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MODEL PHYSICAL EDUCATION LESSON PLAN ON DEVELOPMENT OF STRENGTH OF DEXTEROUS AMOUNG PREADOLOCENTS

AJAZ AHMAD DAR[1], Prof. SUNIL KUMAR[2] AND Dr.S.VIJAY[3] SAJAD AHMAD DAR[4]

[1]Ph.D Scholar, Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar-608002, Tamilnadu, India,
[2] Assistant Professor GDC Akhnoor Jammu
[3]Assistant Professor, Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar-608002, Tamilnadu, India,
[4] Bped- LVNSSM NAGPUR

Email Id. *ajazdar333@gmail.com*[1] nithukavi@yahoo.com[2] sajadbashir517@gmail.com[4]

Abstract

The purpose of the study was to adaptation of model physical education lesson plan on development of strength of dexterous among preadolescents. To achieve the purpose 40 right handed school girls from Anantnag district, Jammu and Kashmir, India where selected as subject at random and there age ranged between 10-13 years .The subjects were divided into two groups namely physical training group (n=20) and control group (n=20) .The physical training group underwent training for 45 min/3 days /8 weeks including warming up and cooling down exercises. The strength was taken as dependent variable and was tested by hand grip dynamometer before and after the experimental period for both groups on right and left hand alternatively. The collected data was analyzed by using ANCOVA to find significance between groups. Further, the independent't' was employed to find out the difference between left and right hand improvement on selected dependent variable and magnitude of improvement was calculated to find the level of improvement on dexterous. The level of confidence was fixed at 0.05. Hence it was concluded that The model physical education lesson plan improves the strength of dexterous both (Right and Left hand) as compared to the control group.

***Key words*: Model Lesson Plan, Dexterous, Strength, Pre-Adolescents**

1. INTRODUCTION

Dexterous refers to the skill and grace in physical movement, especially in the use of the hands; adroitness. In other words, ability to manipulate fine objects with the hands. Handedness is the preferred use of the right hand, the left hand, or one or the other depending on the task. Handedness is the natural or biological preference for using one hand more than the other in performing special tasks depending on which hemisphere is dominant for the task **(Rice, 1998).**

The adaptive response by the physiological system of the body to physical training, including the neuromuscular system is directly related to the training stimulus. The physical training involves prolonged muscular work increases physical capacity such as strength, endurance, flexibility, co-ordination and so on. The abilities that involve the use of hands, develop over time, starting with primitive gestures such as grabbing at objects to more precise activities that involve precise hand coordination. Fine motor skills, are skills that involve a refined use of the small muscles controlling the hand, fingers, and thumb. Being right or left-handed that matters, but the strength of preference for one hand over the other. The controversial idea, people are not either left-handed or right-handed but "strong-handed" or "mixed-handed" **(Guiard, Y. 1987).**

Biomotor ability refers to the capacity of an individual that forms a foundation for performing a number of skills and hence, motor fitness is the final criterion through which all other elements of physical fitness or total fitness are seen and measured in man. This specific response will tend to emphasize one or more of the abilities that make up fitness. Since these abilities affect how the body moves they are given the name "biomotor abilities". The biomotor abilities are the components of overall physical fitness and an understanding of their inter-relationship which allows the coach to plan training more effectively. Depending upon the specific type of activity in sports events, the requirements for endurance, speed/power and strength are also specific, **Ikai, (1970)**.

Strength refers especially to physical, mental, or moral robustness or vigor, enough work to do, and strength enough to do the work. Power is the ability to do something and especially to produce an effect (**Brookfield, 1994).** Strength is essential for physical activity. The value obtained for the strength of a muscle or muscles depends on the type of action, the velocity of the action, and the length of the muscle or muscles. Although early gains in absolute strength are influenced by neural factors, long-term gains depend mainly on increases in muscle size. A lesson plan is the instructors road map of what students need to learn and how it will be done, effectively during the class time specifying concrete objectives for students learning will help to determine the kinds of teaching and learning activates that we use in class.

METHODOLOGY

To achieve the purpose, 40 right handed girls have been selected from the Girls Secondary School Anantnag, Jammu and Kashmir, India where selected as subject at random and there age ranged between 10-13 years .The subjects were divided into two groups namely physical training group (n=20) and control group (n=20) .The physical training group underwent training for 45 min/3 days /8 weeks including warming up and cooling down exercises. The lesson plan includes; Warming-up part (for 3 minutes), Formal part (for 15 minutes) which includes the free hand exercises (Dumbles, Indian Clap and Dandies), Recreational part (for 10 minutes) that includes (Tug-of-war, Lion and Sheep) and Asana practicing (for 12 minutes) that includes (Dhanoor Asana, Bhujang Asana, Tol Asana, Salabh Asana etc.). Revision and Disperse includes the revision of the lesson and disperse and will run for 5 minutes. The strength was taken as dependent variable and was tested by hand grip dynamometer before and after the experimental period for both groups on right and left hand alternatively. The collected data was analyzed by using ANCOVA to find significance between groups. Further, the independent‘t’ was employed to find out the difference between left and right hand improvement on selected dependent variable and magnitude of improvement was calculated to find the level of improvement on dexterous. The level of confidence was fixed at 0.05.

TABLE I
ANCOVA FOR HAND STRENGTH

VARIABLES	DEXTEROUS	Adjusted Post Test Mean		sov	Sum of Squares	df	Mean Squares	'F' Ratio
		Physical Training Group	Control Group					
HAND STRENGTH	Right Hand	39.08	43.66	B	207.49	1	207.49	80.84*
				W	94.97	37	2.57	
	Left Hand	39.07	44.87	B	318.25	1	318.25	55.12*
				W	213.62	37	5.77	
				W	24.17	37	0.65	

(SOV – Source of Variance, B –Between, W – With-in, df – Degree of Freedom)

* Significant at .05 level of confidence.

(The table values required for significance at 0.05 level of confidence for 1 and 37 is 4.11).

The Table I shows that there was significant difference between the adjusted posttest means of physical training group and control group on right and left hand strength. To find out the improvement on dexterous level, independent 't' ratio was calculated with the magnitude of improvement(%).

TABLE II

DEXTEROUS't' VALUE AND MAGNITUDE OF IMPROVEMENT

VARIABLES	DEXTEROUS	Mean	SD	't' Value	Magnitude of Improvement In %
HAND STRENGTH	Right Hand	4.01	1.90	2.37*	10.43 %
	Left Hand	6.36	3.98		15.71 %

*Significant at .05 level of confidence (The table value required for significance at 0.05 level of confidence for 38 is 2.03 respectively).

The result of the't' shows, significant difference between right hand and left hand on hand accuracy due to selected physical training. The magnitude of improvement was higher for left hand when compared to right hand on hand strength. Hence, it was concluded that the selected physical training improves the dexterous level.

DISCUSSION

The findings confirm that model physical education curriculum improves the strength of dexterous. The physical exercises which includes the warming- up part, formal part, recreational part and review and disperse part .All these parts have a good impact on the neuromuscular system of the body which helps in the improvement of dexterous among school pre adolescent school girls.

Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness **(Madanmohan, 2008**). Yoga is mind-body technique which involves relaxation, meditation and a set of physical exercises performed in sync with breathing. Being holistic, it is the best means for achieving physical, mental, social and spiritual well being of the practitioners

Scientific studies on yoga demonstrate that yoga improves dexterity, strength and sculoskeletal coordination of the practitioners. Postures assumed during yoga practice are mainly isometric exercises which provide optimally maintained stretch to the muscles. Series of asana involve assumption of the pose followed by counter pose i.e. it involves co-ordinate action of synergistic and antagonistic muscles which brings increased steadiness, strength, stamina, flexibility, endurance, anaerobic power, better neuro-muscular coordination and improved orthostatic tolerance. A properly selected set of exercises stretches nearly all joints and joint capsules without much danger of injuries and exhaustion

CONCLUSION: It was concluded that the model physical education curriculum improves right hand and left hand on hand strength of dexterous (Hands). The non-dominant hand shows better improvement on hand accuracy. Hence, non-dominant has improves accuracy when compared to base level.

IMPLICATION: If an individual having better dexterity, they can able to do any sort of work with both hands simultaneously without having any tired. Strength on dexterous lead major role in fine motor activity such as drawing, painting, curving sculpture and so on. In sports the strength plays important role in ball games while throwing accurately example in cricket bowling and fielding. Therefore, the finding of the study helpful to the coaches and physical educationist to enhance the dexterity of players who involved in the various sports activities. The physical training on dexterity was helpful to the players to use there both dominant and non-dominant hands effectively. Being ambidextrous (using both hands) in sports activity is especially helpful during the competition.

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