Journal of Advances and Scholarly Researches in Allied Education
Vol. 16, Issue No. 5, April-2019, ISSN 2230-7540

Effect of Sports Vision Training on Playing Ability of Table Tennis Players

Vijay Singh Rawat[1]* Dr. Pushpendra Purashwani[2]

[1] Ph.D. Scholar, Department of Physical Education Pedagogy, LNIPE, Gwalior

[2] Assistant Professor, Department of Physical Education Pedagogy, LNIPE, Gwalior

Abstract – Vision is the signal that directs the body to respond and provides athletes with the information regarding where and when to perform. The present study sees the effect of 12 (twelve) week of sports vision training programme on playing ability of table tennis players. It involves forty (N=40) male state level table tennis players from Zappers Table Tennis Academy Haldwani, Uttarakhand, age ranging between 14 to 17 years as a participant for the study. Participants were divided in two equal group 20 (control group) and 20 (training group). Control group did their regular table tennis practice and training group performs the sports vision training programme too. Pre data collected before the training for both of the groups and post data collected after 12 (twelve) week of training. Level of significance was set at .05. Results of the study showed the significant improvement in playing ability of training group in comparison of control group. Study showed the relationship between the sports vision training programme and table tennis performance.

Key Words: Sports Vision Training, Playing Ability, Table Tennis etc.

----------X----------

INTRODUCTION

The science of sport and the preparation of athletes is continuously evolving. This evolution is based largely upon an ever-expanding understanding of how the body adapts to different physical and psychological stressors. Contemporary sport scientists continue to explore the physiological and performance effects of different training interventions, recovery modalities, nutritional countermeasures, and biomechanical factors in order to increase the performance capacity of the modern athlete. As our understanding of the body's response to different stressors has grown, contemporary training theorists, sport scientists, and coaches have been able to expand upon the most basic concept of training. (Haff, 2009)

Training is undertaken across a long period of time and involves many physiological, psychological, and sociological variables. During this time, training is progressively and individually graded. Throughout training, human physiological and psychological functions are modeled to meet demanding tasks. (Haff, 2009)

Of all of the systems, required in sports, the visual system is perhaps the last to be achieved successfully and the most difficult to develop and hold. Once the visual systems understood, it will be easier for a coach and the player to achieve success in sports. Vision requires awareness and concentration, and like other learned skills, vision can be taught and trained to improve performance. Vision is the process of learning and reaching to what one sees. (Jayaraja, 2004)

Vision is the signal that directs the body to respond and provides athletes with the information regarding where and when to perform. If the visual system is not receiving messages accurately or quickly enough, performance may suffer. (Berman, 1990)

It is essential that visual systems should be functioning at their highest levels because sports performance can be one of the most rigorous activities for the visual system. (SA, 1993)

The term 'sports vision' has many different meanings to both optometrists and the public, from the very broad through to a sometimes narrow focus on the use of vision training to enhance visual and hence sporting skills. The latter tends to attract a disproportionate degree of attention, as its secrets are highly sought by coaches and optometrists. It is easily the most controversial aspect of sports vision practice. (Erickson, 2007)

A table tennis ball is a light object, and its flight is easily affected by gusts of air or the spin on the ball. Watching the ball onto the bat is the best way to make sure your bat goes to exactly where the ball is, not to where you think it should be. The sweetspot on a table tennis bat isn't all that big - you need to be watching the ball closely in order to make sure you hit the ball in the sweetspot and not the edges of your bat. (Letts, 2017)

MATERIALS & METHODS:

Selection of subjects:

A total of Forty (N=40) male state level table tennis players from Zappers Table Tennis Academy Haldwani (Uttarakhand), age ranging between 14 to 17 years were selected for the study.

Selection of variables:

The table tennis playing ability consists of alternate push, alternate counter, target service and forehand drive on push.

Research design

Randomized group design was used for the study. The selected subjects were randomly assigned into two equal groups (n=20) namely, Group-I acted as Sports Vision Training Group (SVTG). Group-II acted as control group (CG). The pretest was conducted on both of the groups in table tennis playing ability before training and after the completion of twelve weeks sports vision training the post-test was conducted.

Training protocols:

1. Control group:

The participants of the control group undertook only regular table tennis practice.

2. Experimental group:

The participants of this group went through the sports vision training program. Which was scheduled for three days (Monday, Wednesday, and Friday) per week in the morning between 7.00 a.m. to 8.30 a.m. for twelve weeks. The sports vision training programs consisted of warm up and stretching for 12- 15 minutes cool down for 8-10 minutes. In evening they went for their regular table tennis practice. The training protocol involves the following procedure:

A. Day 1 training includes Basic eye exercise, Swinging ball exercise, Catching drills, Juggling drills, Multiball drill, Peripheral vision chart and Ball tossing drills.

B. Day 2 training includes Ladder training exercises, Reaction drills, Shuffle reaction drills, Stepping exercises, Circle drill, Multiball drill, Ball drop drill and Reaction ball exercises.

C. Day 3 training includes Service practice with target, Target hitting drill, Third ball attack (with target), Alternate push drills.

Parameters:

Table tennis playing abilities was assessed by the test constructed by Dr. Pushpendra Purashwani. (Purashwani, 2011)

Statistical Procedure

The data obtained from the experimental groups before and after the experimental period were statistically analyzed with dependent't' test. The level of significance was set at 0.05.

RESULTS:

Table 1:

Descriptive statistics (mean and standard deviation) of table tennis playing ability

Visual skills	Control group		Training group	
	mean	Standard deviation	Mean	Standard Deviation
Pre TST	6.60	1.42	6.50	1.43
Post TST	7.00	1.45	9.15	1.72
Pre APT	14.67	3.82	15.60	2.18
Post APT	15.65	4.99	19.60	1.70
Pre ACT	26.20	3.12	24.80	3.72
Post ACT	25.70	4.99	29.45	3.26
Pre FDP	4.70	3.19	3.30	1.45
Post FDP	4.20	1.57	6.60	2.18

TST: target service test, APT: alternate push test, ACT: alternate counter test, FDP: Forehand Drive on Push

Table 1 showed the descriptive statistics (mean and standard deviation) of control group and sports vision training group before 12 week of training and after 12 week of training on table tennis playing ability (TST: target service test, APT: alternate push test, ACT: alternate counter test, FDP: Forehand Drive On Push)

Table 2: Output of Paired T-Test On table tennis playing ability

	Control group			Training group		
	t-value	p-value (.05)	Sig.	t-value	p-value	Sig.
TST	.969	.345	Not sig	5.75	.000	Sig
APT	1.566	.134	Not sig	11.689	.000	Sig
ACT	.865	.398	Not sig.	12.504	.000	Sig
FDP	.594	.559	Not sig	8.904	.000	Sig

Table 2 showed the results of the paired t-test for control group. For control group the p-value for

target service test (.345), alternate push test (.134), alternate counter test (.398), and forehand drive on push (.559) which is >.05 it showed a non-significant difference in control group table tennis playing ability before 12 week of testing and after 12 week of testing on regular table tennis practice.

It also showed the results of the paired t-test for table tennis playing ability of sports vision training group. For sports vision training group the p-value for target service test (.000), alternate push test (.000), alternate counter test (.000) and forehand drive on push (.000) which is <.05 it showed a significant difference in sports vision training group table tennis playing ability before 12 week of testing and after 12 week of testing on sports vision training.

DISCUSSION:

The present study shows an improvement on table tennis playing ability variables with the help of sports vision training program. The results are in the line with previous research demonstrating Efficiency of the program of visual training (Maysa Fouad Ahmed and Nadia Taher shosha, 2004), a constructive visual training program improves the visual skills in athletes (Cohen 1988), Influence of two sports vision training techniques on visual skills performance of university students (P.J. DU TOIT et. al. 2016). The improvement in visual abilities is in conjunction to human motor learning behavior, which involve learning of new skills and even refining of existing skills with repetition. Relating to this principle, the continuous repetition of vision exercises and task lead to improvement in visual skill variables.

It is essential for an athlete not only how good his eyesight is, as it might be measured by looking at a standard eye chart, but also how good his vision is, that is, how well his brain can interpret the information his eyes pick up, particularly when that information involves moving objects that may be glimpsed only for a split second. Hence vision training helps the athlete in having faster judgment and response in the game as visual information enhances the ball catching skill. (Laurant M, 1993)

Many studies suggested the relationship between vision training and sports specific skills which ultimately enhance the sports performance. The present study also showed a significant difference in sports vision training group who underwent a twelve (12) week of sports vision training programme which leads to significant improvement in the table tennis playing ability of training group in comparison to the control group who did their regular table tennis practice. The selected playing abilities target service, alternate counter, alternate push and forehand drive on push plays a crucial role in the performance factor in table tennis. Table tennis is a sport which comes under the world fastest ball game. It needs lots of quickness and excellent skills to perform on top level.

Nowadays Athletes and coaches are in continuous search of newer and better techniques to enhance performance, and vision playing a particular role in athletic ability can form a platform for this search. The results of the present study indicate that sports vision training improves the table tennis playing ability. As such a specific visual training program targeted to a particular sport can be productive for the performance of an athlete. The present study may help the coaches to make their trainees better so they can perform on the top level.

REFERENCES

Berman, A. (1990). Starting a sports vision practice. Optometric Management, XXV, pp. 30-34.

Erickson, G. (2007). Sports Vision. Vision Carefor the Enhancement of Sports Performance. St Louis: Missouri: Butterworth Heinemann Elsevier.

Haff, T. O. (2009). Periodization Theory and Methodology of Training (5th ed.). Champaign, United States: Human Kinetics.

KANSAL, D. K. (2008). textbook of applied measurement evaluation and sports selection. New Delhi, New Delhi, India: SSS publications.

Laurant M, R. H. (1993). Visual information pick up in ball catching. XII, 273-297.

Letts, G. (2017, July 4). Sports and Athletics: Keeping Your Eye on the Ball in Table Tennis/Ping-Pong. Retrieved august 29, 2019, from www.liveabout.com: https://www.liveabout.com/keeping-your-eye-on-the-ball-in-table-tennis-3174304

MACKENZIE, B. (2004). SPORTSCOACH. Retrieved August 29, 2019, from www.brianmac.co.uk: https://www.brianmac.co.uk/rulerdrop.htm

MACKENZIE, B. (2009). SPORTSCOACH. Retrieved August 29, 2019, from www.brianmac.co.uk: https://www.brianmac.co.uk/handeye.htm

Purashwani, D. P. (2011, OCT). Construction of a Skill Test for Table Tennis Players. International Journal of physical education and sports sciences, II(1), 1-7.

SA, H. S. (1993). What the literature says about sports vision. Optom Clin, III(1), pp. 145-169.

Corresponding Author

Vijay Singh Rawat*

Ph.D. Scholar, Department of Physical Education Pedagogy, LNIPE, Gwalior

vijay.tt74@gmail.com