PREPARATION TECHNIQUE IN BASKETBALL TO STUDENTS THROUGH CAPACITY BUILDING COORDINATION

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ABSTRACT: Coordination must be educated basketball because those exercises lead to qualitative changes resulting from collaboration between exteroceptors, proprioception and cortex cells. The aim of the research was to identify the forms and level coordination of capacity development and implications of female students have on specific technical properties of elements and procedures of basketball. The research objectives were: to identify issues and context of approaching the subject, assess the potential biomotric, establishing distinct components of coordinative capacities, which should mostly educated and composition of their development program, testing coordination of capacity development programs. Research methods and techniques: bibliographic study method, the method of observation, survey, measurement method, experimental method, statistical and mathematical methods, computer graphics methods. The results obtained by both experiment and control groups are satisfactory. Both groups have made progress within expected instructional objectives. We want to emphasize that all the tests applied experimental group achieved better average than the control group.
Key words: *basketball, coordination skills, technical.*

Introduction

After studying literature, scientific research aimed at investigating this issue, but the experience acquired in practical lessons with students, we were able to identify a number of ideas that you can consider arguments convincing introductory address the subject investigated. Among these arguments lists the following ideas: "skill components, including coordinative ability, makes the provision and upgrading various motor actions (habits, skills, techniques and technical-tactical actions), and making the other driving qualities. She is involved in all actions involving a degree of coordination. Any voluntary movement, regardless of the degree of difficulty they claim to perform a show of skill, they coordinate the cerebral cortex." [1]

All these records are serious arguments supporting the idea that improved coordination abilities favors the learning speed of the game of basketball technique. Evaluation also has an important role in the physical education lesson students. "These can be expressed by the following formula: E = M + A + D, that evaluation is a consequence of measurement operations that allow objective assessment of measured values in order to take the right decisions for the next stage of learning [2].

Made in good physical education to the students and physiological aspects. The most common issues raised by women's sports are setup delay puberty, exercise capacity changes during the menstrual cycle, menstrual disorders induced by intense activity, pregnancy and maternity. [3].

Problem of coordination of the human body plays an important role in scientific research and literature. Starting from the name that the authors considered it can be said that coordination skills can be called generic skills, which consists of the following capabilities: learning, guidance and control of movement, adaptation and transformation of movement. [**4**]. In the literature (international and Romanian) emerged the concept of skill, regarded as highly complex motor skills underlying properties and principles driving skills. Some authors are proponents of the concept of skill as say "you can not solve a game with just coordinative capacity. [5]

Romanian literature there have been (and are) many concerns for research coordination capabilities. "Coordinative abilities are not genetically determined but are perfected through practice." [6]. As components of coordinative capacity are considered to be the "general adaptability and transformation, leadership ability, learning ability and special: dexterity, balance, elasticity of movement, combined capacity, fantasy movement". [7].

Characteristics and development trends of basketball are "imposing tempo of the game by achieving individual and collective tactical actions as soon as possible, increased action game and use aggressive defenses. Preparation psycho-motor, high-level athletic specified to achieve and maintain the tempo of the game." [8]. "Performance is dependent on the total capacity of the athlete, the capacity performance of bio-psycho-social system as a result of improving performance tuning systems functions morphological, functional, physiological, informational, decisional, psycho-regulator etc.

Performance is thus the appearance of Excellence (optimum) of the human being)". [9].

Solving tasks by students driving capability requires significant coordination sides. "Every move is aimed at solving a task which included driving parameters space, time, force, speed, precision, skill are important sides. Control motor coordination involves temporal, spatial and singular and complex muscular movements that occur in response to a request interim external sensory or objective." [10]. "A desired joint distribution of actions is said to be achievable if for Empirical coordination under the communication constraints in the network, the total variation distance of the Empirical distribution of actions (over multiple instances of such actions), can be made arbitrarily small. A desired joint distribution of actions is said to be achievable in the network for strong coordination actions Can Be Generated When randomly, independently from one time to the next, to make the total variation distance from the Desired distribution arbitrarily small." [11].

Hypothesis

We started with the idea that if we identify the forms of coordination capacity favoring students practicing basketball by components of representative teams when they become operational instructional objectives and the quality and efficiency of learning and strengthening technical and tactical actions will increase significantly.

Material And Methods

a) Research Protocol (time, place)

Interrogative assertions and research hypotheses were milestones trigger experimental approach. Thus, in accordance with the known structure of the paper is as follows prominent research protocol:

- Phase I (1-20 October 2011) in the sports hall and Pharmacy "Carol Davila".

Preliminary study on bio-motor potential generality of the two groups (experimental and control).

- Phase-II of the experiment (20 October 2011 - 20 April 2012 / academic year 2011-2012) in the sports hall and Pharmacy "Carol Davila".

Specifically, the experimental group along with learning the game of basketball specifically worked (15 minutes each lesson) coordination skills education programs. Worked in the control group after traditional program.

- Stage-III (20 April 2012 - 20 June 2012 / academic year 2011-2012)

Both groups (experimental and control) were tested in terms of techniques learned, including: instead of throwing in the panel (note and percentage), free throw with two hands (and percentage grade) dribble shooting the (left-right) shooting on the run (left-right) passes the wall running, agility legs in the game, the speed dribble (left - right).

b) Subjects and groups

Experimental research subjects were students representing components basketball team academic year 2011 to 2012. The experimental group consisted of components representing basketball team "Carol Davila" with a staff of 15 students. Control group, consisting of components basketball team representing the University of Bucharest, with a staff of 16 students. Control group has worked in the sports hall of the University of Bucharest. In terms of material and technical equipment we can say that both facilities have provided optimal conditions for training and participation in competitions.

c) Tests applied

Psychomotor tests (coordination capacities)

1. Flamingo (static balance)
2. Specific coordination static test (static balance)
3. Specific test for dynamic balance
4. Overall coordination test, relative strength, speed of execution (year 4-stroke)
5. Test Matorin

General motricity parameters

1. Running 20-m high home (speed, speed-strength)
2. Standing long jump (flashing up - Coordination)
3. Kept hanging (strength in your arms)
4. Lifting the trunk (abdominal strength)
5. Support pushups with bench gym (strength in arms)
6. Throwing tennis - strength of body and arm
7. Speed of jumps execution
8. Hip joint mobility

Specific tests basketball game

1. Shooting the place

- under the panel with one hand (2-3 M) - 10 throws - note and percentage
- Free throw with two hands - 10 throws - note and percentage

2. Shooting of dribbling - note (left – right)
3. Throwing on the run - note (left – right)
4. Passing the wall (in running)
5. Agility in moving defender (box)
6. Movements in attack without dribbling and dribbling (left and right) confined space

d) Experimental research methods

1. Bibliographic study method
2. Observation method
3. Statistical method – mathematical

In our research, data obtained through measurements and tests were statistically - noting the following indicators:

●Upper limit (LS) or Xmax = largest value in the data string;
● Lower limit (LI) and Xmin = the lowest value of the data string;
● Amplitude (W) or rank - which is calculated as: W = Ls - Li (or Xmax - Xmin)
● Average weighted arithmetic
● Standard deviation (S)
● The coefficient of variation (CV)
● mean difference (null hypothesis)
● t - statistical test
● T - critical unilateral
● T - critical bilateral
● correlation indices

RESULTS

Observation and assessment of psychomotor manifestations of experimental group subjects was done through observation protocols.

Table no. 1. The degree of manifestation of psychomotor skills in the final phase of implementation

	STRONG	**MEDIUM**	**LOW**
GE	6	4	4
IS	6	4	4
LM	6	5	3
HB	7	3	4
PF	4	6	4
RC	5	5	4
FM	5	6	3
MD	7	3	4
BG	3	7	4
PS	0	7	7
BA	4	6	4
SC	1	7	6
GN	5	5	4
VA	8	5	1
CE	4	8	2
$\bar{X}$	4.733333	5.4	3.866667
S	2.186539	1.502379	1.407463
∑ pct.	71	81	58
%	33.8%	38.6%	27.6%

Figure no. 1 - Share of psychomotor manifestations in percent

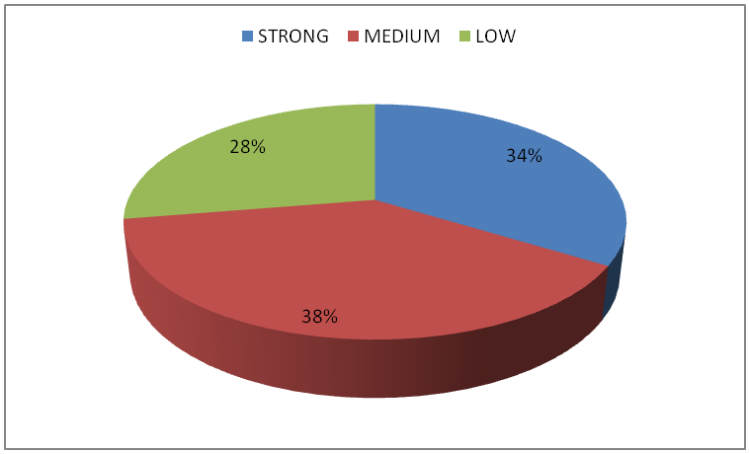

Table no. 2. Comparison of results obtained by the two groups in motor function tests general and specific motor skills

TEST	GENERAL MOTILITY			TEST	SPECIFICATIONS MOTILITY		
	CONTROL	EXPERIMENT	DIFFERENCE %		CONTROL	EXPERIMENT	DIFFERENCE %
travel speed	4,41	4,07	-7,71	throwing off with a hand	5,44	5,8	6,67
standing long jump	1,62	1,63	0,78	throwing off with two hands	5,44	6,2	14,02
maintained	17,56	24,6	40,07	throwing right and left	5,13	5,93	15,77
trunk lift / 30”	17,69	22,53	27,4	Throwing dribbling right	6,38	7	9,8
pushups	14,75	16,73	13,45	dribbling from left running	5,19	5,67	9,24
throwing tennis balls	19,31	20,07	3,91	dribbling from running right	6,38	7,13	11,9
jumping	7,13	7,01	-0,51	passing running	20,81	19,33	-7,11
mobility	16.94	22,73	34,24	agility	17,88	16,67	-6,76

Table no. 3. Basketball specific tests - experimental group

1.	field goal in place with one hand (%)	55%
2.	field goal in place with one hand (note)	5,8
3.	shooting with two hands (note)	6,2
4.	shooting with two hands (%)	55%
5.	shooting of dribbling (left - note)	5,93
6.	the dribble shooting (right - note)	7
7.	shooting from running (left - note)	5,67
8.	shooting from running (right - note)	7,13
9.	Wall of travel passes	19,33 sec.
10.	agility - field trips (box)	16,67 sec.
11.	Dribble with left (box)	26,06
12.	Dribble with right (box)	23,6

Table no. 4. Parameters coordination capacity

No.	TEST	INITIAL	FINAL	DRUG	EFFECTS	Null hypothesis
1	Flamingo	9	13,47	increase 49,63%	high	is rejected
2	Coordination right static	6,93	12,2	increase 75,96%	high	is rejected
3	Static coordination left	6,47	13,27	increase 105,15%	high	is rejected
4	Dynamic equilibrium	7,47	8,47	increase 13,39%	high	is rejected
5	Steering speed - power	10,33	12	increase 16,13%	high	is rejected
6	Consecutive jumps	4,46	4,8	increase 7,8%	high	is rejected
7	Jumping right	6,44	6,78	increase 5,25%	high	is rejected
8	Jumping the left	6,66	6,92	increase 3,91%	high	is rejected
9	Right coordination	3,27	4	increase 22,45%	high	is rejected
10	Left coordination	2,93	3,6	increase 22,73%	high	is rejected
11	Handling the ball	8,53	10,07	increase 17,97%	high	is rejected
12	Jumping coordinated	49,2	54,93	increase 11,65%	high	is rejected
13	Right Matorin	300	313,33	Increase 4,44%	high	is rejected
14	Matorin left	304	314,67	Increase 3,51%	high	is rejected

Table no. 4. Parameters coordination capacity

These are average results obtained by experimental group students. Mention that we had an initial measurement as Medical students selected had no prior experience practicing basketball, and the few who said they have basketball practice actually impacted occasionally have a training course supported.

Table no. 5. Correlation coordination capabilities with specific tests

			dynamic equilibrium		coordination	flashing			handing the ball between legs		Jumping the rope			
	right	left	right	left	NOTE	30"	3 x (m)	5 right	5 left	right	left	Repetari / 60 sec	30 secunde	right	left
Field goal in place with one hand Note	0.40	-0.22	0.34	0.30	0.30	0.15	0.49	0.27	0.38	0.28	0.49	0.40	0.14	-0.03	0.54
Field goal in place with one hand (%)	0.33	-0.26	0.34	0.16	0.21	0.02	0.34	0.13	0.30	0.25	0.62	0.46	0.17	-0.05	0.71
Shooting off with two hands Note	-0.04	-0.55	-0.03	0.80	0.07	0.10	0.10	0.03	0.04	0.00	0.30	0.21	0.09	0.22	0.11
Shooting off with two hands (%)	-0.27	-0.47	0.18	0.48	-0.05	0.33	0.17	0.34	0.24	0.17	0.40	0.36	0.46	0.36	0.24
Dribbling shooting from left Note	-0.03	-0.55	0.22	0.35	0.43	0.06	0.28	0.18	0.27	0.14	0.53	0.44	0.14	-0.16	0.66
Dribbling shooting from right Note	0.00	-0.61	-0.25	0.30	0.45	-0.24	-0.06	-0.27	-0.03	-0.24	0.13	0.12	-0.20	-0.43	0.21
Field goal of running (10 throws) left Note	-0.03	-0.53	0.12	0.50	0.09	0.12	0.33	0.19	0.46	0.14	0.65	0.61	0.31	0.01	0.49
Field goal of running (10 throws) right Note	-0.12	-0.20	0.13	0.33	-0.07	0.00	0.34	0.21	0.45	0.00	0.49	0.38	0.24	-0.01	0.67
Passing the wall running (8 assists) sec.	0.17	0.35	-0.04	-0.19	0.28	-0.35	-0.41	-0.50	-0.33	-0.30	-0.69	-0.71	-0.57	-0.50	-0.22
Agility Sec	-0.37	0.08	0.03	-0.14	-0.18	-0.20	-0.44	-0.16	-0.54	-0.18	-0.48				

The results obtained by the two groups are satisfactory. Both groups have made progress within expected instructional objectives. However, we wish to emphasize that in all ten tests applied experimental group achieved better average than the control group.

Discussions

Special attention we paid a coordinative capacity parameters, which contributed substantially to our research hypotheses, which suggested to ascertain whether coordinative abilities are involved in teaching technical and tactical actions in the game of basketball as shown in Table. 3. Statistical data obtained allow us to conclude that the materiality p = 0.00 less than 0.05, the results of the tests (initial - final) differ significantly, so the null hypothesis is rejected. However, the parameters put into question index effect size is large (to very high). The spectacular progress made to coordinate the left static (105.15%) and right (75.96%), flamingo (49.63%). The second category consists of improved indicators: hand coordination / right-left - 22.73% and 22.45% respectively, handling the ball (17.97%), jumping rope 11.65%.

Conclusions

General motor function indicators, especially indicators calculated statistics highlight the following important aspects:

⇨ one can see a decrease in speed of displacement evident on 20m. As one observes, the average obtained experimental group is lower (better) by -5.43%. So mostly training program and capacity building programs have enabled favorable coordination on development speed.

⇨ one has improved and flashing legs. Thus, there was a 6.81% difference, so here coordinative capacity building programs had a beneficial effect.

⇨ a force of arms extensor muscles decreases by 4.56%. We can not give an explanation than that the students have not given the same attention as the initial stage of this evidence.

⇨ one improved speed and performance indicators of jumping and explosive power arms, following the opt coordination of capacity development programs. Therefore, it is these samples provides a capacity increase coordination educated us.

Mean motility parameters specific to basketball final testing experimental group were positive. Parameter values recorded at final testing differ statistically significantly from a rate of 40%, i.e. only 4 of 10 parameters. Following the verification of statistical hypotheses using ANOVA, the null hypothesis was rejected at the 4 parameters (field goal in place with one hand, shooting the dribble, left, dribbling shooting the right and roll the cart from running - right 10 throws), materiality (p) calculated is lower than the threshold set reliable, $\alpha = 0.05$.

Parameters calculated from final testing environments indicate values close to the other 6 samples. Given the values of statistical indicators of dispersion (standard deviation, variance, standard deviation, range and coefficient of variation (mostly between 10% and 20%), we can say that the two groups in relation to this category of parameters are relatively homogeneous.

A simple presentation of these average values confirms that coordination capabilities positively influence a number of motor skills especially for teaching - learning the art of the game.

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