

Research on Innovative Approaches to University Tennis Instruction under the Framework of “Integrating Physical Education with Sports Training”

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Abstract: *The integration of sports and education is the philosophy that encourages sport to return to the foundation of education. It advocates for a university to evolve past the confines of limited sport skill focused teaching in tennis. The current method of tennis instruction has areas that can be improved upon, the integration of competitive experiences while also integrating instructional objectives, is limiting and limits the educational potential of the curriculum. This research is designed to provide alternatives for systematic innovation in tennis instructional models. In doing so, the study seeks to develop a new instructional paradigm focusing on the comprehensive development of the student, an organically integrated acquisition of skills, competition experience, and character formation at the collegiate level. The integration of this study into the tennis instructional process will assist in providing practical avenues for reforming the current physical education courses in college.*

Keywords: *Integration of Physical Education and Sports; College Tennis; Teaching Models; Innovative Pathways; Teaching Reform*

1. Introduction

In the past, collegiate tennis programs have recognized the disconnect between skill and competition training, and the lack of fulfillment of the comprehensive educational goals of the program. The "integration of sport and education" policy establishes clear ideological frameworks and reform opportunities to resolve this discrepancy. It re-directs educators to look at the basic purpose of the tennis class, to equally value the promotion of physical and mental health, to foster perseverance, and to teach athletic skills. To improve the quality of the collegiate tennis program and to meet the social demands for education for the new era, the development of innovative techniques has become a necessary avenue.

2. Theoretical Foundations of “Integration of Physical Education and Sports” in College Tennis Instruction

2.1 Defining Core Concepts of “Integration of Physical Education and Sports” in College Tennis Teaching

Integrating education and sports is a higher priority for school physical education programs, because they not only provide young people with the skills of playing sports, but also take a much broader approach to overall human development. To that end, tennis instruction is to be viewed as a medium for producing comprehensive educational outcomes by integrating learning of skills with the development of a student's physical fitness, the understanding of the rules of the game and the development of character through this unique competition context and the culture of etiquette in tennis. Accordingly, the overall goal of tennis instruction in the college setting should be to not just produce the same high level of hitting skill in their students, but rather to also produce a positive influence on students' teamwork awareness, resiliency and sportsmanship through the principles imbedded in the unique competition context and the culture of etiquette that is associated with tennis as a competitive sport. By expanding the core teaching concept of tennis, the values and philosophies on which future innovations in teaching concepts will be developed will be clearly defined and established [1].

2.2 Theoretical Basis and Fundamental Principles for Innovating Tennis Teaching Models

Innovation in the way we teach is driven by solid theoretical foundations. Constructivist learning theory has a wealth of major concepts that can be applied to a traditional classroom. The basis of Constructivism is that students, by taking an active role in learning, create technical knowledge and obtain tactical appreciation for the sport through direct involvement in competition and through simulation of competition. Educators and parents can utilize Gardner's theory of Multiple Intelligences to assist them in individualizing instruction based on what level of ability each student possesses. Multiple intelligences can also provide a framework for how to conduct game-like practices with students, and ways of providing individualized instruction and feedback. Ultimately, both Constructivism and Gardner's work support the idea of an overall systematic approach for the development and the implementation of teaching methods throughout the lifetime of an individual in the game of tennis. The goal of the development of the systematic approach is to provide the foundation for a student-centered culture in which the methods of teaching ultimately create a self-motivated and interested participant/invitation to practice and participate in a long-term basis in the sport of tennis. A developmentally-based curriculum model should take into consideration a growth-oriented process for students to attain maximum performance, with the final evaluation of students in terms of being able to demonstrate mastery of technical sporting skills, improvements in overall health, and the development of "sports character" as the basis of an overall philosophy of training and teaching that will support "Integration of Sport and Education."

3. Practical Challenges in University Tennis Teaching Models Under “Sports-Education Integration”

3.1 Outdated teaching philosophies and insufficient integration depth

In actual curriculum outlines, the concept of "integration of sports and education" often fails to translate into systematic instructional design. Many syllabi still classify technical teaching, tactical theory, competition rules, and sportsmanship as independent chapters, such as focusing on practicing the breakdown of baseline hitting techniques in the first eight weeks, and only arranging two separate teaching competitions and sports ethics explanations at the end of the semester. This segmented linear arrangement severs the natural connection between technical learning and practical application, resulting in students being unable to effectively combine and apply these techniques in real competition situations even if they master standardized swing movements. It is even more difficult for them to enjoy tactical decision-making or demonstrate the character of integrity rules under pressure. The discreteness of the outline structure makes the goal of integrated education only stay on paper, and classroom practice is naturally difficult to deepen.

3.2 Poor alignment between teaching content and competitive practice

The way tennis courses are structured often makes it difficult for a student to apply a skill on the court. In the teaching of tennis, much of the content consists of two stages, with the first stage being the technical deconstruction and the second stage being the technical practical application of the skill. An example is the initial phase of the forehand strike, where students may need to do many replications of the mechanics of a forehand at a stationary location, but the plan fails to include any elements that would simulate an opponent's strike, such as an incoming ball of different speeds and depths while the athlete is in motion. Because there is a disconnect between the technical practice process and the competitive environment, even those students who have mastered the mechanics of the forehand are not able to effectively translate that skill or any of the other skills into a score during competition. While moving quickly and making decisions in an unstable environment, the majority of students are unable to effectively apply multiple skills in a timely manner. As a result, the technical training of students in the sport of tennis is no longer linked to the original purpose, and many students do not experience the same sense of satisfaction in executing tactical plays or developing the ability to play in complex situations [2].

3.3 Monotonous teaching methods and inadequate student engagement

Tennis classroom teaching often takes the form of teachers' concentrated explanation and demonstration, and students then repeat hitting exercises at fixed positions. This one-way teaching

mode allows the classroom rhythm to be completely controlled by the teacher, and students mainly play the roles of imitators and executors in the learning process. Course design rarely includes sections that require students to actively observe peer actions, discuss tactical strategies in groups, or collaborate on designing exercise plans. Over time, students tend to view tennis classes as a process of completing a series of prescribed movements. Their desire for in-depth exploration of technical principles, their initiative to discover problems and try self adjustment during practice, and their curiosity and lasting interest in tennis itself are all difficult to effectively awaken and maintain.

3.4 Uneven distribution of teaching resources (faculty, facilities, equipment)

The objective limitations of teaching resources directly affect the implementation quality and innovation space of tennis courses. The number of full-time tennis teachers in some universities is insufficient, and one teacher needs to guide too many students at the same time, making it difficult to conduct detailed technical analysis and tactical guidance based on individual differences. The number of outdoor courts is limited and easily affected by weather, while the high cost of indoor courts makes it difficult to achieve regular teaching and competition. The aging and shortage of basic teaching equipment such as practice balls and serving machines have forced classroom practice forms to tend towards simplification. The reality of resource distribution makes it difficult to overcome objective obstacles in the specific implementation of innovative ideas that contribute to deepening "integration", such as organizing small class competitions, implementing hierarchical group exercises, or introducing technology assisted teaching.

3.5 Assessment systems prioritizing skills over holistic development

The current assessment method for tennis courses mainly relies on final technical proficiency tests, such as requiring students to complete a specified number of successful serve or baseline hits. This evaluation standard simplifies students' academic achievements into their mastery of isolated technical movements, while the tactical understanding, adaptability, and communication and sense of responsibility demonstrated by students in teaching competitions throughout the semester are rarely included in the formal evaluation system. The shift in evaluation focus directly affects students' learning orientation. They naturally focus their practice on a few fixed technical aspects of preparing for exams. For those literacy goals that cannot be quantified but are equally important, such as awareness of fair competition, attitude towards victory and defeat, and emotional regulation ability in difficult situations, they lack sufficient attention and internal motivation to actively improve [3].

4. Innovative Pathways for University Tennis Instruction Models Under “Sports-Education Integration”

4.1 Refine Instructional Philosophy to Deepen “Competition-Driven Learning and Training” Integration

The deep updating of teaching philosophy means that teachers must regard competition elements as the driving core that runs through the entire teaching process, rather than as additional links at the end of the semester. Specifically, the course design can plan a competition task path from simple to complex. After teaching the basic forehand stroke movements, micro competitions with the goal of successfully hitting the ball back into the opponent's singles area can be arranged immediately, instead of weeks of stress free fixed-point practice. When students learn interception techniques, the classroom can design small-scale confrontations that require them to go online and complete scoring, so that students can immediately experience the tactical value of this technique in compressing opponent reaction time. The teacher's role correspondingly changes from the referee of technical movements to the observer and questioner of the competition process. For example, after the students make continuous mistakes, guide them to analyze whether it is because they are not moving in place or the timing of the swing is not good, and discuss how to adjust the strategy in the next point. Under the guidance of this concept, the core activity of the classroom is no longer isolated swinging and repetition, but a cycle of technical experimentation, real-time application, and post competition reflection around specific competition goals, making "competition" truly a continuous source of motivation to inspire "learning" and guide "practice".

4.2 Reconstruct Integrated Curriculum Systems for “Learning, Training, and Competition”

The reconstruction of the course content system requires breaking the traditional linear arrangement of chapters according to technical categories, and instead designing units around a series of practical themes from easy to difficult. For example, a unit with the theme of "Establishing Advantage in Bottom Line Clash" should organically integrate the stability practice of forehand and backhand strokes, the training of combining movement to hit back at different landing points, and the scoring competition of hitting the ball towards the opponent's weak area into one teaching cycle. Another unit about "serving and net pressure" will integrate the learning of serving techniques, strategic exercises for first and second serve, and simulated confrontations for handling the first interception after serving on the net. Each unit begins with a clear competition objective or common competition situation, where students learn specific techniques to solve practical problems in that situation. The subsequent exercises directly focus on the key points of the application of the technique in practical situations, and ultimately attempt to apply and receive feedback in targeted competitions that modify rules. This design ensures that technical learning always has a clear practical context, practice sessions have distinct application directions, and competitions become a normalized part of testing learning effectiveness and driving technological improvement [4].

4.3 Promote Diverse Teaching Methods Including Tiered Instruction and Simulated Competition Scenarios

When implementing hierarchical teaching in teaching practice, teachers can divide students into basic and improvement groups based on the technical evaluation of the first lesson. The classroom tasks for the basic group may include using sponge balls to practice rounds at close range to establish hand feel, while the improvement group directly uses standard balls for full field matches and attempts to combine routes. The detailed design of competition scenario simulation can be more precise, for example, when practicing break points, not only is the score set to "15-40", but also the receiving and serving team must try to attack the opponent's second serve and then go online with the ball, in order to exercise students' courage and determination to execute tactics on key points. Teachers can also design a "challenge competition" section where a student takes turns to challenge three other students in a row. Each challenger needs to use different preset tactics, such as attacking all backhands or frequently throwing short balls, in order to comprehensively exercise the defensive team's adaptability and physical allocation. The specific implementation of these teaching methods makes technical exercises closely attached to real tactical intentions and competition pressure. Every swing of the racket carries a clear purpose of solving problems or completing challenges, thus enhancing students' skills while deeply understanding the competitive nature of tennis.

4.4 Integrate and Expand Online/Offline, On-Campus/Off-Campus Resources

The integration and expansion of teaching resources require course managers to break through the physical boundaries of traditional classrooms and build a multidimensional support network. The online platform can systematically collect slow analysis videos of professional players' technical movements, animated demonstrations of common tactics, and explanatory materials on rules and precedents, forming a course resource library that students can call at any time. In classroom teaching, portable filming devices can be introduced to record clips of students practicing serving or intercepting in front of the net. After class, targeted comparisons and point reviews can be conducted through groups. The utilization of on campus venues and equipment needs to be finely tuned, such as reserving open courts for elective students to practice independently during non teaching hours, or maintaining a batch of stable quality practice balls to meet the basic needs of the classroom. The exploration of extracurricular resources is reflected in establishing connections with local tennis clubs or sports centers, organizing students to observe amateur events or participate in exchange activities, and even inviting experienced coaches to participate in on-site guidance of specific units such as doubles tactics. The common purpose of these measures is to transform sporadic and scattered teaching support into stable and systematic resource supply, providing continuous environmental support for technical learning both inside and outside the classroom, and extending the competition experience from closed campus activities to a broader sports community.

4.5 Establish Multi-Dimensional Evaluation Systems for Skill, Physical Fitness, and Character Development

The construction of an evaluation system requires breaking through the traditional framework of single technical standards and extending the evaluation perspective to students' comprehensive sports performance and classroom behavior. Skill evaluation should be combined with process records and competition data, such as calculating students' active scoring ability, non forced error rate, and success rate of using learned tactics on key points in unit teaching competitions. Physical development evaluation can integrate classroom monitoring data, such as assessing endurance levels through the range and duration of movement during multi turn practice, or recording changes in serving speed and stability to reflect strength and coordination development. The evaluation of personality traits relies on observable classroom behaviors, such as whether one actively communicates with peers in doubles matches, their attitude towards controversial decisions, and whether they maintain a positive and hardworking attitude in the face of falling behind in the game. Specific evaluation tools may include classroom observation record forms filled out by teachers, students' self-evaluation and peer evaluation reports, and simplified technical statistical forms. These diverse evaluation methods together form a more three-dimensional student portrait, whose guiding role is to guide students to no longer only focus on the standardization of hitting movements, but to equally value improving physical fitness in confrontation, learning communication in cooperation, and honing character in victory and defeat, thus fully responding to the comprehensive educational requirements of "sports education integration" for tennis courses [5].

5. Conclusion

Innovations in instructional models continue to evolve as we connect written policies with implemented practice within the classroom setting. By implementing the philosophy of "integrating sports with education" into the tennis teaching model, there is an opportunity to redefine the value of and create an optimal version of the complete tennis curriculum. The goal of the explored approaches is to assist in transforming tennis classrooms into more integrated educational platforms. The successful implementation of this transformation will depend upon both the synchronized updates of philosophical ideas related to tennis instruction and continued support of such a change through ongoing hands-on experiences. This exploration creates additional layers of meaning surrounding tennis instruction itself, while also providing concrete examples of how best to execute the integration of sports with education within the collegiate athletic environment.

References

- [1] Yutong S ,Jingen T .*Experimental Research on the Hierarchical Teaching Method in the Tennis Project of General Physical Education Courses in Universities*[J].*Frontiers in Sport Research*, 2025,7(2):1.
- [2] Wang Z ,Yu S.*Application of Small Field Practice in Tennis Teaching in Colleges and Universities*[J]. *Curriculum Learning and Exploration*,2024,2(3):9.
- [3] Wang J ,Li Y .*Analysis of the current situation and teaching strategies of university table tennis teaching in the context of big data*[J].*Applied Mathematics and Nonlinear Sciences*,2024,9(1):7.
- [4] Mo Y. *Introduction of Advanced Technological Innovations, Tennis Teaching--Practical Application of VR Technology in Tennis Teaching in Colleges and Universities*[J].*Journal of Research in Vocational Education*,2023,5(11):6.
- [5] Xudong W .*Discussion on the Application of Level Teaching Method in Table Tennis Teaching in Colleges and Universities*[C]//*Institute of Management Science and Industrial Engineering. Proceedings of 2019 Asia-Pacific Conference on Advance in Education, Learning and Teaching (ACAELT 2019)*. Sports Department, Shaanxi University of Chinese Medicine;,2019:812-816.