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Influence of Multimedia Assisted Learning and Supervised Learning on Set Shot and Jump Shot in Basketball among School Boys

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Abstract

The purpose of the study was to find out the influence of multimedia assisted learning (MALM) and supervised learning (SPLM) methods on set shot and jump shot in basketball among school boys. 45 school students in the age group between 13 and 14 years were selected as subjects at random from LMS Higher Secondary School, Nagercoil, Kanyakumari District. They were divided into three groups at random consisting fifteen subjects in each group and they were randomly assigned as experimental group I Multimedia Assisted Learning Method (MALM) group, experimental group II Supervised Learning Method (SPLM) group, and control group. All the subjects were beginners in the game of basketball. The pre-test, post-test random group design was chosen by the investigator to conduct the study. They were tested prior to and after the treatment on selected skills in basketball. The subjects were given 6 weeks experimental treatments on respective methodologies. The data collected on selected shooting abilities using standard tests, prior to and after the treatment were analyzed statistically to find out the significant difference among the groups using ANCOVA. In all cases 0.05 level was fixed. The results of this study proved that comparing with control group, supervised learning method (SPLM); multimedia assisted learning method (MALM) significantly contributed for improving jump shot skill of the school boys. Considering among the treatment groups, SPLM group was found to be superior than MALM group. The results presented on set shot skill test proved that comparing with control group, SPLM group and MALM group significantly improved.

Keywords: Multimedia Assisted Learning, Supervised Learning, Set Shot, Jump Shot, Basketball.

Introduction

Sports in the present world have become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. Therefore, sports life is affected by various factors like physiology, biomechanics, sports training, sports medicine, sociology and psychology etcetera. All the coaches, trainers, physical educational personals and doctors are doing their best to improve the performance of the players of their country. Athletes of all the countries are also trying hard to bring laurels, medals for their countries in International competitions.

Athletic performance has dramatically progressed over the past few years. Performance levels unimaginable before are now common place, and the number of athletes capable of outstanding results is increasing. One factor is that athletics is a challenging field, and intense motivation has encouraged long, hard hours of work. Also, coaching has become more sophisticated, partially from the assistance of sport specialists and scientists. A broader base of knowledge about athletes now exists, which is reflected in training methodology **(Bompa, 1999)** .

Most scientific knowledge, whether from experience or research, aims to understand and improve the effects of exercise on the body. Exercise is now the focus of sport science. Research from several sciences enriches the theory and methodology of training, which has become a branch of science. Basketball is recognized as a complex activity demanding skillful action and quick reflexes of the individual. The skills of the game are pleasurable and provide immediate rewards. Everyone enjoys making a good shot on a fine pass. It is a thrill to release the ball with finesse and see it pass through the hoop or to execute an excellent shooting on pass, on clever fake of an agile maneuver or defensive rebound. Basketball player is required to possess rich quality of various skills besides great variety of athletic traits to be successful in this vigorous court game. The very purpose of each team as defined in the rules of the game of basketball is to score more points than the opponent. The scoring opportunities can be developed only when the players are able to perform fundamental

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skills effetely to get the ball into a highest shooting percentage position or area. Players through skillful rebounding, passing, receiving, cutting, feinting, pivoting, dribbling and setting screens, advance the basketball to the scoring area. **(Barnes. 1972) .**

Sports Training is a pedagogical process based on scientific principles, aiming at preparing sportsmen for higher performance in sports competition. **(Hardayal Singh (1991)** Sports training is the basic form of an athlete's training. It is the preparation systematically organized with the help of exercises, which in fact is a pedagogically organized process of controlling an athlete's development. **(Singh, 1984)** The performance of a sports person improves as a result of development of total personality. Since sports training directly or indirectly focuses attention on development of all-round personality of a sports person, sports training is an educational process (pedagogical process).

This process involved in the learning and retention of motor skills are not well understood, and as yet no single theory of motor learning has gained complete acceptance. Although we have only limited insight into the mechanisms that control complex movements, we know much of practical significance about motor learning during the growing years. Practice with the intent to learn is essential, although the nature, frequency, and duration of practice sessions vary with the maturational level. Fatigue, reduced attention span and loss of interest adversely affect motor learning, such factors being of particular significance in young children. **(Zeigler, 1982)**

One of the physical education teacher's main roles is to be directly involved in helping others to learn skills. Learning can only be inferred from a person's behaviour or performance. Performance is observable whereas learning is not. As a result, learning must be inferred on the basis of performance measures that possess certain characteristics. When learning motor skills, information must be processed by the learner. In the performance of each motor skill, an individual must gather much information from different sources (visual, verbal and kinesthetic) make decisions about that information, and then select a response that is deemed most appropriate for the situation.

The need for efficiency in selecting the proper teaching method is important because efficiency will save time and allow the teaching of more activities in school program. Secondly efficient method will enable each individual to attain a high degree of skill. There has been a standard model of teaching physical education activities, even though individual teachers may deviate from the model in several aspects of their teaching. The traditional model is characterized as 'explain it to them', 'demonstrate it for them', 'let them practice it' and 'correct their errors' **(Singer, 1976).** The other model commonly used in schools in India is 'throw the balls out and let them play' without observation and correction, whereas the beginners in sports should start with use of some form observing others playing, from films and also from looking at diagrams.

Sowan (2014) developed a process of producing the videos in this project can be used as a valuable framework for schools considering utilizing multimedia applications in teaching. **Mohamadirizi, et al. (2014)** compared the effects of two methods, multimedia and illustrated booklet educational method and suggested different aspects of e-learning, including computer literacy and infrastructure of telecommunications, should be revised. **Schilling (1985)** determined a significant difference among three different teaching methods on skill learning in racquetball, namely, the 60 second rally and power drive test components for all three groups were significant on the 't' test. **Reid (1988)** made a study to compare the effectiveness of three learning methods, namely, observational learning, reading of a manual and utilization of an instructional video tape in teaching and indicated that the observational learner gained more knowledge of learning compared with the other two learning methods. **Kernodle, et.al. (2000)** conducted a study on relative effects of transitional information versus transitional information plus video tape replay on the learning of a multiple degree of freedom skill and found both treatments resulted in increasing the performance in learning.

The theoretical foundations based on previous researches proved that there were attempts made to find out the influence of multimedia assisted learning and supervised learning to teach specific skills like tennis, raquett ball etc. However, it was found that there was further scope for research to assess the multimedia assisted learning and supervised learning methods in learning specific skills in basketball, namely, jump shot and set shot.

Methodology

Forty five male students in the age group between 13 and 14 years were selected as subjects at random from Higher Secondary School, Nagercoil, Kanyakumari District. The subjects were healthy and physically active. They were divided into three groups at random consisting fifteen subjects in each group and they were randomly assigned as experimental group I Multimedia Assisted Learning Method (MALM) group, experimental group II Supervised Learning Method (SPLM) group, and control group. All the subjects were beginners in the game of basketball. The pre-test, post-test random group design was chosen by the investigator to conduct the study. Experimental group I, group II, and control groups were selected and assigned by random method. They were tested prior to and after the treatment on selected skills in basketball. Experimental group I was given the MALM, experimental group II was given by the SPLM on shooting skills, namely, jump shot and set shot in basketball. The subjects were given 6 weeks experimental treatments on respective methodologies. The data collected on selected shooting abilities using

standard tests, prior to and after the treatment were analyzed statistically to find out the significant difference among the groups using ANCOVA. In all cases 0.05 level was fixed.

Results

Table 1. Descriptive Statistics Showing Mean, Standard Deviation and Range for Experimental and Control Groups

Groups	Tests	Mean	Std Deviation	Minimum	Maximum
MALM Group	Initial	4.8	0.68	4.0	6.0
	Final	6.07	0.70	5.0	7.0
SPLM Group	Initial	4.67	0.82	3.0	6.0
	Final	6.40	0.74	5.0	7.0
Control Group	Initial	4.80	0.86	3.0	4.0
	Final	5.07	0.70	4.0	6.0

The differences in the means among the treatment groups were tested for statistical significance using ANCOVA.

Table II. Effect of Multimedia Assisted Learning and Supervised Learning on Shooting skills in Basketball

Tests	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
JUMP SHOT					
PRE TEST	Between	0.18	2	0.09	0.14
	Within	26.13	42	0.62	
POST TEST	Between	14.44	2	7.22	14.13*
	Within	21.47	42	0.51	
ADJUSTED MEANS	Between	16.13	2	8.07	46.81*
	Within	7.07	41	0.17	
SET SHOT					
PRE TEST	Between	2.18	2	1.09	1.00
	Within	45.60	42	1.09	
POST TEST	Between	12.84	2	6.42	6.90*
	Within	39.07	42	0.93	
ADJUSTED MEANS	Between	17.48	2	8.74	24.05*
	Within	14.89	41	0.36	

Required F(df 2,42),0.05, 3.22, F(df 2,41),0.05: 3.21 * Significant at 0.05 level

Since significant results were obtained, the results were further subjected to post hoc analysis using Scheffe's Confidence Interval test and the results are presented in Table III.

Table III. Multiple Comparisons of Paired Adjusted Means on Shooting Skills in Basketball

Multimedia Assisted Learning Method	Supervised Learning Method	Control Group	MEAN DIFF	Reqd. C.I
JUMP SHOT				
6.03	6.47	----	0.43*	0.39
6.03	----	5.03	1.00*	0.39
----	6.47	5.03	1.43*	0.39
SET SHOT				
14.22	14.56	----	0.34	0.57
14.22	----	13.09	1.13*	0.57
----	14.56	13.09	1.47*	0.57

* Significant at 0.05 level.

Discussions

The results of this study proved that comparing with control group, supervised learning method (SPLM); multimedia assisted learning method (MALM) significantly contributed for improving jump shot skill of the school boys. Considering among the treatment groups, SPLM group was found to be superior than MALM group. And the differences were found to be significant at 0.05 level. The results presented on set shot skill test proved that comparing with control group, SPLM group and MALM group significantly improved. Considering among the treatment groups there was no significant differences. The findings of this study were in agreement with the findings of Tennant (2000) who found task-oriented group won significantly more points and games compared to the self directed and control groups, regardless of skill and Melinda, (2000) who found the formal instruction and structured practice in a motor development program had greater percentages of increased skill levels on the children.

Conclusions

The both the methodologies, namely, SPLM and MALM may be extensively utilized for teaching skills in basketball.

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