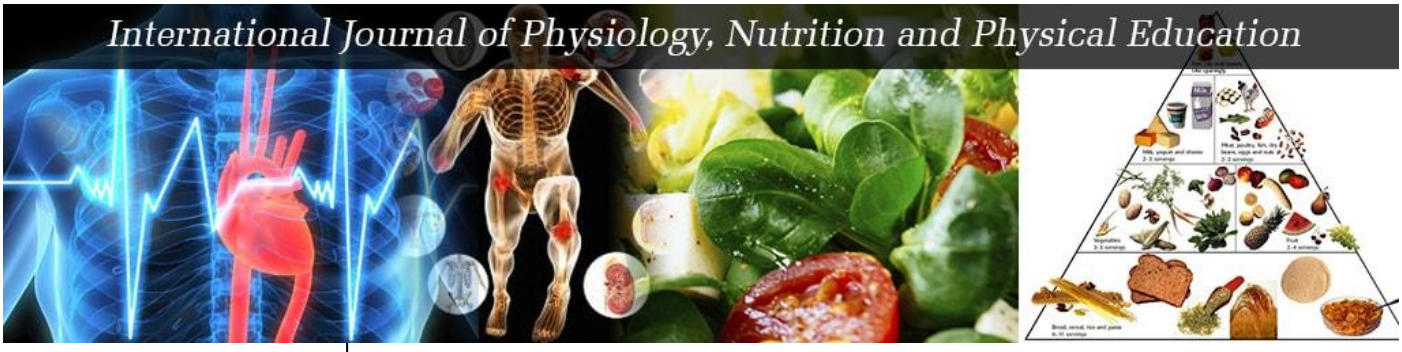

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Model physical education curriculum and its impact upon the selected bio-motor variables balance and coordination of dexterous preadolescents

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Abstract
Curriculum is a comprehensive plan for an educational training program course to offer new improved work force to fulfill the rising needs of a dynamic society. The physical education curriculum framework is structured to ensure that students can enjoy an open, flexible and balanced program featuring a variety of movement experiences. 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. Since these abilities affect how the body moves they are given the name "biomotor abilities". 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. The purpose of the study was to find out the impact of model physical education curriculum on selected coordination and balance of dexterous preadolescents. For that purpose 40 right handed dominance preadolescent students from Dream land educational institute Anantnag Jammu and Kashmir India were taken as subjects. The age ranges between 10-13 years. The subjects were divided into two groups (n=20), the experimental group and control group. The model physical education curriculum was implemented on the experimental group. The curriculum contains three parts A (the physical exercises), B (the yogic asana), C (the recreational part). The experimental group underwent training for 15 weeks, 4 days a week and 45 minutes per class including warming-up and cooling down exercises. The Hand Screwing Coordination (Bennit hand tool dexterity test) and Hand steadiness (Whipple's steadiness tester) on left and right hand were selected as dependable variables and tested before and after experimental period. The collected data was analyzed by using ANCOVA. Further independent't' was calculated to find out the difference between left and right hand and the percentage was also calculated to find out the level of improvement on dexterous. Level of confidence was fixed at 0.05. The result of the study shows that the model physical education on curriculum improves the coordination and balance of selected subjects (experimental group). As compared to control group.

Keywords: Physical education curriculum, dexterous coordination, and balance

Introduction
Curriculum is a mean to achieve the aims of education which are dynamic and go on changing with the changing social requirements. It includes all the experiences that child undergoes the guidance of school authorities. It is the interaction between and among pupils (Hamilton and David 2014) [4]. Physical education is distinguished from other curricular areas by its primary focus on the body and on physical experiences and is an integral part of the educational process, without which the education of child is incomplete. Physical education is distinguished from other curricular areas by its primary focus on the body and on physical experiences and is an integral part of the educational process, without which the education of child is incomplete lives Curriculum include activities that help kids obtain and improve skills, such as running, catching, throwing and striking, applicable to sports such as base ball, volleyball or karate. Balancing skills could be applied to dance or gymnastics. Physical education is distinguished from other curricular areas by its primary focus on the body and on physical experiences and is an integral part of the educational process, without which the education of child is incomplete.
Dexterity is usually defined as a function of control, the coordination of muscle movements usually in synchronization with the eyes and it can also be defined as the quality of motor

skills of hands and fingers. Baum C, (1995) [1] and Clark, Czaja, & Weber, (1990) [2]. Dexterity refers to fine motor skills in using ones hands. Dexterity is the coordination of small muscles, in movements-usually involving the synchronization of hands and fingers-with the eyes. The complexes level of manual dexterity that humans exhibit can be attributed to and demonstrated in tasks controlled by the nervous system. Fine motor skills aid in growth of intelligence and develop continuously throughout the stages of human development.

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 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) [3].

Balance is the ability to hold your body upright and steady without falling down. This could be sitting, standing, walking or running. Balance is an essential part of child development and children must learn to balance before they can progress to higher level gross motor skills such as cycling, hopping, galloping or skipping.

Coordination is the ability to repeatedly execute a sequence of movements smoothly and accurately. This may involve the senses, muscular contractions and joint movements. Everything that we participate in requires the ability to coordinate our limbs to achieve a successful outcome - from walking to the more complex movements of athletic events like the pole vault. All sports require the coordination of eyes, hands and/or feet and maybe an implement and a ball. Racket sports (e.g. tennis and squash) require the coordination of hand, eyes and racket to connect the racket with the incoming ball as well as position our body in an appropriate position to return the ball in an efficient and effective manner. Kasimatis, M. *et al*. (1996) [5].

Material and methods

For that purpose 40 right handed dominant preadolescent students from Smart Mission high school Anantnag Jammu and Kashmir India were taken as subjects. The age ranges between 10-13 years. The subjects were divided into two groups (n=20), the experimental group and control group. The model physical education curriculum was implemented on the experimental group. The curriculum contains three parts 'A' (the physical exercises), 'B' (the yogic asana), 'C' (the recreational part).The physical exercises contain the simple exercises and some special exercises like Bouncing the basketball (right and left hand alternatively), Wall catching (right and left hand alternatively), Ball juggling (both right and left hand), Target throw (both for right and left hand). The yogic part includes the exercises like Dhanoor asana, Bhujang asana, Ananda Bal asana etc. The part 'c' that is the recreational part includes the recreational activities which helps to refresh the students after the finish of the above two parts, the main reason to include the recreational part in curriculum is that the children can feel the curriculum easy and can enjoy it and also prepare them to get ready for next work. Every three weeks the load and intensity of exercises was increased by 5%; so that the physiological will adopt by the model physical education curriculum on coordination and balance development among Dextrous Pre adolescents.

The model physical educational curriculum was implemented on the experimental group for 15 weeks, 4 days a week and 45 minutes per class including warming-up and cooling down exercises. The hand screwing coordination and balance were selected as criterion variables. The (hand grooved pegboard and whipple's steadiness tester)were selected as testing tools The data was collected from two groups on hand grip screwing coordination and throw for accuracy of left and right hand was statically examined by applying ANCOVA to find out significant difference. Further independent "t" was calculated to find out the difference between left and right hand and also percentage was also calculated to find out the level of improvement on dexterous. Level of confidence was fixed at 0.05.

Table 1: ANCOVA for Coordination and Balance

	Adjusted post test Mean							
Variable	**Dexterous**	**Physical training group**	**Control group**	**SOV**	**Sum of squares**	**df**	**Mean square**	**F ratio**
Hand screwing coordination	R.H	1.26	1.35	B	0.072	1	0.072	55.10*
				W	0.048	37	0.001	
	L.H	1.38	1.46	B	0.056	1	0.056	38.61*
				W	0.054	37	0.001	
Balance	R.H	55.28	50.75	B	185.58	1	185.58	97.50*
				W	70.42	37	1.90	
	L.H	37.86	26.91	B	165.76	1	116.71	
				W	225.12	37	6.90	169.07*

R.H-right hand, L.H-left hand, SOV-source of variance, df-degree of freedom. Significance at .05 level of confidence. The table value required for significance at 0.05 level of confidence for 1 and 37 is 4.11.

The table shows that there was significant difference between the adjusted post test mean of both physical training and control group on right and left hand balance and coordination.

To find out the improvement on dexterous level independent "t" ratio was calculated with the magnitude of distance percentage.

Table 2

Variable	Dexterous	Mean	SD	"t"value	Magnitude of distance in%
Hand screwing coordination	R.H	0.12	0.08	0.11	4.95%
	L.H	0.11	0.15		2.22%
Balance	R.H	0.94	0.78	1.54	12.38%
	L.H	0.65	0.33		11.50%

Significance at .05, The table value required for signifance at 0.05 level of confidence for 38 is 2.03 respectively.

Result

The table shows that there was significant difference between the adjusted post test mean of both physical training and control group on right and left hand balance and coordination. To find out the improvement on dexterous level independent "t" ratio was calculated with the magnitude of distance percentage. The result of the "t" shows, insignificant difference between right hand and left hand on maximum strength.

Discussion

The findings confirm that model physical education curriculum which includes the part A (Physical Exercises) Part B (Yogic Asana) Part C (The Recreational Part) epically the physical exercises and yogic part has made a significant effect on strength. 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 boys. The following findings of different researchers were in conformity with this study.

The present study on coordination and balance of dexterous improved through model physical education curriculum program. The result of present study will make understand about importance of coordination and balance on dexterous and the need of performing various tasks in connection with sports as well as day to day life. Coordination – Making movements work together smoothly and balance helps to occur the movements accurately. This usually consists of upper and lower body movements being performed at the same time. Coordination and balance is a skill-related component of physical fitness.

Conclusion

It was concluded that the model physical education curriculum which includes a set of exercises programs helps in improving the coordination and balance of dexterous hands. Hence the dominant hand shows better improvement. The non-dominant hand has also improves the two bio-motor variables (coordination and balance) when compared to base level.

Implication

The results of the study give an idea about the physical training through curriculum on dexterity. If an individual is heaving better dexterity, they can able to do any sort of work with both hands simultaneously without getting tired. The findings of the study are helpful for physical educationists and coaches to enhance the dexterity of players who involved in various sports activities. The players can use their dominant and non-dominant hands effectively while performing any kind of physical activity. Being ambidextrous (using both hands) in sports activity is especially helpful during the competition.

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