

# Combined Influences of Particular Exercises with Digital Equipment Practices on Selected Skill Variables and Overall Playing Ability of Badminton Novice Players



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**Abstract:** To attain the aim of the research thirty badminton novice players were taken from Maruthi sports training centre, Periyanaickenpalayam, CBE. The age of the subjects between 13-16 years. The subjects are divided in two groups with equal number of novice players. Training group-I with (n=15) novice players were given particular exercises with digital shuttle feeding machine practices with 12 weeks continuously, weekly 5 days allowed for practices given. Other group-II acted with their regular activities. The training group tested on skill components like long service, short service and overall playing ability. The selected criterion variables long service was tested with Pooler long service, short service was tested with French short service and overall playing ability was tested with qualified judges. The collected scores of test before and after the training have taken for statistical analysis with paired 't' test and ANCOVA. The significant level is fixed 0.05. The outcomes of the research showed that training group improved selected skill components like long service, short service and all efficiency ability was due to the combined influences of particular exercises with digital shuttle feeding machine practices programme. The second group which one acted with regular activities did not show any improvement on selected skill components with overall playing ability of badminton novice players.

**Key words:-** Digital Shuttle Feeding Machine, Overall Playing Ability and long service and short service.

## I. INTRODUCTION

The training is a systematic process or preparation for some particular task of sports persons. Sports coaching are an educational learning process to develop their scientific principles and making them to reach in their extreme performance level in the sports competitions. The exercises widely used in sports and games.

But there is some disagreement among coaches and sports scientists regarding the meaning of the word. Some experts understand that sports training are basically doing physical exercise. For performing these physical exercises the following factors essentials are sports equipment and implements, verbal instructions, means of recovery, means of assessment of performance capacity, nutrition, psychological means and methods. Further advanced training of sports persons significantly supported by several sports disciplines like sports medicine, sports psychology, nutrition, physiotherapy, sports physiology, sports biomechanics and other allied sciences. In addition personality of the sportsman has to be improved in order to improve his performance. A sports person has some extraordinary qualities such way, bodily capacity, various organs function abilities, adjusting with other different types quality of peoples and mental ability of quality will be showed. Hence, to attain high level playing ability of sports persons. Addition to motor qualities and functional abilities of the adjusting with different types sports persons and mental ability of the sports persons. They improve their performance ability through systematic and scientific training of coaching sequences. (Hardayal Singh 1991)

Modern invention of sports digital equipments enhance the performance and minimized the errors and reducing the man power. These advanced sports equipments are surely increase individuals performance level and reduce the injuries also.

The meaning of sports training is educationally and systematically a scientific method to develop the efficiency of particular activity of individual to achieve in their extreme level of performance. Technology has played influencing role in coaching and learning process. The researcher had keen interest in using digital sports equipments in coaching sports & games. Sports technology means to improve performance of sports persons accuracy and all the abilities of sports person. It is the modern technologies are use as apparatus and various equipments to perform only practice more efficiently. For example shuttle feeding machine using as modern digital equipment to execute high level efficiently athletic performance. Sports technology has created various products aimed to improve and increases sports performance. As a training curriculum various drills are using to make the skills perfect and players will be expert on their particular skills of the game, through the drills practice consistency of performance will be achieved by doing continued practice.

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# Combined Influences of Particular Exercises with Digital Equipment Practices on Selected Skill Variables and Overall Playing Ability of Badminton Novice Players

The aim of the research was to find out combined influences of precise skills with digital equipment practices on particular skill variables and overall playing ability of badminton novice players.

## II. METHODOLOGY

To attain the aim of the research thirty badminton novice players were taken from Maruthi sports training centre, Periyanaickenpalayam, CBE. The age of the subjects between 13 -16 years. The subjects are divided in two groups with equal number of novice players.

Training group-I with (n=15) novice players were given particular exercises with digital shuttle feeding machine practices with 12 weeks continuously, weekly 5 days allowed for practices given. other group-II acted with their regular activities. The training group tested on skill components like long service, short service and overall

playing ability. The selected criterion variables long service was tested Poole long service, short service was tested with French short service and overall playing ability was tested with qualified judges. The collected scored of test before and after the training have taken for statistical analysis with paired 't' test and ANCOVA. The significant level is fixed 0.05.

### A. Sports Specific Drills With Digital Shuttle Feeding Machine

Man to man practice, Wall practice, Forehand service, Flick service, Cross court forehand clear, Cross court backhand clear, Target service forehand, Target service backhand, In between hoops service backhand, In between hoops service forehand, High toss service, Short service, Under the rope service backhand and Under the rope service forehand and digital shuttle feeding machine drills were given.

## III. OUTCOMES OF THE RESEARCH

**Table – I Significance of Mean Gains / Losses between Before Test and after Test of Long Service Short Service and Overall Playing Ability of Training and No Training Group**

S.NO	SKILL	BEFORE TEST $\bar{X} \text{ \& } \sigma$	AFTER TEST $\bar{X} \text{ \& } \sigma$	DM	$\sigma$ DM	't' Test
<b>Experimental Group</b>						
1	Long Service	43.06±2.84	61.80±3.82	18.74	1.16	15.86*
2	Short Service	43.46±2.85	71.06±4.43	27.6	1.22	22.62*
3	Overall Playing Ability	29.80±1.89	44.0±2.71	14.20	0.85	16.70*
<b>Control Group</b>						
1	Long Service	43.66±2.69	44.0±2.87	0.34	0.54	0.63
2	Short Service	43.73±3.41	43.33±2.66	0.40	0.27	1.48
3	Overall Playing Ability	29.86±1.95	30.06±1.90	0.20	0.43	0.46

\*level confidence 0.05

The above table no 1 shows the before and after test average results of training group of obtained 't' values for long service 15.86, short service 22.62 and over all playing ability 16.70 which is greater than table values 2.14 . It was statistically proved on training group particular exercises with digital equipment improved on selected skill

variables and overall playing ability of badminton novice players and control group of before and after test of obtained 't' results of long service 0.63 and short service 1.48 and overall playing ability 0.46 which is lower than table value of 2.14 it shows statistically not proved insignificant of badminton novice players.

**Table-II Analysis of Covariance on Long Service of Particular Exercises with Digital Shuttle Feeding Machine Training Group and no Training Group of Badminton Novice Players**

Test Mean S.D		Training Group	Non Training Group	SSV	SS	Degrees of Freedom	M.S	'F' Results
Before-test	$\bar{X}$	43.06	43.66	B	2.70	1	2.70	0.353
	$\sigma$	2.84	2.69	W	214.267	28	7.652	
After -test	$\bar{X}$	61.8	44.0	B	2376.30	1	2376.30	207.7*
	$\sigma$	3.82	2.87	W	320.4	28	11.44	
Adjusted Post-test	$\bar{X}$	61.93	43.87	B	2416.048	1	2416.048	233.092*
				W	29.861	27	10.365	

\* Significant .05 level of confidence. df 1, 27 and 1,28- 4.20 & 4.21

The above table no-II shows the before test (F = 0.353, p > 0.05) no improvement in long service. After test (F = 207.7, p < 0.05) and adjusted test average (F = 233.092, p < 0.05) results shows improvement in long service. The

statistical analysis point out that the long service has a improvement altered after 12 weeks of particular skills with digital shuttle feeding drills training.

Diagram-1 --Average Scores of Long Service on Training Group and no Training Group of Badminton Novice Players

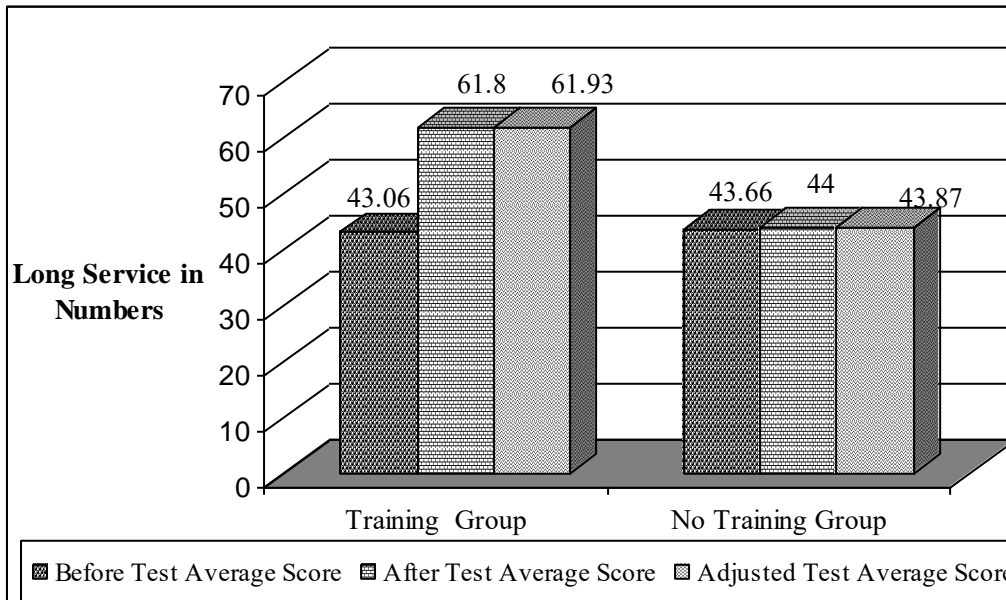


Table-III Analysis of Covariance on Short Service of Particular Exercises with Digital Shuttle Feeding Machine Training Group and no Training Group of Badminton Novice Players

Test	Mean	Training Group	Non Training Group	SSV	SS	Degrees of Freedom	M.S	'F' Results
Before-Test	$\bar{X}$	43.46	43.73	B	0.533	1	0.533	0.054
	$\sigma$	2.85	3.41	W	276.667	28	9.881	
After-test	$\bar{X}$	71.06	43.33	B	5768.533	1	5768.533	431.55*
	$\sigma$	4.43	2.66	W	374.267	28	13.367	
Adjusted Post-test	$\bar{X}$	71.14	43.26	B	5821.902	1	5821.902	559.96*
				W	280.731	27	10.397	

\* Significant .05 level of confidence. df 1, 27 and 1,28- 4.20 & 4.21

The above table no- III shows the before test (F = 0.054, p > 0.05) no improvement in short service. After test (F = 431.55, p < 0.05) and adjusted test average (F = 559.96, p < 0.05) results shows improvement in short service. The statistical analysis point out that the short service has a improvement after 12 weeks of particular skills with digital shuttle feeding machine drills training.

Figure-2 Average Scores of Short Service on Training Group and no Training Group of Badminton Novice Players

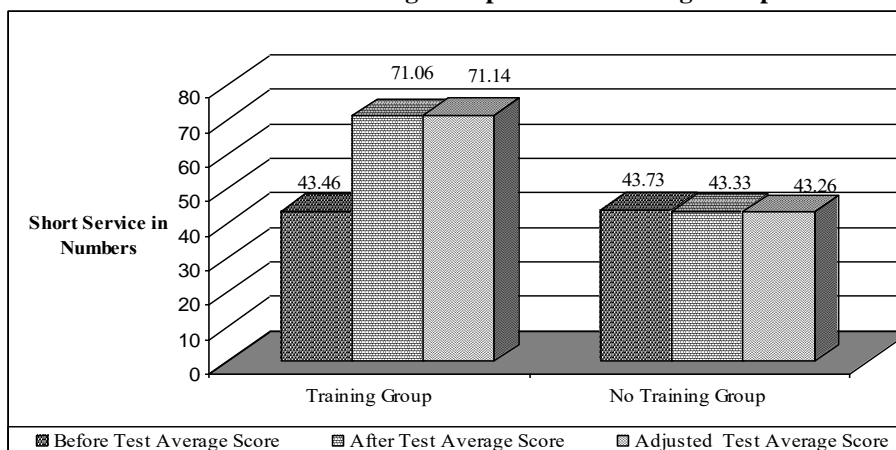


Table-IV Analysis of Covariance on Overall Playing Ability of Particular Exercises with Digital Shuttle Feeding Machine Training Training Group and no Training Group of Badminton Novice Players

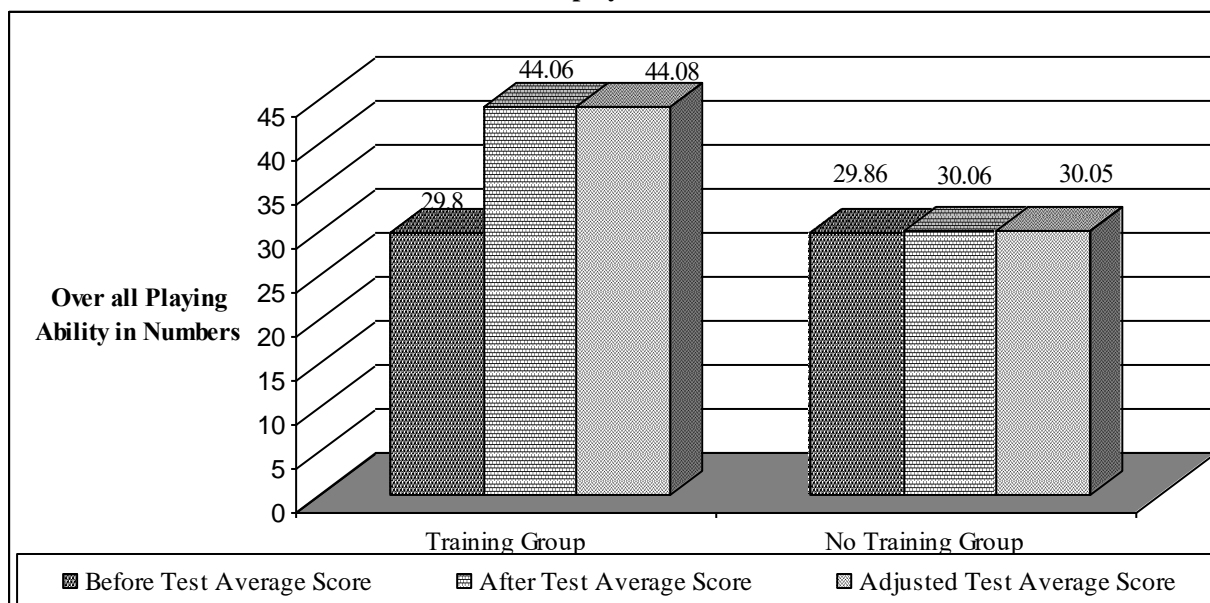
Test Mean		Training Group	Non Training Group	SSV	SS	Degrees of Freedom	M.S	'F' Results
Before test	$\bar{X}$	29.80	29.86	B	0.033	1	0.033	0.009
	$\sigma$	1.89	1.95	W	104.133	28	3.719	
After – test	$\bar{X}$	44.06	30.06	B	1470.0	1	1470.0	267.5*
	$\sigma$	2.71	1.90	W	153.867	28	5.495	
Adjusted Post-test	$\bar{X}$	44.08	30.05	B	1474.148	1	1474.148	279.2*
				W	142.547	27	5.28	

\* Significant .05 level of confidence. df 1, 27 and 1,28- 4.20 & 4.21

The above table no –IV shows the before test (F = 0.009, p > 0.05) no improvement in overall playing ability. After post (F = 267.5, p < 0.05) and adjusted post test average (F = 279.2, p < 0.05) results shows improvement in

over all playing ability. The statistical analysis point out that the over all playing ability has a improvement after 12 weeks of particular skills with digital shuttle feeding machine drills training.

Diagram-3 Average scores of overall playing ability on training group and no training group of badminton novice players



#### IV. FINDINGS OF RESEARCH

Based on out comes of the research clearly indicates the long service, short service and overall playing ability improved on combined influences of particular exercises with digital shuttle feeding equipment practice training of badminton novice players. The outcomes of the research conformity with earlier conducted research as follows technology will improve the performance **Purcell K (1981)** and **Connel O (1995)** and **Dyer JT (1938)** and **Robertson K (2000)**. Effect of technology used training method will improve on performance.(**Murray et al., 2009**) & (**Riot CJ, James D 2013**). Technology improves the performance. (**Watkins et al., 1998**)

#### V. CONCLUSIONS OF THE RESEARCH

1. The training group significant changes on long service, short service and overall playing ability due to particular exercises with digital shuttle feeding machine drills training of badminton novice players.
2. There is notable difference between training and no training groups of long service, short service and overall playing ability of badminton novice players.
3. The no training group any significant changes selected the skill variables of long service, short service and overall playing ability of badminton novice players.

## REFERENCES

1. Connel,O, The 400 Point ball Contest ITF Coaching and Sport Science Review 7 (1995)pp.7-9
2. Dyer JT, Revision of the Dyer Back Board Test of Tennis ability. REQS (1938) VOL. 9-2
3. Hardayal Singh, Science of Sports Training, DVS Publications, New Delhi. (1991) pp.16-19
4. Larry G.Shaver Essentials of Exercise Physiology, Barges publishing Company. (1985),
5. Murray. K, T. Wasunna, A. Johns Performance-enhancing technologies in sports : ethical, conceptual, and scientific issues, Maschke, Hopkins University Press (2009)
6. Prasant Dave, Dr.Prabhat Mathur, The Benefits of Technology Aided Coaching Skill improvement of sports men, Int.J of Application Innovation in Engineering & Management, (2014) Volume-3 Issue 3 pp-293-296.
7. Purcell K, A Tennis Forehand and Backhand drive skill test which measures ball control and stroke firmness RQES 52 (1981) pp- 238-245
8. Prasad Rao, E, Modern coaching in Kabaddi, DVS Publications, (1984) New Delhi.
9. Robertson, K Observation, Analysis and Video. The National Coaching Foundation: Leeds, (2000) UK
10. Russ Throne Evolving athletic performance with the help of new sports technologies Sheffield Hallam University(2015).
11. Riot CJ, James D Innovating to grow sport: the wider context of innovation in sport. Proceedings of Australian Sports Technology Network 1, ,(2013) pp. 40-42.
12. Watkins R., Leigh D, Platt W, Kaufman R. Needs assessment: a digest, review, and comparison of needs assessment literature. Performance Improvement;(1998),37:40-53.

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