How to Harness the Characteristics of the 11-Point Scoring System for Winning a Table Tennis Match

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Abstract: In 2000, the International Table Tennis Federation (ITTF) changed from a 21 to an 11 point scoring system to make games more fast-paced and exciting. For coaches and athletes, it is crucial to understand the nature of the 11 point scoring system, thus controlling the tempo and the key features of the game. Particularly, coaches need to design systematic training plans for group and individual athletes to prepare for the fast-paced matches.

Keywords: 11 point scoring system, winning formula, training preparation

1. INTRODUCTION

The core of a coach's work is efficient training. The athlete's winning performance in matches is the touchstone for a coach's training performance. What is to be trained? How to carry out training? How much training do we need? These have been the important topics for coaches. Regarding to the training contents, a coach needs to focus on the training quality and increase the intensity of training, thus proving the necessary technical and tactical capacities that athletes can depend upon and thrive.

Regarding training approaches and measures, a coach should pay attention to the cruel nature of matches and competition. The training plan needs to include competitive simulation games with diversified playing styles. By doing so, elite athletes will accumulate competition experience and increase their psychological capacity. This is particularly true when a fast-paced 11-point game is on the line. Athletes need to quickly respond to different psychological pressures at different phases of scores and under the circumstances when they are ahead of, behind, or tied with the opponent in the competition. Because a typical 11-point game only lasts for less than 10 minutes (in a situation where no timeout is called), a coach should help athletes prepare themselves with the mentality to react to different situations and execute the game plan without hesitation.

Every competitive sport has its features. It is critical for coaches and athletes to study and comprehend the competitive features inherent in the 11-point scoring system. Understanding and taking advantage of the competitive features in the 11-point scoring system is the foundation for coaches to organize successful training programs for a team and/or individual athletes. A systematic understanding of the competitive features of the 11-point game will enable athletes to strive for better match performance.

2. METHOD

This paper adopts the approach of documentary studying [please see references 1 to 12] and uses a review as well as report style of writing to include information from the Chinese national table-tennis training program. Personal contacts and interviews were conducted to make possible of integrating opinions of how to combine the routine practice with the in-game strategy to prepare for the fast-paced, 11-point games.

3. RESULTS

Here, we summarize seven points in the 11-point scoring system: the developing trend (3.1), winning patterns (3.2), competitive features (3.3), key points in technical and tactical training (3.4), enhancing the psychological capacity to undertake match pressures (3.5), increasing the proportion of physical training (3.6), and the application of match simulation training (3.7)

3.1 The world's trend in table tennis competition

Top-spin shots are the most effective means to generate winners (points) of today's world-level table tennis matches. Thus, how to effectively create offensive

strokes with fast top-spins is the core technique that a player should develop in practice. Based on this concept, a player should build up his or her ability to connect defensive and offensive strokes in the routine training program. In addition, an elite table-tennis player should be capable of making high-quality close-table and middle-table strokes, generating balanced transition between forehand and backhand strokes, and having the awareness of changing from a defense situation into opportunities for top-spin shots. Particularly, in today's short 11-point games, winners of the international competitions typically carry proactive manners, outstanding offensive strokes (some with a unique fashion), all-around techniques, fierce and relentless acts in the rally, and well-connected and balanced offensive and defensive skills. Overall, the winning formula is to aggressively create shots with fast speed and tight spin in combination with an adaptable strategy based on in-game situations [11].

3.2 The winning pattern for the 11-point scoring system

The winning pattern for the fast-paced, 11-point scoring system is to: 1) quickly adjust and control opponent's playing style, 2) avoid opponent's control of your playing style, 3) actively create opportunities for winner shots in the first three strokes, and 4) prepare multiple game plans, in advance, to counter measure opponent's tactics. Particularly, scouting reports would play a key role in providing information of opponent's tendency to help coaches in structuring the training program to prepare for important competitions.

3.3 The competitive features of the 11-point games

The competitive features and requirements for training matches in 11-point scoring system are described below. First, the competitive features of 11-point scoring system include: quickly starting competition, fast exchange of drives, rapidly-changing rhythm, swiftly altering tactics, quick switch between attack and defense, high fluctuation in scores, highly physical consumption, high psychological pressures, highly decisive service, and higher sudden-death chance with the winning shot. In the 11-point scoring system, the requirements set for an athlete in both training and in matches are: the first five shots shall be accurate and skilled; the service shall combine speed with aggressiveness; the return of service shall combine control with aggressiveness; recognition that each score is the match point; comprehension of proper timing for pause; the athlete shall be rich in his/her competition experience,

capacity of controlling the game, capacity of controlling game rhythm, capability to adjust and control the mental conditions during a game, variation and adaptability in competition tactics.

3.4 Important aspects for the technical and tactical trainings
3.4.1 Guidelines for the technical and tactical trainings

In the routine practice, it would be beneficial for coaches to help athletes in gaining the awareness of actively creating offensive strokes. Particularly, there are three aspects of the game that require more attention – attack after service, fast attack upon return of opponent's service, and finding opportunities to attack in a prolonged rally. A good training program should also help athletes to acquire:

1) All-around skills: having variable types of service, variable strokes in return of service, and a variety of attack and defense capacities.

2) Outstanding aptitudes: having unique style of techniques, remarkable features of personal styles of play, and the featuring winning type of shot.

3) Variable tactics: having the capacity of tactically changing and adapting to different opponents, different styles of play and varying competition context.

3.4.2 Key points in technical training
3.4.2.1 Technical analysis

Technical analysis of today's table tennis skills should include: 1) the latest trend of each techniques, 2) introduction of new techniques and stroke styles, and 3) diagnosis of individual players. While analyzing athletes' skills, coaches should make extra efforts to rank and categorize opponents' repertoire of different services, returns of services, and strokes. Advanced analysis should cover the percentage of different strokes used, combinations of strokes, wining shots used, uniqueness, and tendency. A SWOT (strengths, weaknesses, opportunities, and threats) analysis of ourselves and our opponents will provide valuable information in decision making in both pre-game preparation and in-game response against the fast-paced 11-point games.

3.4.2.2 Content of technical training

The following are primary skills should be included in the technical training program: 1) the first three shots, 2) the return of service to connect the locations and spins of the second and forth strokes, and 3) our attack after service by effectively generating top-spin offensive strokes at the

third and fifth stroke. Secondary skills should include: engagement of prolonged rally, loop strokes for winners or for transition, and footwork around the table. Additional areas of technical training should include: 1) helping players to streamline individual strokes, 2) single- and multi-ball training, and 3) simulative matches of doubles and singles.

3.4.3 Key points in tactical training

3.4.3.1 How to improve athletes' tactics for wining matches of 11-point games

To help athletes in gaining edges by using in-game tactics, coaches should routinely analyze the latest game plans used by the world-level players to enrich athlete's tactical capacity. Particularly, a customized strategy designed by the coach will be very helpful for players to respond and adjust for different situations in the 11-point game. For example, the strategy may include short-shot tactic to control opponent's first attack, forehand breakthrough shots for overpowering fitness, control-type of players, and big-angle, two-corner loop shots against short players. In addition, tactics can also be arranged based on combinations of strokes, such as attack after service, changing strokes while returning the service, rally strokes for counter-attack, back-spin chop strokes against smash shots, and high-angle loop strokes for slow but spiny shots against chop players. Overall, world-level athletes typically understand and apply the "8 factors" of tactics [3] (strength, speed, spin, landing point, arc, trajectory, rhythm, and variation) in their 11-point games more so in comparison to the old 21-point games. Why? This is because designing tactics is not an inherent ability for all players. Well-prepared or well-coached players tend to adjust faster in the 11-point games against players who need time to fit in when situations arise.

3.4.3.2 How to improve the tactical capacity of an athlete

The guidance to improve athlete's tactical capacity should include:

3.4.3.2.1 Tactics based on landing point and trajectory

This includes the consciousness of changing the landing points, landing-point control, major trajectory, active change in the direction of shots, use of short-shot landing point, two-winged attack, and use of deep-shot trajectory (including cross shots, middle shots, and straight shots).

3.4.3.2.2 Tactics based on finding opponent's tactical weakness

Shot selections should always include probe shots to test opponent's game plan as well as his or her in-game adjustment to our strategy. The key is to use a systematically approach to figure out opponent's weakness for gaining our advantage in a tight match.

3.4.3.2.3 Tactics based on different phases of the game

This should include the strokes in 3 phases for each point of score, i.e. the tactical styles of play for attack after service, return of service, and prolonged rally; the strokes in 3 phases in each game, i.e. the styles of play and practice during the game start, middle, and the end of game; the styles of play and practice for the first three shots and the first five strokes, as well as during prolonged rally and opponent's capability to control the match situation. Especially, winning the first game is crucial to the victory of a 5-game match. Also, the player should consider the styles of strokes and shots in the second game, the middle games, and the final game and create or find the opportunity to use particular styles and surprise shots at decisive moments.

3.4.3.2.4 Tactics based on shot angles

Different shot angles can be created based on the distance between the player and table. Thus, tactics adopted during a match needs to include in-table, close-table, medium-table, and deep-table oppositions against opponent's range. In addition, different types of strokes as well as forehand and backhand oppositions, such as forehand versus forehand, backhand versus backhand, and side-step forehand versus backhand will create different match-ups because of different shot angles.

3.4.3.2.5 Tactical consideration based on rhythm and tendency

This includes fast against slow, fast against aggressive, prolonged rally tactics, and big-angle/fast-speed forehand ball location against aggressive players who have a tendency to use side-step forehand shots instead of the normal backhand shots.

3.4.3.2.6 Tactical consideration based on shot selections

This includes fast-changing reverse tactics, especially at critical shot and critical set; emphasize forehand or backhand, and flexibly switch according to actual circumstances; alter tactics between the first three shots and prolonged rally, which can also be fast against

fast or slow against slow, controlling rhythm and speed changes.

3.4.3.2.7 Control the timing and mental condition for reversing the situation

Active movement and attacks are required to reverse the situation when the athlete is stuck in a difficult circumstance or behind the opponent since he/she could not exert his/her tactics; control the timing of pause; control the timing of toweling.

3.5 Enhancing the psychological capacity to overcome match pressures

In a match adopting 11-point scoring system, each point is critical. The shots at the beginning, in the middle, at the end, and the critical point of a game are the four key sectors in one single game, and are also the four key points in daily psychological training. At the start of game, the athlete is required to be quickly, psychologically ready for competition so as to exert his/her scoring skills and gain control. As the game progresses, elite players typically can quickly adjust strokes and shots to react to or counter-measure opponent's strength. At the end of game, players need to do appropriate decision making based on available in-game information to apply aggressive or steady style of play for better results. At the critical point, the shot must be resolute and aggressive, and take advantage of coming opportunity, avoiding any worthless mistake. Finally, properly control the timing of toweling and pause to strive for reverse and the final victory.

Integrated capacity to review the match: The athlete shall accumulate experience from various matches, experiencing the taste of both victory and defeat, feeling both nervousness and excitement, so that he/she could grasp the close relationship between mental and physical conditions as well as understand the feeling that mental conditions are affecting the exertion of skills and tactics in a match, and feel the ups and downs of his/her competitive performance.

The key points lie in the mental preparation, mental state and the plans of skills and tactics before match commences. The hinge goes to the psychological adjustment and control on emotion, confidence and will. The shot, variation, and reaction at critical point shall be determined. A post-match review is always an important measure for an athlete to improve his/her competition experience and intellectual capability.

3.6 Increasing the proportion of physical training

Skills are an extension of athletes' physical capacity. An athlete's physical condition does affect the exertion and stability of his/her competitive skills and capacity. It is an important measure to improve the skills and capacity by enhancing the athlete's physical capability in both aerobic metabolism for comfortable to brisk activity in the presence of oxygen in the bloodstream and anaerobic metabolism for short bursts of strenuous activity in the absence of oxygen in the bloodstream [2]. Physical training allows an athlete to strengthen his or her will power. Increasing at specific physical part the speed, agility and explosive power is the basis to improve step movement and positioning, and is also the key to improve the speed in skill connections and combination, as well as the guarantee of improving technical quality of a shot and the threat of the athlete's tactics. Therefore, increasing the proportion of physical training in the training program is important for athletes to achieve excellent performance.

Because the 11-point matches emphasize more on aggressive plays of power and speed, there is a trend of today's top players, particular on the men's competition, to become stronger and faster in comparison to the top players ten years ago of the 21-point matches . It remains a field under development about how to incorporate physical training in athlete's routine program to improve muscle strength for better strokes.   Nonetheless, the decision of ITTF to use the 40-mm big ball (instead of the 38-mm small ball) and the 11-point scoring system leads to the direction where physical conditions play an important role in today's competition.

3.7 Trainings based on simulative matches

The tempo of 11-point matches is fast, and the fluctuating scores can, and will, influence athlete's performance through his or her mental state and exertion of tactics. Therefore, it is important for an athlete to get familiar with different environments and atmospheres under different score situations and pressures. This can be done by playing organized simulative matches in the camp or participating small tournaments as training matches for big, important cup/medal tournaments. With high attention paid on the exercise on the athlete's competitive psychological capacity, the athlete can be more easily adapting to the high pressures in actual matches, so that he/she could fully exert the skills and tactics that would lead him/her to the best performance.

The format of simulative matches can include: 1) training matches for the first four points at the beginning of a game, 2) 6-point games, 3) one-sided games (such as

starting at 0:4 or 4:8), 4) simulations of critical points (such as starting at 8:9 or 10:10), 5) one-game matches, 6) one-point matches, 7) final matches, 8) team-confronting matches, 9) single elimination matches, and 10) round robins.

4. CONCLUSION

This paper summarizes seven important aspects of the 11-point scoring system – (1) the developing trend, (2) winning patterns, (3) competitive features, (4) key points in technical and tactical training, (5) enhancing the psychological capacity to undertake match pressures, (6) increasing the proportion of physical training, and (7) the application of match simulation training – as the guidelines for the scientific training and match preparation of coaches and athletes coping with 11-point scoring system, so as to improve the efficiency and effect in table tennis training and the chance of winning matches.

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