

Effects of Professional Tennis Registry (Ptr) Teaching System on the Mastery of Skills of Tennis Athletes

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Abstract: This article explores the current development status of tennis in China and its prospects in Guizhou universities. As a "noble sport", tennis has a prominent position and broad foundation in the Chinese sports world. In recent years, Chinese tennis has made remarkable achievements in international competitions and is developing rapidly on university campuses. However, existing teaching resources and management models cannot meet current needs, which has affected the development of tennis in colleges and universities. Especially in Guizhou, due to economic lag, the teaching staff and equipment level of colleges and universities are relatively backward. Therefore, introducing tennis into campuses has become an inevitable trend, and improving teaching standards has become a top priority. This article proposes that adopting PTR teaching method may be an effective method to increase students' interest and satisfaction in tennis lessons. Researchers will use interviews, questionnaires, quantitative research and other methods to explore issues and propose targeted strategies to promote the development of tennis in Guizhou colleges and universities.

Keywords: Tennis; University Development; PTR Teaching Method.

1. Introduction

The development of tennis is accompanied by the development of material and spiritual civilization in human society, and is regarded as a "noble sport" by people. It has a high status and a broad mass base among Chinese sports enthusiasts. In China, the rise and development of tennis has a long history. Following the 2004 Athens Olympics, Sun Tiantian and Li Ting won the women's doubles championship. In 2016, Li Na won the Australian Open. Zheng Qinwen achieved good results in international competitions, and after Zhang Zhizhen won the men's singles championship at the 2023 Asian Games, Chinese tennis entered a new era. Nowadays, tennis has become a famous sport in China and one of the important sports activities for people. This trend is gradually extending to university campuses. Tennis associations, tennis clubs, tennis teams, etc. have emerged in various universities, and tennis has achieved rapid development in universities. The existing tennis teaching resources and management models cannot meet the current development needs of tennis in universities, which will hinder the development of tennis in universities. Especially in China, universities are regarded as the bases for cultivating sports talents, and the development effectiveness of tennis in universities is directly related to the development prospects of tennis in China. The Guizhou region has a large population, with a considerable proportion of college students, which is a good prerequisite for the development of tennis in Guizhou. Developing tennis in universities in Guizhou not only has a positive effect on improving the physical fitness of college students and providing them with more extracurricular leisure and entertainment activities, but also helps to enhance students' sentiment and taste, guide them to pursue beauty, and exercise their spirit of hard work. Especially in today's promotion of quality education, universities will offer tennis courses as an important means to cultivate students' interest in sports and improve their comprehensive development. This

is very important for future college students entering society, and thus provides help to drive the development of mass sports in China. College students with good tennis skills will become an important force driving the development of tennis in China. However, the lagging economic development in Guizhou region has led to the backwardness of teaching staff and equipment in various universities in Guizhou regions. It is imperative for tennis to enter the campus. If Researchers or university teacher can better meet the requirements of students and improve our teaching level, it will become our top priority now. Researchers or university teacher cannot follow the rules and regulations. Things are constantly evolving, and Researchers or university teacher cannot face rapidly developing things with traditional concepts. Tennis is also the same. Can the use of PTR teaching method better enhance students' interest and satisfaction with tennis lessons? Researchers or university teacher will use a series of methods such as interviews, questionnaire surveys, and quantitative research to explore the issues and propose targeted strategies to optimize the development of tennis in Guizhou's universities.

2. Statement of the Problem

The researcher aims to determine the impact of the PTR training among the 30 tennis players. He will conduct an experimental study for eight weeks.

Specifically, the sought to answer the following questions:

Based on the situation of this paper, the statement of our problems are as follows:

1. What is the result of the pre-test of the experimental group's performance skills before the PTR training program?
2. What is the result of the post-test of the experimental group's performance skills after the PTR training program?
3. How satisfied are tennis students after the PTR training program with the utilization of the tennis evaluation tester?
4. Is there a significant difference between the result of the pre-test and post-test of the experimental group's performance

skills PTR training program?

5. Based on the results of the study, what Innovative Tennis Training Program can be developed?

3. Scope and Delimitation of the Study

Researcher's objectives are choosing 30 athletes from Guizhou University's tennis elective course. Researcher selected 109 students from three classes of the tennis elective course at Guizhou University, and randomly selected 30 athletes as a sample.

Previously, we conducted a CTN (China Tennis Proficiency Assessment) professional test on the sample to obtain its current level. Afterwards, we conducted professional training for 30 students using the teaching method of PTR professional system. After the training, we used CTN's tennis scoring system to re rate the experimenters. In addition, we will conduct a satisfaction survey on the 30 students we sampled after the course ends, and conduct a questionnaire survey based on their various experiences in the classroom, such as satisfaction with technical level learning, interaction between students, and teachers' abilities. After collecting the questionnaire, analyze whether they are satisfied with the PTR teaching method. Finally, conclusions were drawn through a questionnaire survey and the CTN scoring system, providing important suggestions for the design of tennis training courses in China.

4. Hypotheses

Ho1: There is no significant difference between the result of the pre-test and post-test of the experimental group's performance skills on PTR training program.

5. METHODOLOGY

5.1. Research Design

This study will adopt a descriptive quantitative research design particularly the quasi-experimental to investigate the impact of the professional tennis registration (PTR) teaching system on tennis players' mastery of tennis skills. Descriptive research design is a research design that seeks information in a systematic manner to describe phenomena, situations, or populations. It is particularly helpful in answering questions about the content, timing, location, and approach of research challenges, rather than why (Voxco, 2021). This form of research can be conducted by researchers using various methods. However, this article specifically utilizes a quantitative data.

5.2. Population and Sample

The following table lists the number and sample of respondents to the tennis major class at Guizhou University.

Table 1. Population and Sample

Class	Students' population	Students sample
Tennis Professional Class A	42	10
Tennis Professional Class B	33	10
Tennis Professional Class C	34	10
Total	109	30

The researchers used the Raosoft sample size calculator to select the population. The subjects of this study were 30 student respondents who chose after considering some inclusion and exclusion criteria. When selecting teacher interviewees, research ensures that:

1.They are students from the tennis special class of Guizhou University.

2. The participating athletes must be students from the tennis special class of Guizhou University.

3. Students must have at least 2 years of experience in tennis.

4. Students are not minors and have the legal ability to participate in this study

5. Students express interest in participating in research by signing an informed consent form.

In order to obtain the sample for the study, the researchers used the Raosoft calculator to calculate the sample using a population size of 99 students at a 95% confidence level, a 50% response distribution, and an error range of 5.93%. Therefore, 30 students will participate in a quantitative survey. Select 10 students from each of the three (3) tennis elective classes at Guizhou University.

5.3. Data Gathering Procedure

The researcher, who is a full-time tennis teacher at the School of Physical Education of Guizhou University, will request permission for this study after reporting to the dean. After briefly introducing the study to students, a random sampling will be required to complete the 30 respondents.

After the experimenters completed sixteen courses for two months, the researchers will evaluate the collect data and will use it for descriptive analysis of the research results. The proposed plan and results of this study are expected to be implemented at Guizhou University within one year after completion, in the fourth quarter of the 2023/2024 academic year.

The questionnaire survey will be conducted after reporting to the dean and requesting permission for the study.

6. Results and Analysis

After the data gathering process, the results were analyzed and presented in the following part of the study. Here, the study presents the statistical results in accordance with the research objectives of the study. These are then further investigated for significance through interpretations and comparisons with related literature.

Pre-Test of the Experimental Group's Performance Skills Before PTR Training Program

For the first part of the study, the researcher measured the pre-test performance skills of the experimental group before undergoing the PTR training program. This had five indicators included, which are hitting depth, accuracy of landing point, interception depth, serve, and flexibility. These are then presented through mean values, with their respective standard deviations. The results are presented more in detail in the table below.

When looking at Table 2, it can be seen that there are some performance skills that score higher than others before the

group underwent PTR training. More specifically, the group had the best skill for serving with a mean score of 76.53 and a standard deviation of 8.12. This indicates that among the skills assessed, the group performed best for their serving skills in tennis. A study by Liu and Li (2021) found that players have different degrees of comprehending serves, with some doing so on a deeper level. Next, the experimental group performed best for their accuracy of landing point, which had the mean score of 59.03. This is then followed by the skill of hitting depth with a similar mean score of 58.80. This shows that the two skills of hitting depth and accuracy of landing point are performed at a similar level by the group. Then, the flexibility of the athletes followed with a mean score of 51.90. Lastly, among all of these skills, the interception depth of the athletes scored the lowest, with a mean score of 48.40. This indicates that interception depth is not as well performed by the athletes as compared to the other skills assessed. In other terms, this skill was not at a similar level as the others and may need further improvement. With this being said, based on a study by Krause et al. (2019), it was mentioned how it is important for coaches to give attention to the individual needs of athletes to further understand how they execute and prioritize their skills.

Table 2. Performance Skills of the Tennis Players before the PTR Training Program (n=30)

Statements	Pretest		Rank
	Mean	SD	
Hitting Depth	58.80	(11.43)	3
Accuracy of Landing Point	59.03	(11.28)	2
Interception Depth	48.40	(6.08)	5
Serve	76.53	(8.12)	1
Flexibility	51.90	(4.38)	4

Post-Test of the Experimental Group's Performance Skills After PTR Training Program

Another significant part of the study was to assess the performance skills of the experimental group of interest after undergoing a PTR training program. This assessment included the same indicators as that shown in the first section of the results on the pre-test assessment of performance skills. The results are displayed through mean values with their respective standard deviations and are further shown in Table 3 below.

Based on Table 3, similar results can be found as that in Table 1. First, it can be observed that the experimental group had the highest skill performance for their serve, which had the mean score value of 94.10 and the standard deviation of 7.41. This shows that even after undergoing PTR training, the athletes still best performed for their serve, rather than other skills in the assessment. The same study by Liu and Li (2021) found in their assessment that players improved their serve through power and speed, in combination with controlling the direction of the drops better. Then, this is followed by the skill of accuracy of landing point, which had the mean score value of 67.63.

Similarly, this is also performed at a close level with hitting depth which has a mean score value of 65.47. Like Table 1, these two skills were performed at a similar level by the

experimental group even after undergoing PTR training. Following this, the athletes also showed flexibility through the mean score of 62.57. Finally, the last skill ranked from the assessment is interception depth, which had a mean score of 61.83. Although, unlike the pre-test that had quite a large margin of difference with the other skills, the post-test showed this to have similar performance levels to the other skills assessed, particularly when compared to flexibility. This shows that there is an evident improvement in interception depth after the athletes received PTR training. The skills assessed here are also all technical skills, which a study by Kolman et al. (2019) had found to be related to tactical skills such as decision-making and tactical knowledge. This was also found to be different per individual, suggesting that the skills observed in this study may need to further be explored in individual contexts to be further understood.

Table 3. Performance Skills of the Tennis Players after the PTR Training Program (n=30)

Statements	Posttest		Rank
	Mean	SD	
Hitting Depth	65.47	(11.08)	3
Accuracy of Landing Point	67.63	(8.16)	2
Interception Depth	61.83	(5.43)	5
Serve	94.10	(7.41)	1
Flexibility	62.57	(4.72)	4

Satisfaction of Tennis Students After the PTR Training Program with the Utilization of the Tennis Evaluation Tester.

Moreover, the study also included the investigation of the satisfaction of the tennis students after completing the PTR training program that utilized the tennis evaluation tester. This part of the study explored three areas for determining satisfaction, which were the skills of the respondents, their student interaction, and as well as influencer marketing. These are then expressed through their mean values, which determine their respective interpretations. The results for these are presented through Tables 4. to 7 below.

Based on Table 4, it can be seen that the athletes surveyed showed both agreeable and disagreeable results for their satisfaction of the PTR training program in terms of skills. From the mean values calculated, it can be seen that the tennis athletes agreed the most with the professional physical fitness involved in the program. This scored the highest with the mean value of 2.90. This value then indicates that the program stood out the most for the professional physical fitness element involved. This is then followed by teaching skills on forehand hitting and overhand hitting, which both had mean scores of 2.57.

Then, aside from these positive responses, the survey also garnered negative responses with the skills taught in the training program. For instance, teaching skills on backhand hitting and serve hitting scored the lowest with means of 2.37. These values suggest that these skills are taught the worst in the program, as shown with the lowest satisfaction levels. This indicates a need for further improving how these skills are taught in the PTR training program implemented. In

addition to this, the skill of volley hitting was also not efficiently taught, which is shown through the negative response from the mean 2.50. This data then shows that changes or enhancements are needed in teaching the skill of volley hitting. One suggestion on improving these skills could be using cognitive-based learning and imagery training, which was seen to be effective in helping students learn basic

tennis skills (Turan et al., 2020). This strategy was also seen to increase athletic performance and sporting succession. In addition to this, a study by Budi et al. (2020) had also recommended the use of a random practice method as opposed to block practice methods as the former was seen to be effective in improving the forehand and backhand strokes of players.

Table 4. Satisfaction of the Tennis Students after the PTR Training Program with the Utilization of the Tennis Evaluation Tester with Regards to Skills (n=30)

Statements	Mean (SD)	Interpretation
Skills		
Teaching of PTR forehand hitting	2.57 (1.10)	Agree
Teaching of PTR backhand hitting	2.37 (1.13)	Disagree
Teaching of PTR volley hitting	2.50 (1.11)	Disagree
Teaching of PTR serve hitting	2.37 (1.07)	Disagree
Teaching of PTR overhand hitting	2.57 (1.10)	Agree
Tennis Professional Physical Fitness	2.90 (1.06)	Agree
MEAN SCORE	2.54 (0.42)	Satisfied
SD = standard deviation 1.00 – 1.75 Strongly Disagree; 1.76 – 2.50 Disagree; 2.51 – 3.25 Agree; 3.26 – 4.00 Strongly Agree		

Overall, the mean score of 2.54 indicates a generally satisfactory level of proficiency in teaching tennis skills and

physical fitness, with room for improvement in the specific areas mentioned.

Table 5. Satisfaction of the Tennis Students after the PTR Training Program with the Utilization of the Tennis Evaluation Tester with Regards to Student Interaction (n=30)

Statements	Mean (SD)	Interpretation
Student Interaction		
Language communication between students	2.23 (0.94)	Disagree
Technical collaboration between students	2.30 (1.18)	Disagree
Teamwork between students	2.63 (1.13)	Agree
Communication between students on knowledge understanding	2.37 (1.22)	Disagree
Innovation among students	2.47 (1.17)	Disagree
MEAN SCORE	2.40 (0.48)	Dissatisfied
SD = standard deviation 1.00 – 1.75 Strongly Disagree; 1.76 – 2.50 Disagree; 2.51 – 3.25 Agree; 3.26 – 4.00 Strongly Agree		

In addition to skills, the study also included the assessment of specific student interaction to determine satisfaction levels, which is shown through Table 5. Here, it can be seen that there are more areas that received negative responses from the student athletes. Among the areas assessed, the only positive response was received for the teamwork between students in the training program. This received the highest mean value of 2.63, suggesting that the students who completed the training were satisfied with the teamwork element incorporated in the program.

Although, the assessment revealed that there are plenty of areas in the program that need improvement and further focus. For example, Table 5 above shows that language communication between students had a mean score of 2.23. This is the lowest recorded value that reflects a high dissatisfaction from the students who trained under the PTR

program. This then suggests that communication should be given priority as this is most likely to have the strongest and most significant impact on the interactions of students when training. A study by Dohme et al. (2020) found that when athletes and coaches shared subject-specific language, there was better openness and emphasis on the development of psychological skills and characteristics. In addition to this, technical collaboration between students (2.30), communication between students on knowledge understanding (2.37), and innovation among students (2.47) also received negative responses. These findings indicate potential areas for improvement, with emphasis on fostering effective communication, collaboration, and innovation among students. Based on a study by Gerdin et al. (2020), it is recommended by clubs, coaches, and sports associations to increase collaboration and communication. Particularly, this

is to help foster camaraderie and further enhance long-term athlete development.

Due to the high negative responses on the assessment of student interaction, the mean score of 2.40 reflects

dissatisfaction from the student athletes. This implies that the PTR training program should re-evaluate the elements they incorporate in student interactions to further suit the needs and preferences of the students receiving the training.

Table 6. Satisfaction of the Tennis Students after the PTR Training Program with the Utilization of the Tennis Evaluation Tester with Regards to Influencer Marketing (n=30)

Statements	Mean (SD)	Interpretation
Influencer Marketing		
Teacher's expression ability	2.80 (1.21)	Agree
The ability of teachers to integrate technology	2.47 (1.14)	Disagree
Organizational ability of teachers	2.80 (1.03)	Agree
Communication between teachers and classmates	2.67 (1.24)	Agree
Teachers take care of classmates' emotions	2.53 (1.25)	Agree
MEAN SCORE	2.65 (0.45)	Satisfied
SD = standard deviation 1.00 – 1.75 Strongly Disagree; 1.76 – 2.50 Disagree; 2.51 – 3.25 Agree; 3.26 – 4.00 Strongly Agree		

For the final area assessed in the study on influencer marketing, Table 6 above shows a number of positive responses from the tennis athletes surveyed. First, it can be seen that the teacher's expression and organizational ability received the highest satisfaction responses from the students. These both had mean values of 2.80, indicating that the influencer marketing of the PTR training was effective most likely because of the abilities of teachers to express and organize these in a way that is appealing to students and their needs. This is then followed by communication between teachers and classmates (2.67) and teachers taking care of classmates' emotions (2.53). These results indicate that the PTR training has effective communication strategies and ensures that empathy is being expressed by the bodies involved.

Then, the table also further shows one field that received a negative response, which is that regarding the ability of teachers to integrate technology (2.47). This shows that the

PTR training falls short on incorporating technology and modern tools when marketing this, which is crucial as many students rely on the use of technology for receiving information. This further suggests that PTR training programs should further include the use of technology and other resources that can potentially help increase the satisfaction level of students. For instance, based on a study by Mulya et al. (2021), it was found that teaching tennis through an Android-based application helped students learn tennis at home. This was due to the application's features, which were appealing and thus, increased interest for repeated and regular training. Another study by Oagaz et al. (2021) also found that virtual reality is useful in teaching tennis, where players were able to transfer complex skills learned through this to real life.

Overall, the mean score of 2.65 reflects a general satisfaction with the influence of teachers in the context of influencer marketing in the PTR training program used, with needed improvement on the further use of technology.

Table 7. Summary of the Satisfaction of the Tennis Students after the PTR Training Program with the Utilization of the Tennis Evaluation Tester (n=30)

Statements	Mean (SD)	Interpretation
Skills	2.54 (0.42)	Satisfied
Student Interaction	2.40 (0.48)	Dissatisfied
Influencer Marketing	2.65 (0.45)	Satisfied
OVERALL MEAN SCORE	2.53 (0.24)	Satisfied
SD = standard deviation 1.00 – 1.75 Strongly Disagree; 1.76 – 2.50 Disagree; 2.51 – 3.25 Agree; 3.26 – 4.00 Strongly Agree		

With the different categories and their elements assessed, Table 7 further shows a summary of the data retrieved. It can be seen that the area of influencer marketing received the highest satisfaction response from the respondents with a mean value of 2.65. This shows that the PTR training program utilizes marketing elements that suit the preferences and needs of students. These are effective in marketing information that is convenient and well-liked by the student athletes. A study by Chmait et al. (2020) also found that players have varying impacts on social media, where they can

actually influence the demand and attendance in tournaments when basing on factors like popularity. In addition to this, the table also shows a positive satisfactory response for the skills taught in the PTR training program. This further shows that despite having a few areas that need improvement, the skills being taught in the program are still generally satisfactory. Lastly, the area regarding student interaction received the most negative response with a mean value of 2.40. This shows that the PTR training program should primarily focus on re-assessing the way that students interact during training and

how these can be changed to best suit the needs of athletes. This is important as student emotions are linked to motivation, which further relates to engagement in physical activity (Simonton et al., 2021). It is recommended that students have an environment where they are free to make choices, be self-paced, and achieve individualized success in order to emotionally support them.

In a general picture, the athletes showed to be satisfied with the PTR training program with a mean score of 2.53. Strengths were observed in the skills being taught and influencer marketing strategies used in the program, while

improvements are suggested with regards to positively increasing student interaction.

Significant Difference Between the Result of the Pre-Test and Post-Test of the Experimental Group's Performance Skills PTR Training Program

Another area of interest in the study was investigating significant differences between the pre-test and post-test results of the performance skills of the experimental group involved in the study. These are determined through calculated p-values, which are shown on Table 8 below.

Table 8. Significant Difference on the Performance Skills of the Tennis Players Before and After the PTR Training Program (n=30)

Statements	Pre-test		Post-test		t-value	p-value	Interpretation
	Mean	SD	Mean	SD			
Hitting Depth	58.80	11.43	65.47	11.08	-4.41	0.0001	Significant
Accuracy of Landing Point	59.03	11.28	67.63	8.16	-6.46	<0.0001	Significant
Interception Depth	48.40	6.08	61.83	5.43	-8.81	<0.0001	Significant
Serve	76.53	8.12	94.10	7.41	-8.57	<0.0001	Significant
Flexibility	51.90	4.38	62.57	4.72	-8.80	<0.0001	Significant

Based on Table 8 below, it can be seen that all the performance skills assessed showed to have significant differences between their pre-test and post-test results. This then signifies that the PTR training program was effective in enhancing or improving the skills of the tennis athletes. When further looking at the results, it can then also be seen that the performance for serving skills ranked the highest, indicating that this was the best skills of the athletes. This is a crucial skill as learning how to serve properly can determine the play of a certain match and the momentum and synergy of team members. Another study by Deng et al. (2022) focused on plyometric training and this was also found to improve serve velocity and physical performance of players. This is then followed by accuracy of landing depth and hitting depth. These two skills show similar results in both their pre- and post-tests, showing that the way that these skills are performed by the students are much related. A study by Fauzi et al. (2021) found that a strategy involving game-based mini tennis was also effective in improving the forehand techniques of young children.

Then, these skills are followed by flexibility, which also resulted to have similar scores as that of the skill of interception depth. The latter scored the lowest in the pre-test, but then showed similar performance levels in the post-test. This shows that the skill of interception depth was significantly improved through the PTR training program. Ultimately, as all skills were seen to have better performance and tests were significantly related, it can be understood that the PTR training program was effective in enhancing the skills of the students. Even if the assessment on the satisfaction levels of students who participated in the training was mixed across different considered aspects, their overall athletic performance improved, making the training program successful. Although, it is still important to keep in mind the areas to improve to further tailor future training programs to the needs of athletes.

7. Summary, Conclusion, and Recommendations

Following the results in the previous section of the study, appropriate conclusions and recommendations can be inferred. This part of the study presents the significant points

deduced from the results, as well as a summary of this and an innovative tennis development training program focused on improving tennis performance skills.

7.1. Summary

The study found a number of significant findings on the mastery of skills of tennis athletes. These are summarized below:

Pre-test results on performance skills before the PTR training program. The study resulted in student athletes performing the best with their serve, which had a mean of 76.53. This was then followed by accuracy of landing depth with a mean of 59.03 and hitting depth with a mean score of 58.80. The skill of flexibility follows this with a score of 51.90 and interception depth was the least properly performed skill with a mean score of 48.40.

Post-tests results on performance skills after the PTR training program. After the PTR training program, it was observed that the serving skill of the athletes was still best performed with a mean score of 94.10. This is also followed by both accuracy of landing point and hitting depth, which had mean scores of 67.63 and 65.47, respectively. The skill of flexibility then had a score of 62.57. Lastly, interception depth was also the least properly performed skill with a mean score of 61.83. All of the performance skills showed improvement after students participated in the PTR training program.

Satisfaction of tennis students after the PTR training program. The survey showed that the students that participated in the PTR training program had overall satisfaction with the program, which was through the mean score of 2.53. The skills being taught in the training program also scored satisfactorily with a mean score of 2.54. Then, the influencer marketing aspect of the training program scored the highest with a mean score of 2.65. In contrast to this, the training program scored the lowest on the area of student interaction, with a mean score of 2.40.

Significant difference between pre- and post-test results with the PTR training program. The study found that all of the performance skills had significant differences between their pre- and post-test results. Similar to the results for objective one and two, the highest scored skill was the serve of the students. This was then followed by accuracy of landing point, hitting depth, flexibility, and interception depth. The results

show that the improvement of the athletes shown in the pre- and post-tests is significantly related to the PTR training program.

7.2. Conclusion

The results then respectively answer each research question in the study. These are the following:

The pre-test showed that the student athletes performed best for their serving skills, followed by their accuracy of landing depth, hitting depth, and flexibility. The athletes performed the poorest when assessed for their interception depth.

The post-test showed that the students performed similarly as their pre-test with regard to the ranking of each skill. They performed best for their serve, followed by accuracy of landing depth, hitting depth, flexibility, and interception depth. All of these performance skills have significantly improved as shown through higher mean scores achieved.

Students were satisfied with the skills and influencer marketing aspects of the PTR training and dissatisfied with the student interaction. This then indicates the need for improvement on the latter field. Overall, the students were satisfied with the PTR training program.

There was a significant difference in all performance skills between pre- and post-test results, indicating that the PTR training was a significant factor influencing the improvement of the skills of the students.

7.3. Recommendations

With the study concluding on its results, there are a number of areas where the researcher believes would need further

improvement. There are also other aspects that would be interesting to further explore in future studies. These are enumerated below:

One part that can be further assessed in future studies is the demographic profile of athletes when evaluating the improvement of their skills. This can help reveal interesting patterns in relation to characteristics like age, sex, year level, and others.

As the study only used 30 respondents, larger sample sizes may be used in future studies to gather more results and investigate other variations in data and related patterns.

As the study focused on satisfaction, it would also be useful to look at athlete happiness and if this relates to improvements with skill training.

Then, it would also be useful to look at different fields of sports as these all have different training styles and intensities which can influence the performance skills of students before and after training.

Another interesting aspect to explore is the use of equipment and what impacts or effects these have on the effectiveness of PTR training programs.

Lastly, it would also be important to investigate the role of coaches or teachers in the improvement of students' performance and the effectiveness of PTR training programs.

Innovative Tennis Training Program Development

With the above findings of the study, these will be used as references for areas to include in a proposal for an innovative tennis training program that aims for the holistic development of students. The different areas of this training program are presented below, with the respective activities, target schedule, budget allocations, expected outcomes, and people involved.

Table 9. Innovative tennis training program proposed for improved mastery of skills of tennis athletes

Rationale/ Objective	Activity/ Strategy	Target Schedule	People Involved	Budget	Expected outcome
To further enhance coaching that focuses on students individually, where their strengths and weaknesses can be recognized.	Individual-centered performance skill enhancement and assessment	Assessments will be done on a monthly basis.	Teachers, coaches, and students	5,000 RMB	Students would be more aware of the areas that they need to improve on while building honesty and humility with their coaches and teachers.
To further integrate technology and modern tools to further enhance the venues, facilities, and tools that students can access for their training.	Technological sports tools and resources	This will be updated every two years with annual maintenance checks.	Teachers, Coaches, School Administration, Sports Faculty and Department, and Students	20,000 RMB	Students would have better access to new resources that can help improve their sports skills through innovative and contemporary approaches.
To further improve interactions and relationships between students and their teachers and coaches.	Team workshops, buddy-systems, and retreats	This will be done every six months.	Teachers, Students, and Coaches	10,000 RMB	Students would have improved interactions with their team members, fellow students, coaches, and teachers.
To further enhance self-awareness of students on their progress in training while also further establishing a collaborative and communicative culture/atmosphere.	Regular team check-ins and feedback sessions	This will be done on a weekly basis.	Teachers Students, and Coaches	2,000 RMB	Students would be more aware of themselves and further build a culture and environment of support, trust, and honesty.
Total				37,000 RMB	

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