



## Research article

### IMPACT OF TRADITIONAL WITH COMPUTER ASSISTED TENNIS TRAINING ON SELECTED SKILL PERFORMANCE VARIABLES OF SCHOOL STUDENTS

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#### Abstract

*The purpose of the study was to find out the impact of traditional with computer assisted tennis training on selected skill performance variables of school students. This study was restricted to thirty (N=30) students from Sri Ramakrishna Mission Vidyalaya TAT Kalanilayam P.N. Palayam Coimbatore. This study was restricted to boys and their age ranged from 9 to 11 years. Computer assisted Tennis training was selected as independent variable and forehand drive, backhand drive, and service were selected as dependent variables. The training period was consist of twelve weeks. The pre-test and the post-tests were conducted for all the subjects before and after the computer assisted skill training for twelve weeks. It is concluded that the skill performance variables namely forehand drive, backhand drive and service were significantly improved due to the treatment of computer assisted tennis training of school students.*

**Key words:** Tennis, computer assisted skill training, forehand drive, backhand drive, service.

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## INTRODUCTION

The basic skills are practiced by players (ie) Traditional training. Training allows the body to gradually build up strength and endurance, improve skill levels and build motivation, ambition and confidence. Training also allows the players to gain more knowledge of their sport as well as enabling them to learn about the importance of having a healthy mind and body. An advanced tennis player must possess tennis skills to be a successful in the game of tennis. The player requires the physical fitness qualities are cardiorespiratory fitness, efficient movement, Strength, power, endurance and co-ordination. Tennis requires many physiological characteristics in order to succeed at the highest level. If considering these physiological characteristics exclusively, success in tennis is determined by several of these components.

Computer Assisted training (CAT) has been used for more than five decades for educational purposes. Although the use of computers is not new, CAT is still a popular and common terminology in today's educational institutions and schooling process. CAT provides an instructional interaction between the learner and the computer in a variety of contents with or without the assistance of a teacher. Here, the researcher wants to

cultivate the uses of the CAT in Tennis, because the school students will be attracted by CAT and they can understand the execution of their own skills. It provides the opportunity to rectify their mistakes and compare their skills with elite players.

## STATEMENT OF THE PROBLEM

The purpose of the present study is to find out the impact of traditional with computer assisted tennis training on selected skill performance variables of school students.

## METHODS AND MATERIALS

### Selection of Subjects

- ❖ This study was restricted to thirty (N=30) students from Sri Ramakrishna Mission Vidyalaya TAT Kalanilayum P.N. Palayam Coimbatore.
- ❖ This study was restricted to boys and their age ranged from 9 to 11 years.

### Selection of Variables

#### Independent variables

- ❖ Computer assisted Tennis training

#### Dependent variables

- ❖ Forehand Drive
- ❖ Backhand Drive
- ❖ Service

**TABLE – I**  
**CRITERION MEASURES**

S.no	Dependent variables	Test item/Equipment	Unit of measurement
1.	Forehand Drive	Hewitt Forehand drive test	Points
2.	Backhand Drive	Hewitt Backhand drive test	Points
3	Service	Hewitt's Service Placement Test	Points

### EXPERIMENTAL DESIGN

Subjects were selected randomly and put into computer assisted skill training to improve the selected skill performance variables. The pre-test and the post-tests were conducted for all the subjects before and after the computer

assisted skill training programme for twelve weeks. The data thus collected were analyzed statistically to find out the impact of computer assisted skill training on selected physiological and skill performance variables.

### TRAINING PROGRAM

The training period consist of six weeks (afternoon 2.00 PM to 3.30 PM).

#### FIRST WEEK AND SECOND WEEK TRAINING PLAN

Day	Warming up general 5 MIN	Specific warming up 10 MIN	Drill/Exercise 25 MIN	Minor game or cooling 8 MIN
Monday	Tennis court rounds jogging,	Forehand racket swings without movement.	Computer assisted Skill Training.	Ball tapping game
Wednesday	Tennis court rounds jogging, skipping	Shuttle run using cones	Target hitting using forehand drive	Cooling down
Friday	Continuous slow jog with arm rotations	Backhand racket swings without movement	Forehand cross court alone	Soft ball tennis

**THIRD WEEK AND FOURTH WEEK TRAINING PLAN**

Day	Warming up general 5 MIN	Specific warming up 12 MIN	Drill/Exercise 25 MIN	Minor game or cooling down 8 MIN
Monday	Tennis court rounds jog	Whole body rotation	Backhand drive shot	Mini court game
Wednesday	Tennis court rounds jogging.	Racket swings without movement and with movement.	Hitting target using backhand cross court	Partner rally
Friday	Tennis court rounds	All the movement of foot work	Video analysis	Smiling ball game and stretching exercise

**FIFTH WEEK AND SIXTH WEEK TRAINING PLAN**

Day	Warming up general 5 MIN	Specific warming up 8 MIN	Drill/Exercise 25 MIN	Minor game or cooling down 4 MIN
Monday	Tennis court rounds	Ball dribbling and tapping, racket swings without movement and with movement	using racquet and ask players to hit forehand and backhand	Partner wall practice
Wednesday	Tennis court rounds	Foot work using tennis ball	Hitting target using serve	Wall practice
Friday	Stretching exercise	Ball dribbling and tapping, racket swings without movement	Swing the racquet forehand and backhand without ball.	Cooling down

**SEVENTH WEEK AND EIGHTH WEEK TRAINING PLAN**

Day	Warming up general 5 MIN	Specific warming up 10 MIN	Drill/Exercise 25 MIN	Minor game or cooling down 5 MIN
Monday	Tennis court round.	Ball dribbling and tapping, racket swings without movement and with movement	Forehand drive shot	Cooling down
Wednesday	Tennis court round	Forehand and Backhand racket swings without movement	Hit the forehand and backhand shot	Game of rally point
Friday	Stretching and slow jogging	Ball dribbling and tapping, racket swing without movement	Hitting the cone by forehand cross court	Stretching and cooldown.

**NINTH WEEK AND TENTH WEEK TRAINING PLAN**

Day	Warming up general 4 MIN	Specific warming up 10 MIN	Drill/Exercise 25 MIN	Minor game or cooling down 3 MIN
Monday	Tennis court round	Own body strengthening exercises	Video analysis of forehand and backhand in slow motion.	Rally with partners
Wednesday	Stretching and slow jogging	Service swing with racquet.	Throw the ball to the opponent court.	Stretching and warm down
Friday	Tennis court round jogging	Ball dribbling and tapping, racket swing without movement.	Service practice by hitting target	Cooling down

**ELEVENTH WEEK AND TWELFTH WEEK TRAINING PLAN**

Day	Warming up general 3 MIN	Specific warming up 7 MIN	Drill/Exercise 25 MIN	Minor game or cooling down 2 MIN
Monday	General warming up	Forehand, Backhand and erve foot work.	Target hitting forehand and Backhand	Partner rally
Wednesday	Tennis court rounds.	Racket swinging with forehand, Backhand and Serve.	Target hitting forehand, Backhand and Serve	Whole body stretching.
Friday	Tennis court round	Racket swinging with forward and backward movement	Target hitting backhand down the line.	Slow jogging and whole body stretching

**STATISTICAL TECHNIQUES**

The collected data was analyzed with application of 't' test to find out the

individual effect from Pre to posttest if any. To determine the significant difference among the treatment means and control group. The level of significant is 0.05.

**RESULTS OF THE STUDY****FOREHAND DRIVE**

The data obtained on forehand drive of the group have been analyzed using the analysis of variance are presented in table-III.

**TABLE - II**  
**TABLE SHOWING THE MEAN DIFFERENCE, STANDARD DEVIATION AND**  
**‘t’ VALUE OF COMPUTER ASSISTED TENNIS TRAINING GROUP ON**  
**FOREHAND DRIVE**

Group	Mean	MD	SD	Std. Error of the mean	DF	‘t’	Table value
Pre test	1.86	0.87	0.83	0.21	14	4.51*	2.14
Post-test	2.73		0.45	0.118			

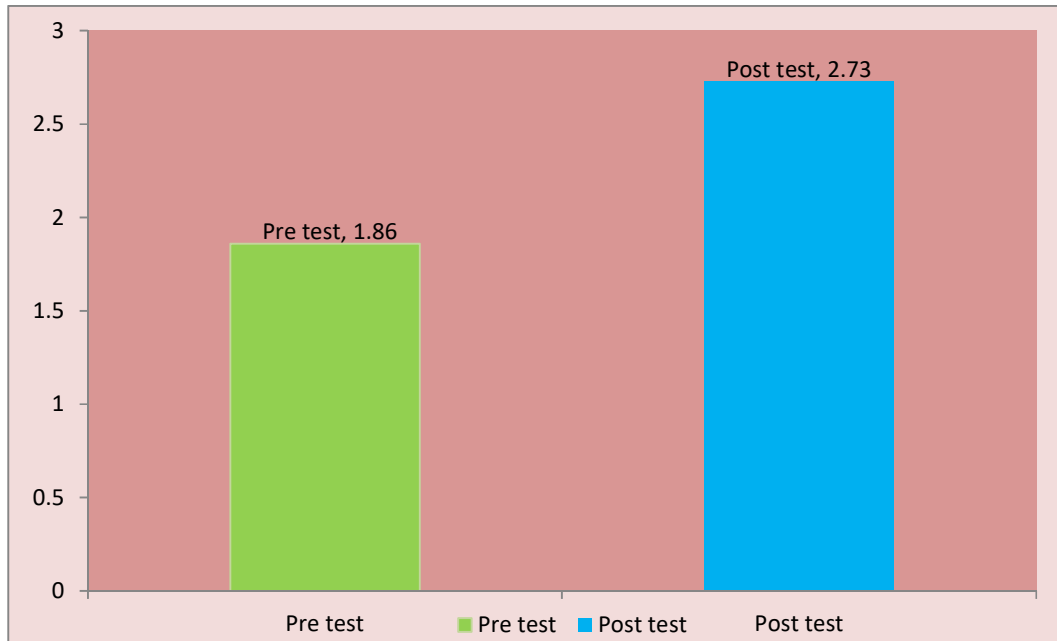
\* Significance at 0.05 level of confidence

To find out the significant difference between pretest and posttest on forehand drive of computer assisted tennis training group ‘t’ ratio was employed and the level of significance was set at 0.05. The computer assisted tennis training group pre test value was 1.86 and posttest value was 2.73 respectively. The mean difference value

was 0.87 and computer assisted tennis training group obtained ‘t’ ratio was 4.51 was greater than the table value 2.14. It shows that the computer assisted tennis training group had significant improvement on forehand drive.

Pre test and post test of computer assisted tennis training group showed in figure- 1.

**FIGURE - 1**  
**FIGURE SHOWING THE MEAN VALUES OF COMPUTER ASSISTED TENNIS TRAINING ON FOREHAND DRIVE**



**BACKHAND DRIVE**

The data obtained on Backhand Drive of the group have been analyzed using the analysis of variance are presented in table - III.

**TABLE - III**  
**TABLE SHOWING THE MEAN DIFFERENCE, STANDARD DEVIATION AND ‘t’ VALUE OF COMPUTER ASSISTED TENNIS TRAINING GROUP ON BACKHAND DRIVE**

Group	Mean	MD	SD	Std. Error of the mean	DF	‘t’	Table value
Pre test	1.26	1.34	0.45	0.11	14	4.51*	2.14
Post-test	2.60		0.82	0.21			

\* Significance at 0.05 level of confidence

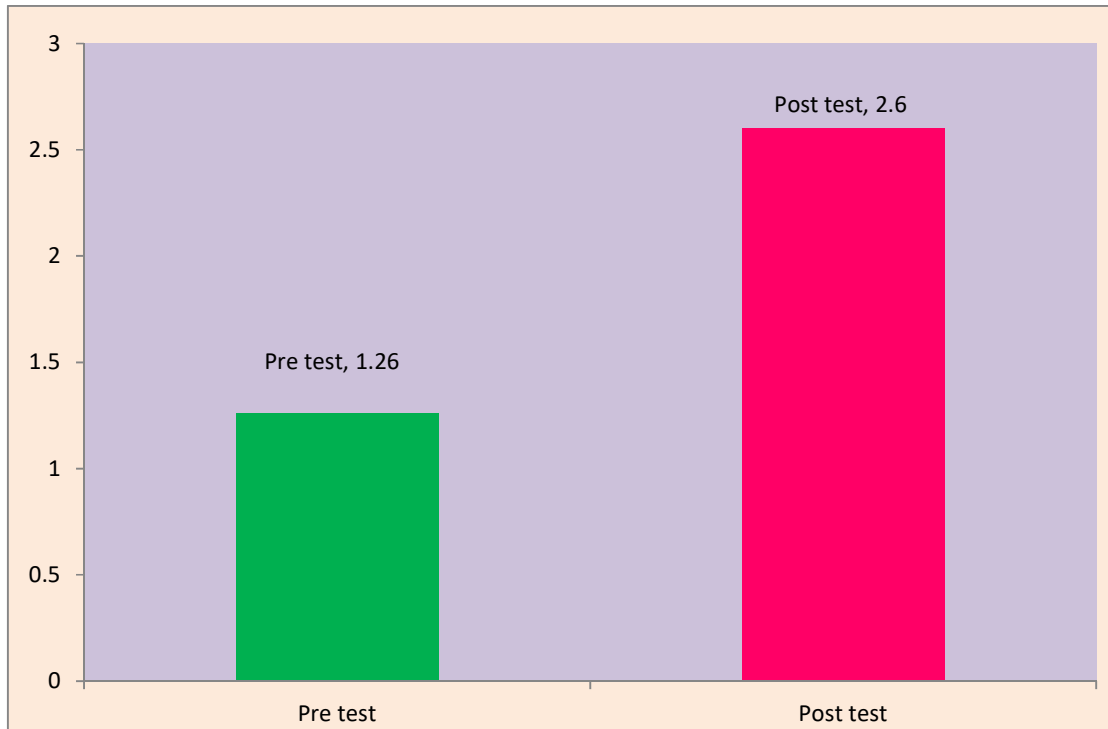
To find out the significant difference between pre test and post test on backhand drive of computer assisted tennis training group ‘t’ ratio was employed and the level of significance was set at 0.05. The computer assisted tennis training group pre test value was 1.26 and post test value was 2.60 respectively. The mean difference value

was 1.34 and computer assisted tennis training group obtained ‘t’ ratio was 4.51 was greater than the table value 2.14. It shows that the computer assisted tennis training group had significant improvement on backhand drive.

Pre test and post test of computer assisted tennis training group showed in figure- 2.



**FIGURE - 2**  
**FIGURE SHOWING THE MEAN VALUES OF COMPUTER ASSISTED TENNIS TRAINING ON BACKHAND DRIVE**



**SERVICE**

The data obtained on service of the group have been analyzed using the analysis of variance are presented in table - IV.

**TABLE - IV**  
**TABLE SHOWING THE MEAN DIFFERENCE, STANDARD DEVIATION AND ‘t’ VALUE OF COMPUTER ASSISTED TENNIS TRAINING GROUP ON SERVICE**

Group	Mean	MD	SD	Std. Error of the mean	DF	‘t’	Table value
Pre test	1.33	1.47	0.48	0.12	14	5.35*	2.14
Post-test	2.80		0.77	0.20			

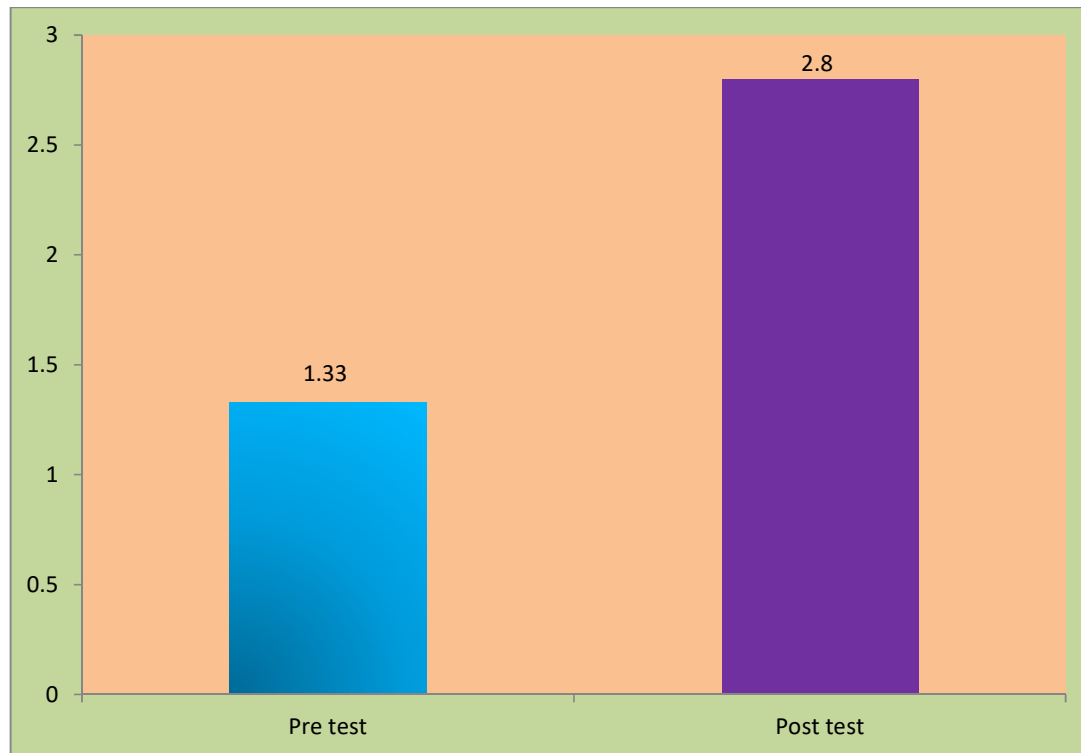
\* Significance at 0.05 level of confidence

To find out the significant difference between pre test and post test on service of computer assisted tennis training group ‘t’ ratio was employed and the level of significance was set at 0.05. The computer assisted tennis training group pre test value was 1.33 and post test value was 2.80 respectively. The mean difference value was 1.47 and computer

assisted tennis training group obtained ‘t’ ratio was 5.35 as greater than the table value 2.14. It shows that the computer assisted tennis training group had significant improvement on service.

Pre test and post test of computer assisted tennis training group showed in figure- 3

**FIGURE 3**  
**FIGURE SHOWING THE MEAN VALUES OF COMPUTER ASSISTED TENNIS TRAINING ON SERVICE**



### **DISCUSSION ON FINDINGS**

The results revealed that computer assisted tennis training significantly improved on selected skill performance variables namely forehand drive, back drive and service. The results of the study supported by Mohamad Rahizam., & Abdul Rahim. (2014), Emma J. Larson.,

& Joshua D. Guggenheimer. (2013), Genevois, C. (2013).

### **CONCLUSIONS**

It is concluded that the skill performance variables namely forehand drive, backhand drive and service were significantly improved due to the treatment of computer assisted tennis training of school students.

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