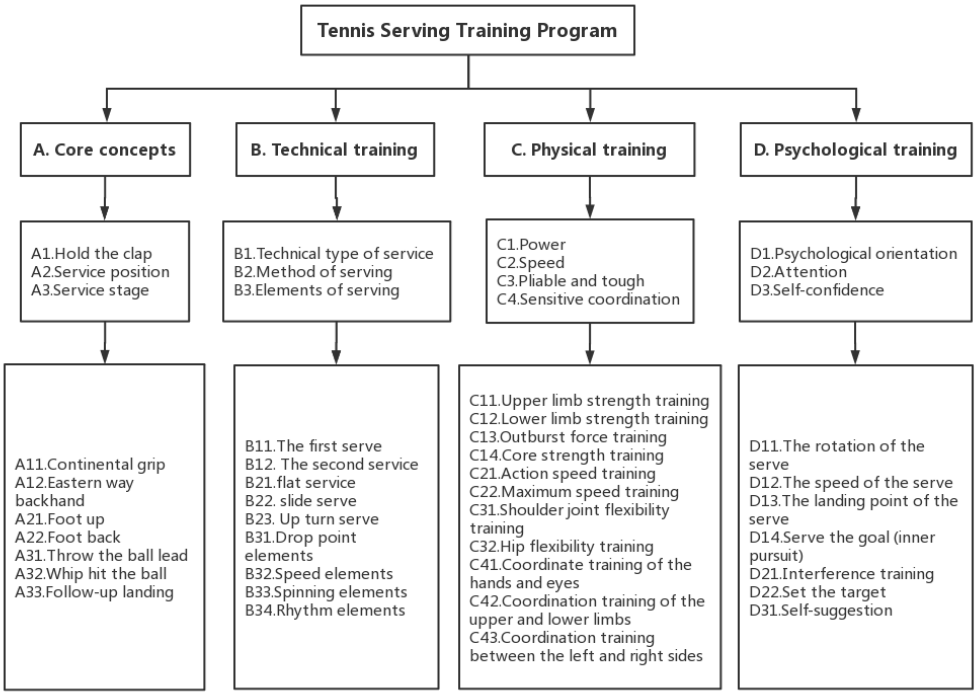

Figure 3: Tennis serving training program for tennis class students in Xi'an Physical Education University

Conclusion

4 First-Level indicators, 13 Second-Level indicators, and 35 Third-Level indicators for constructing a Tennis serving training program for tennis class students at Xi'an Physical Education University are as follows:

1. The core concept and technical training in the first level index is the basis of mastering the tennis serve, physical training and psychological training are fundamental to strengthening and improving the tennis serve technology, to improve the tennis serve each is indispensable.

2. Hold the clap and Serving stage in the second level index are the key points of the core concept, the elements and methods of serving are the focus of technical training, strength and speed are the difficulties of physical training, and psychological orientation is the basis of psychological training.

3. In the three-level index, the continental grip racket, shoulder flexibility, lower limb strength, and the serving point are considered to directly affect the effect of the tennis serving training.

Therefore, good tennis serving technology should have the core concept of being familiar with the serving, have a certain basis of the tennis serving technology, and have the physical quality and psychological quality matching with the technology. According to the individual differences of students

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to carry out a reasonable training program, we need to conduct comprehensive learning and training, to improve the serving level of college tennis students.

Discussion

The Delphi method and expert interviews ensured the participation of experts in the evaluation process and improved the reliability and effectiveness of the training program indicators. One of the strengths of this study is the application of the Delphi method, a widely recognized and effective technique for reaching expert consensus. The Delphi process allows researchers to collect and synthesize expert opinions through multiple rounds of consultation, eliminating extreme views and biases and creating a more reliable and objective indicator. In this study, 15 experts from both academic and practical backgrounds participated in the Delphi survey, ensuring diverse perspectives and expertise. This helps to establish a consensus among senior scholars of university tennis research, senior university tennis teachers, senior university coaches, experts in tennis majors, tennis club coaches, and retired professional tennis players and improves the credibility of the final evaluation framework. Further, in-depth interviews were conducted with experienced experts in the field of tennis research and practice. These interviews provided valuable insights into the construction of tennis serve training programs.

From the tennis service training program of four main contents, whether IOC table or Delphi table, most experts on A (core concept) are very important, especially A11 (continental grip) of the average of the maximum, but the same A12 (East way backhand) cannot be ignored, some experts put forward A12 east backhand grip for rotating ball, can cause more intense rotation. However, the reason for choosing A11 (continental grip) is to make the wrist more flexible, which can make the racket surface hit the back and side of the ball, control the rotation degree and direction of the serve, and is conducive to completing the internal movement of the swing arm when hitting the ball (Sun Jian, 2018). The content of the training program also needs to start with the grip, so this is the top priority of the foundation.

Recommendation

Based on the findings and discussion, some aspects deserve further attention and improvement, the following recommendations will ensure the continuous improvement and effectiveness of tennis serve training:

1. Empirical verification and application. Further empirical studies can be conducted to verify the effectiveness and feasibility of this training program in practical application. The training program of the tennis special class of Xi 'an Institute of Physical Education is a process of dynamic development. Due to the improvement of the training level of college students and the improvement of technical movements, the training content should be constantly updated to adapt to the new trends in college students' tennis and further promote the healthy development of college tennis.

2. The particularity of the implementation object of the training program. The research object of this study is the training program of the tennis special class of Xi'an Institute of Physical

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Education. For tennis beginners and child athletes, it should be applied according to their physical and mental development characteristics and technical characteristics.

3. Establish the evaluation standard of physical quality and psychological quality corresponding to the training program. The corresponding evaluation standards of physical quality and psychological quality should be formulated for the students of Xi 'an Institute of Physical Education at each period and each level, to facilitate the coaches to better control the realistic training state of the physical quality of the athletes and promote the better development of tennis in Xi' an Institute of Physical Education.

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