THE ROLE OF ASSOCIATED FACTORS IN LEARNING HANDBALL TECHNIQUE

Roberta Georgiana GHEŢU, Dorina ORŢĂNESCU, George Bogdan BURCEA, Luminiţa CĂLINESCU BRABIESCU

University of Craiova, Faculty of Physical Education and Sport.

Abstract: Performance in general, but also in handball is the result of a multitude of variables,with a highly degree of conditioning and mutual determination. The research starts from the premise that detecting and actuating correctly on progress or limiting factors, with a particular impact on learning is a viable solution to learning and perfecting technique. We appreciated that studying and assessing the level of expression of attention, memory and thought in the process of learning the technique in handball, is an enlightening approach of their effectiveness on learning.

Methods **-** Applying a set of attention tests, memory and thought on a group of junior children III, which followed a learning program, we aim to highlight the correlations between the level of learning the technique and the quality of investigated factors.

Results - Data analysis reveals significant differences obtained by the experiment group in appropriation of the concerned techniques after the program run. Direct correlations can be made between the investigated factors and the quality properties of the technique, sometimes with significant differences on groups of stations.

Keywords: learning, program, technique, factors.

Introduction

Competitions highlight certain aspects that characterize the conduct of handball. One can appreciate that handball exhibits dynamic, influenced and defined by the level of expression posed at a certain time given by some conditionings that can be likely methodical, organizational or regulation.

Sports performance dynamics of the game of handball require knowledge of development trends, design features of the game but also the elements of progress or limiting. All these are essential requirements underlying conception, orientation and training of sporting achievement.

Choosing this theme is primarily due to my professional concerns, to understand and effectively address the problems encountered, however, and based on accumulated scientific and methodical knowledge.

The performance athlete is a complex entity, with strong psychomotor peculiarities and often contradictory. It is necessary to outline the idea that there is a difference between athletes, in terms of ability to execute proper technique and specific efficiency especially during the game.

The necessity of finding solutions to streamline the work of athletes in order to increase the efficiency in preparation aiming the qualitative and the temporal component of learning, motivated me to conceive and realize this approach, willing to make our contribution to optimize the conceptual and practical technical training in handball the junior level III.

We believe that the investigation that we propose assumes importance in the context of the discussion the level of the handball player (with psychical abilities and driving records through evaluative criteria) comparable with a model internationally expressed.

Being aware of determinations between theoretical research and practical work, by addressing to the topic of handball performances, we wanted to highlight the importance of operation based on a concept of training, accessing knowledge from the biological sciences, pedagogical, psychological and health representing an inspirational source, but also a guarantee of a stingent election of means and methods to be applied.

It is known that the demands of training and competition can only be coped by athletes who have the ability to accumulate technical and tactical knowledge, corresponding to its level of use and efficiency. They pose a higher bio-motric potential developed and a proper motivation an applicant going through the process of preparing . The major concern in developing variable preparation and in

particular the technical one was to realize a project of scientifically based training, where the instructional objectives to be realistic and in accordance with the level of players applying a methodology for adequate training of this level, assessment and reassessment of one of the regulating factors of the activity.

Regardless of the content, learning process involves a chain of mechanisms which are included in two categories: instrumental-operators and motivational. The first category includes attention, cognitive system which is consisting of perceptions, representations, imagination, memory, understanding and thinking and also creativity. In the second category are the needs, the aspirations, the emotional provisions, the inclinations and the desires. In the process of learning and training handball technique is recommended that the means which are used to be such as to require the greatest enrollment of tasks with a great coverage of attention. [1]

The role of memory and thinking and attention in learning the art handball:

Memory

As a process, the memory is considered a prerequisite,being a premise but aloso a product of other mental processes, being involved in all major human behavior: knowledgement, understanding, motor intelligence, creativity.[2] The study addresses the issue of memory from this perspective, trying to establish some parameters of subjects endowment concerning the manifestation of the memory based on learning technical process program.

Thinking

Thinking is a defining process for humankind because, as individuality it allows him to consciously act in solving the problems of adaptation to the environment and society. [3]Consequently, the learning and training process, in our case, handball, must comply the thinking development stages, by selecting the appropriate ways and means.

Attention

The role of attention in learning handball specific techniques:

In sports, attention is regarded as the most significant indicator of mental state since it is proved that attentin reflects cerebral energy levels, mental strength, tension characteristics, fatigue.[4]

In the process of learning and training handball technique is recommended that the means used to be such as to require the enrollment tasks with a great coverage of attention.

Material and methods

Casuistry research is consisted of two groups (experiment and control), their composition is as follows:

- experiment group, consisting of 16 players from C.S.Ş.Craiova Club, which fall in the category of juniors III and are activating in the National Junior and Schoolchildren Championships. In terms of age, subjects fall within juniors III, 12 to 14 years.
- control group, that followed its training program as the established schedule, was made up of athletes from C.S.M Craiova, working in the National Junior and Schoolchildren Championships, with age within the limits of 12- 14 years.

The working method consisted in establishing the level of acquiring the handball technique based on a compex assessment, control tasks, of on the one hand and the level of factors expression associated with learning (attention, memory, thinking) based on enlightening tests on the other hand.

Test "Focusing the attention" after G. Arădăvoaice

Test evaluation of memory "Attention to detail" adapted from Philip Carter

Test (adapted) for kinesthetic sensibility and motor memory

PORTEUS Maze

Establishing correlations between technical and drive ability and quality benchmarks of attention, memory and thinking of subjects.

Scientific nature of designing methodology of actuation means derives from using evaluative parameters and conditional factors of technique learning, taking into account both the physical development, motor ability, level of acquiring the handball technique and the qualitative benchmarks of attention, memory and thinking. In this regard, preliminary research aims identifying those factors in order to design a training program ment to interfere with objective stimuli on possible discrepancies found. Using the results of testing indicators a training program has being designed in order to positively affect attention, memory, thinking.

Means to optimize attention

Mean	Dosage
arranged in groups of three forwards at every semicircle, they pass the ball in high speed three times until the opposite semicircle, they pass the ball and they come back as defenders; the exercise is repeated by another group.	2x15 x,15 sec.rep.30 sec.series.
running 10 m with an opponent, achieving the steps that lead up throwing the ball, on a trail;	3x 3min, 1min break.
2x1, strikers, defender, sits striker support series. They are positioned to receive the ball;	2x15x,30 sec. break active defender
three forwards, two of them positioned to 9m with the ball, one player at semicircle. At signal, one passes to the player without the ball and catches, than passes again.	2x10x, 20sec break
the same exercise, a defender is inserted	2x15x,30 sec. break
1x1the players pass the ball with 2 hands from traveling the length of the field	1x10x
two players arranged at a distance of 3m from a wall perform passes by recoil.	2x15 x,20 sec.break
two players seated on 6m semicircle facing his own goal	2x10x,15 sec.p
at 9 m are two different color balls, the coach always changes their place. At signal the players run to recover their own ball.	

Means to optimize driving memory

Mean	Dosage
the players execute 2-3 structures of jumping variations, successive on 1 or 2 feet. At the order they must execute the structure.	5-6x
3 methods of throwing are demonstrated. The player shots on goal with an indicated process and the athlete evaluates the fairness.	5x3 p
the execution of individual actions on a trail 5-6x. Resuming execution on an unmarked trail in the same conditions.	2x8x
The players execute 2 technical processes of throwing proceeds (preceded by the cross and leap jump) encodes (A, B) preceding the indicated code execution the player must execute the process.	

Means for optimizing tactical thinking

all individual and collective tactical actions carried out opponents with varying degrees of adversity

Results

Analysis of the results obtained in these tests of attention, memory and thinking

Analysis of results from tests of attention

Table no.1

"Attention to detail" test values

Subjects	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Experiment Gr.	5	4	5	5	5	5	7	5	6	7	4	4	6	5	6	7
Control Gr.	6	6	4	7	6	7	8	6	6	5	6	4	8	5	6	8

Table no.2

The analysis of the results of benchmark tests of memory

Subjects	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Experiment Gr.	5	4	5	5	5	5	7	5	6	7	4	4	6	5	6	7
Control Gr.	6	6	4	7	6	7	8	6	6	5	6	4	8	5	6	8

Table nr.3

Motor memory and kinesthetic sensibility

Subjects	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16
Exp. Gr.	41	40	39	35	44	40	35	37	43	44	46	37	49	45	43	40
Contr.Gr.	49	51	47	43	40	46	41	45	42	40	37	45	47	49	52	44

A. **Fairness tactical and technical execution test**

The following game structures have been consisted and denoted with a mark from 1-10 :

Evaluating procedures of throwing:

- thrust throw with a hand over the shoulder in jump;
- shot on goal from side angles from jump, with increasing the angle of throwing;

Passing processes evaluating:

- thrust pass with one hand above the shoulder;
-bounced pass;

B**. Test for accuracy determination**

The Handball Gate was bounded by adhesive tape in 9 areas, making each each subject to throw 6 times in each area and percentagely recording the achievements of each subject.

1	2	3
4	5	6
7	8	9

Test regarding motric memory

There have been developed 3 technical-tactical structures for attack and defense phase, the players have to play only the actions, at first execution.

Discussions

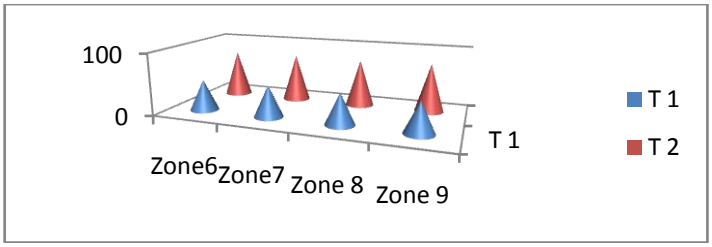
Results achieved by evaluation of precision and driving memory

Test accuracy - 1-5 zones Ti, Tf

Table no.4

	Zone 1 Ti	*Zone 1 Tf*	*Zone 2 Ti*	*Zone 2 Tf*	*Zone 3 Ti*	*Zone 3 Tf*	*Zone 4 Ti*	*Zone 4 Tf*	*Zone 5 Ti*	*Zone 5 Tf*
Arithmetic average	47.86	72.87	47.85	75.99	48.90	81.21	46.81	77.04	50.98	74.96
Standard deviation	13.36	11.99	14.69	12.15	12.80	13.46	13.83	13.45	12.80	13.62
CV	27.92	16.46	30.69	15.99	26.17	9.58	29.54	17.46	25.10	18.17
Ttest	-9.51*		-11.267*		-12.11*		-8.720*		-11.264*	

*p<0.05



The tables present the initial and final test results that quantified the precision of the players through free throws on deliminated areas of handball gate. The recorded results have shown the following average values.

Zone 3 recorded a percentage of 48.90% successful throws at the initial testing and at the final testing, the accuracy of subjects increased to 81.21%. Differences averages are statistically significant at a threshold of p <0.05. This area (3) is the one that registered the best average of successful throws, actuating means applied to the experiment group especially relating to movements that influenced the throw-up, the players being educated to throw the ball in the moment of maximum acceleration. Also, the coefficient of variation has the lowest amount of throws at the final testing in this area, which means a high homogeneity of this sample group.

Throws in zone 9 first recorded an average of 48.89%, the handball players accuracy increasing to 78.08% at the final testing. Differences averages are statistically significant at a threshold of p <0.05.

Table no. 5

The results of the memory motor test

Statistical indicator	*Value*
Arithmetic average	1.06
Standard deviation	0.79
Min	0
Max	2

The test which aimed assessing the driving memory of the subjects from the experiment group revealed at the end of the research a good memory of the players, so the distribution channels being the following one:

- for the semicircle players, their motor memory was classified as "very good", four of them having no mistake in their execution;
- for the 9m players, their motor memory fall into the category of "good motor memory", 5 of them boasting one mistake and one with 2 mistakes;
-the gool-keepers also exhibit good motor memory, but the mistakes were in number of 2 for the players in this post.

Conclusions

Assessing the level of development of motor skills provide opportunities for effective technical executions, their loyalty being severely limited by the development of motor skills.

At the beginning of our research on technical plan, there have been manifested notable differentiations in the acquisition of handball technique in the experimental group, between the groups of players (9m and semicircle players) the difference between it and the control group evidently decreasing in the reasearch, the differences between the averages being statistically significant at a threshold of $p < 0.05$.

Targeting the preparation process by prioritizing specific executions led to the improvement of content in IV phase of the attack, the attack on the system.

Establishment of the manifestation of quality of mental processes based on tests (attention, memory, thinking), which formed the basis of elaborating working programs with a great degree of objectivity, led to a significant improvement of technology execution and to obtain right motric answers and appropriate game situations.

The driving systems placed in training programs had a custom content, which means they were folded on influencing determinants in acquiring art (fidelity in execution, attention, memory and thinking) and the players gaps were identified in a preliminary investigation .

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