CZU 796.322

HANDBALL GAME, IMPORTANT MEANS OF PHYSICAL EDUCATION AND SPORTS

***Chirazi Marin*[1],**
***Constantin Iuliana Luminița*[2],**
[1]*„Alexandru Ioan Cuza" University, Faculty of Physical Education and Sport, Iasi, Romania*
[2]*Secondary school "Nicolae Iorga", Iasi, Romania*

Abstract. *Handball has emerged in Europe at the end of the nineteenth century and the beginning of the twentieth century through the transformation of popular games and under the influence of other sports games. The handball game is based on a harmonious combination of basic driving skills, namely running, throwing, jumping, jumping on the one hand and the simple, accessible and attractive, on the other hand. At the same time, the game takes place on a background of intense psychic solicitations that have a strong formative-educational role. For these reasons, handball is considered to be an important means of physical education that contributes to the achievement of its goals and content, being included in the curriculum starting with primary classes.*
Keywords:

Introduction. The handball game is based on a harmonious combination of basic motor skills, namely running, jogging, jumping, on the one hand, and the simple, accessible and attractive, on the other hand. At the same time, the game takes place on a background of intense psychic solicitations that have a strong formative-educational role. For these reasons, handball is considered to be an important means of physical education that contributes to achieving its objectives and content. At the same time, rationally practiced, it contributes to the multilateral development of physical and mental capacities, the acquisition of motor skills and special technical and tactical knowledge. As a consequence, school physical education programs provide some content related to the learning of handball.

Handball can be practiced in its entirety, namely, through games, at two gates and in the form of exercises that once appropriated can be applied in the game, increasing the effectiveness of attack and defense actions. Being a complete sports game that engages the entire muscles in activity and thereby activates the great functions of the body, handball is preferred to other games and by teachers and professors. It is said that handball is athletic with the ball, because in order to be played, he pretends from the ones who practice it - to run, jump and throw (Ghermănescu I. K., 1983;

It is well known that, „among all the contents of the curriculum, sports play is the main point of interest for students of all ages and both genders. This attractiveness is justified by the fact that the practice of a game performs, in higher conditions, students' dreams for relaxation and recreation, issues of great importance if we consider the intense intellectual demands imposed by the school program. Taking advantage of the favored framework offered by sports games, the teacher has to use the technical procedures and to develop motor skills

Muscle mass develops relatively slowly, muscle tone has lower values, which favors amplitude movements, muscle strength is virtually reduced, and maintaining balance requires an extra effort. Cognitive activities favor an obvious intellectual development, which gives the child a great receptivity. The predominance of cortical exudation causes external stimuli to produce exaggerated, inadequately coordinated motor reactions, also explainable by a poor inhibition of differentiation. Motricity at this stage is very high, the ability to learn motor-remarkable, but the possibilities of fixing new moves are reduced. Consequently, only systematic repetition integrates and stabilizes the new structure in the child's motor repertoire. Fundamental motor skills undergo a

consolidation-perfecting process.

At the beginning of the 7-year, he/she has difficulty of movement in relation to the ball trajectory. At 9-11 years-old, ball movements are safer and are characterized by maintaining vertical postural stability. The pubertal stage is an optimal interval for learning most of the motor skills specific to sporting disciplines, as well as for the development of speed, strength, and coordination skills. In addition to refining the basic motor skills learned in previous stages, initiating sports and disciplines by acquiring their specific technical and tactical elements is one of the important goals of this stage.

Ursula Şchiopu and Emil Verza (1997) are of the opinion that: „The fundamental type of activity for the period of puberty remains the theoretical and practical learning and training, including the preparation for the proper exercise of a productive professional activity.

Research hypothesis: It has been assumed that by using handball specific means in the physical education lesson, a more rapid progress is achieved in the formation and development of motor skills specific to some sporting branches and in the increase of the indices of manifestation of the motor qualities.

Purpose of the research: The purpose of the research was to demonstrate that the objectives proposed by the school curriculum can be achieved within physical education classes by specific means of handball.

Research tasks:

- scientific documentation by consulting the specialized literature;
- establishing the stages of the research and the sample included in the experiment;
- knowledge of the handball directions and trends in the world;
- knowledge of the internationally applied game model;
- establishing the research methods to be used throughout the experiment; developing the training model and the operational means;
- final assessment of the sample, following the application of training models; processing and interpretation of initial and final results and comparative analysis of results with the somatic and motor model at national level;
- validation of the hypothesis, formulation of conclusions and proposals.

Research used methods: Bibliographic documentation method, observation, data recording method, mathematical-statistical method and graphic method.

Organization. The experiment was conducted in the school year 2017/2018 at "Nicolae Iorga" Gymnasium School, Iasi, in the 4th grades. For the experiment, 2 classes were selected, which consisted of one experimental and the other the control group, both with 27 students. Initial tests were applied in October 2017 to both research groups and in April 2018 final testing was carried out. The experiment consisted in the use of a set of handball selective means in the experimental group in order to achieve the objectives of each lesson according to the planning documents.

Samples used in subject testing at the beginning of the experiment, during and at the end of the experiment.

The measurements were carried out at the beginning of October and at the end of May, the annual accumulation reference values being those included in the literature, respectively: 5 kg on average per year for weight; 4.5 cm / year, on average - for height.

Testing Physical Development of Students - includes four tests, related to:

- Body weight is an indicator of the body's quantitative growth, which expresses the physical development of subjects from one period to the next (in our case for a period equal to the experiment);
- Body height, stature or waistline is the distance between the head (vertex) and soles, measured in the standing position (the tali-

ometer was used).

- Chest perimeter

Table 1. Initial results at the somatic level, experimental group

No	Sample		Experimental group	Differences
1	Waist (cm)	140	140	0
	Weight (cm)	30	36.72	6.72
	Chest perimeter (cm)	65	65,36	0,36
4	Scale (cm)	150	147,96	2,04

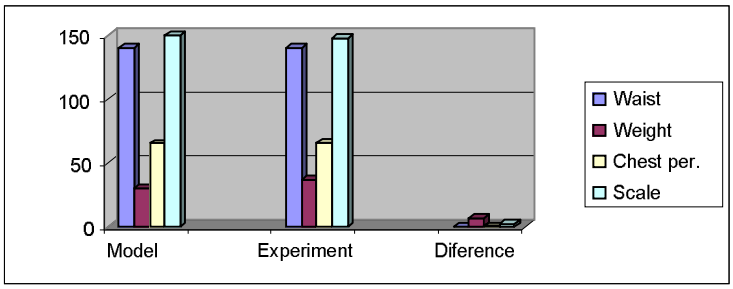

Fig. 1. Initial somatic results of the experimental group compared to the performance model

Table 2. Initial results at somatic level, control group

No	Sample		Control group	Differences
1	Waist (cm)	140	139,96	0,04
	Weight (cm)	30	37.20	7.20
	Chest perimeter (cm)	65	64,20	0,80
4	Scale (cm)	150	147,36	2,64

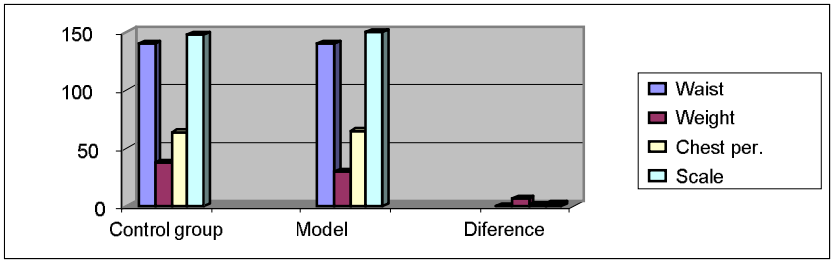

Fig. 2. Initial results of the control group at somatic level compared to the performance model

Table 3. Comparative results between experimental and model group at somatic, final level

No	Sample	Experimental group	Performan-ce model	The diffe-rence	Control group	Performance model	The difference
1	Waist (cm)	143,28	140	3,28	143	140	3
	Weight (cm)	38.88	30	8.88	39	30	9
	Chest perimeter (cm)	70,2	65	5,2	68,96	65	3,96
4	Scale (cm)	153,4	150	3,4	151,92	150	1,92

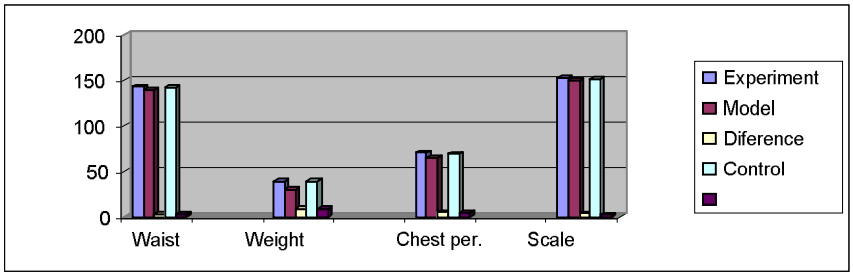

Fig. 3. Somatic presentation of the two groups compared to the performance model

Table 4. The comparative results obtained by the two groups at the somatic level

Nr.	Sample	Experimental group		Progress	Control group		Progress
		Initial	Final		Initial	Final	
1	Waist (cm)	140	143,20	3,20	139,96	143	3,04
	Weight (cm)	36.72	38.88	2.15	37.20	39	2.20
	Chest perimeter (cm)	65,36	70,2Cm	4,84	64,2	68,96	4,76
4	Scale (cm)	147,96	153,4	5,44	147,36	151,92	4,56

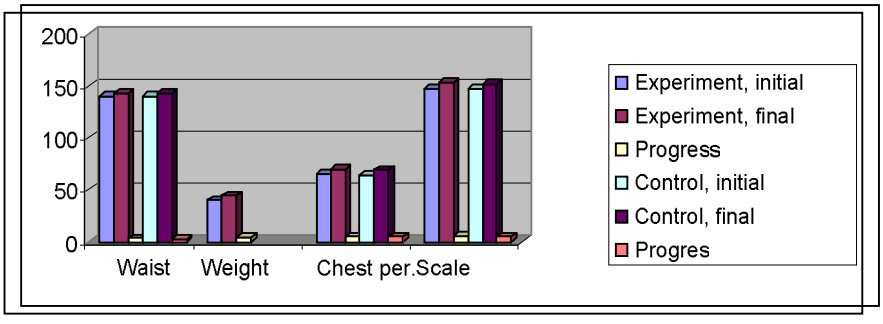

Fig. 4. Comparative results between the two groups, somatic, initial and final

Table 5. Statistical processing of the results obtained by the experimental group at the somatic level

No	Sample	Test	X	Σ	As	Am	Cv
1	Weight (cm)	Initial	140	1025,21	42,71	1,7	30,50
		Final	143,20	1518,08	63,25	2,5	44,16
	Chest perimeter (cm)	Initial	36,72	2554,64	106,44	4,2	289,86
		Final	38,88	2515,04	104,79	4,1	269,52
3	Weight (cm)	Initial	65,36	1399,76	58,32	2,3	89,22
		Final	70,20	1356	56,5	2,2	80,48
	Chest perimeter (cm)	Initial	147,96	923,6	38,48	1,5	26,00
		Final	153,4	870,84	36,28	1,4	

Table 6. Statistical processing of the results obtained by the control group at the somatic level

No	SAMPLE	TEST	X	Σ	As	Am	Cv
1	Weight (cm)	Initial	139,96	959,96	39,99	1,59	28,57
		Final	143	1448,24	60,34	2,41	42,19
	Chest perimeter (cm)	Initial	37,20	2256	94	3,76	252,68
		Final	39	2322,64	96,77	3,87	248,12
3	Weight (cm)	Initial	64,20	906	37,75	1,51	58,80
		Final	68,96	934,96	38,95	1,55	56,48
	Chest perimeter (cm)	Initial	147,36	906,12	37,75	1,51	25,61
		Final	151,92	920	38,33	1,53	25,23

Increasing somatic development parameters

The growth and development of somatic parameters is a process of successive quantitative accumulations materialized in the gradual increase in weight, volume, increase of body dimensions.

Physical development is a process of arrangement of somatic mass elements, proportioning them according to genetic priority rules, specific to the human being, but variable depending on the sum, intensity and direction of action of the environmental factors. The data obtained after the experiment as well as the previous tests lead us to the conclusion that even in the case of physical development the experimental sample reaches higher parameters. Body weight increased on average by 2-3 kg in both groups; the height of 5.5 cm in the experimental and 4 cm in the control. Among all the investigated components there is a correlation between the increase in body weight and the length of the segments (at this age the growth average in the length of the lower limbs is 4.5 cm) and even in the functional indexes.

The behavior of both groups, expressed by the statistical indicators, reveals the homogeneity of the group.

Analysis of the results. The handball game means selected to achieve the proposed objectives were used in the physical education classes only with the experimental class. The results of the final measurements show growth variations within normal limits in the control group and slightly elevated beyond this limit in the experimental group. This highlights the fact that the dynamics of the growth processes take place according to the biological characteristics, on the one hand, but also under the influence of the educational act, on the other.

Conclusions. The experiment, convincingly

proves the progress made by the students compared to the initial tests and, finally, with those obtained by the control group.

Also, the growth and physical development, according to the accumulated results, the students in the experimental group exceeded, by higher means, the figures obtained by the students of the control group, both in height and in body weight. It can be concluded from the conclusions that between the analytical method, obviously represented by the structures applied to the experimental group, and the global method, represented by the handball game itself, there must be a relationship of alternation and permanent reciprocal completion.

Practical-methodical recommendations. Practical implementation of the specific means of handball game already developed and experienced, it's necessary to ensure a permanent correspondence between the application of handball specific means, the acquisition of regulatory knowledge and the proper game.

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