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Abstract

Handball is considered to be one of the most attractive and dynamic sports games around the world and recently it is starting to become our new national sport, this is mainly due to the results achieved by the national teams and by the other club teams of our country during the time which is far above all the other results obtained at different sports games. This project aims to identify the best methods regarding both selection and training of a representative school team and with their help create a training model that is to be addressed to all categories: physical, technical, tactical, and mental. Only with multilateral training as well as a large number of repetitions, we can increase the play level of the representative team and defeat the ones that they have their club members.

Introduction

Handball, is otherwise, an extremely attractive and dynamic sport that involves performing game sequences with an impressive speed combined with strength and agility from the player's side [5,6,7].

By practicing handball, the main and fundamental physical education and sports goals are achieved: excellent health, proper physical development, acquiring motoric skills, character building, along with the education of volitional skills [1,3,8].

Although it is a very popular sport in our country, handball is considered yet a new sport, which is in a constant transformation regarding both game rules but also technical and tactical games [2,9].

During school physical education, practicing sport represents the foundation of the high-performance pyramid. We must understand that it is not possible to achieve high-performance sports if there weren't physical education classes and accessibility for all [4,10].

Fewer and fewer teachers attend school competitions for pupils. This matter is certainly a declining path in the last few years as reducing the number of children who are embracing sports performance.

I reflect on the fact that teachers' motivation along with increasing the number of competitions must become a first-class objective for the leaders so that we all contribute our initiative to the future of women's handball including all the other sports branches.

Through the organization of the schools competitions it is looking to attract children into practicing high-performance sport, educate the challenging spirit and the permanent will to achieve together, and become aware of the educational role of sports and Olympism.

If we are training girls school handball team and we manage to plan and schedule a properly the entire activity, but also to insert into the lessons dynamic and attractive resources we can obtain a high motric density and certainly there will be results in school competitions.

The purpose of the experiment is to identify the best methods and means as far as team selection and training are concerned and with this backup create a training model addressed to all levels: physical, technical, tactical, and mental.

There is no wide variety of documents that strictly refers to women's handball, particularly the scholarly one, however handball, overall was and been approached by many specialists and authors over time, each one of them coming up with innovative ideas and methods.

I tried to get inspiration from all of them and to take over the ideas that are compatible with my mindset and my way of teaching.

It was easy to choose the class for the experiment because I trained the women's school handball team for many years and have been involved in competitions organized at the local level.

All the girls from the women's school team are my pupils therefore also in my classes I have the opportunity to work with them.

Choosing the place where I can perform my experiment, was also an easy choice since my school provides a good sports base that is in constant development.

I have chosen to contact, as a witness group, the Middle School of Rasca, our neighbor school, who is a real opponent across all the competitions but also a partner for the friendly matches during the time before the competitions.

Over the past few years, when it comes to women's handball competitions, we pulled out the victories in all face-to-face meetings, on the other hand, regarding women's football, we work to win, they have a strong tradition in women's football.

About the exercises, I have chosen and adjusted, in my view, it is not significant what means we employ instead of the way we implement them.

The exercises are the same for everyone and are easy to approach, the difference is made by the way we put them into practice, and I consider that we must focus on the proper motivation for our students in such a way that the performance should be at high levels, and obtaining the best possible metric density providing a wide range of repetitions for each workout, but also participating without interruption at training which won't cause falling behind difficult to recover.

I suggest using exercises that can be performed face-to-face allowing everyone to be involved or if not, in groups or teams by dividing the sports field into many games spaces such that everyone should play and there should not be people standing and waiting for their turn.

Material-method

If we are focused on training the women's school handball team in a proper and real way, but also bringing to our classes dynamic and attractive means then undoubtedly there will be results in school competitions.

This experiment aims to identify the best methods and means as far as team selection and training are concerned and with this backup create a training model addressed to all fields: physical, technical, tactical, and mental.

Through this paperwork, I attempt to offer those colleagues who are training women's school teams a reference point and a helping hand so that they can form successful teams.

The training model I suggested it's a real aid for me but at the same time, I want to be a reference for my colleagues who are training the women's handball team.

Applied tests used in the research: 30 metres sprint run, standing long jump, throwing the handball ball, dribbling through cones, moving in a fundamental position of defense and sprint, 3-player pass with changing places.

The experiment took place at the Middle School of Bogdanesti sports base. This includes a field with a synthetic surface having the proper dimension for an official handball field (40 x 20 meters), the ground is adequately lined up and supplied with all the suitable equipment so that the activity was held in excellent conditions.

During the training, I tried to value every disposal minute and to obtain a higher metric density. The fact that at this moment during the Middle-School Olympics there are also allowed to participate, club-members students, decrease the chances of those who don't have in their teams any athlete.

Therefore, I consider that the only solution to fight as equals with those who train 5-6 times weekly, in an organized environment, we focus on every second of this 2-3 trainings on hard work and we use methods and means involving simultaneously as many pupils as possible, but also to be attractive and based on competitiveness, to provide 100% efficiency.

Results

Tests results were centralized in tables for initial and final tests and they were processed using the following indices: average (A), standard deviation (S), the coefficient of variability (Cv), and the achieved progressions.

The achieved progress in the final tests is noticeable compared with the initial one, both at physical tests and the adapted ones.

For a more objective analysis of the results, these were related to a witness group, both initial and final tests.

Table 1. Results at applied tests for experimental group

Name and surname	Physical tests				Technical tests							
	Speed running 30m	Standing long jump	Throwing of the handball ball	Dribbling among cones	Move to the fundamental position of attack and defense		3-player pass with changing places (note)		IT	FT	IT	FT
	IT	FT	IT	FT	IT	FT	IT	FT	IT	FT	IT	FT
A.M.	5.8	5.3	1.74	1.78	27	31	12.3	11.7	12.3	8.65	6	8
A.O.	6.7	6.2	1.68	1.73	26	29	14.1	13.5	14.1	7.83	5	7
B.A.	5.9	5.2	1.65	1.68	29	33	12.4	12.1	12.4	7.49	6	7
B.C.	6.9	6.3	1.68	1.71	25	28	11.7	11.2	11.7	9.12	7	8
B.R.	6.2	5.6	1.72	1.75	24	27	11.5	11.1	11.5	8.58	6	9
C.C.	6.6	6.1	1.67	1.72	21	25	12.7	12.2	12.7	7.73	5	6
C.P.	6.6	6.3	1.64	1.68	23	28	11.8	11.1	11.8	8.95	6	7
C.R.	6.5	5.6	1.70	1.74	25	29	10.9	10.6	10.9	8.61	5	8
D.D.	5.1	4.7	1.61	1.67	24	27	11.2	10.7	11.2	8.21	7	8
D.I.	5.7	5.2	1.74	1.76	26	30	11.7	11.1	11.7	7.82	5	7
F.C.	6.3	5.7	1.67	1.70	19	24	11.5	10.9	11.5	7.67	8	10
F.D.	7.2	6.4	1.66	1.69	21	26	12.4	11.8	12.4	8.01	6	9
G.A.	5.7	5.2	1.71	1.76	23	25	12.7	12.3	12.7	8.89	5	6
I.I.	6.4	5.8	1.77	1.81	26	31	10.8	10.4	10.8	7.54	6	8
M.M.	6.7	6.1	1.75	1.79	24	28	11.2	10.9	11.2	8.42	7	10
A	6.28	5.71	1.69	1.73	24.2	28.06	11.92	11.44	11.92	8.23	6	7.86
S	0.55	0.51	0.04	0.04	2.56	2.52	0.86	0.82	0.86	0.54	0.93	1.25
Cv(%)	8.75	8.93	2.36	2.31	10.57	8.98	7.21	7.16	7.21	6.56	15.43	15.84

IT – initial test; FT – final test

Table 2. Results at applied tests for control group

Name and surname	Physical tests				Technical tests							
	Speed running 30m	Standing long jump	Throwing of the handball ball	Dribbling among cones	Move to the fundamenta l position of attack and defense		3-player pass with changing places (note)		IT	FT	IT	FT
B.B	IT 6.2	FT 6.0	IT 1.68	FT 1.69	IT 26	FT 27	IT 12.1	FT 12.1	IT 7.68	FT 7.66	IT 7	FT 8
C.M	IT 6.6	FT 6.4	IT 1.71	FT 1.71	IT 24	FT 24	IT 13.4	FT 13.3	IT 8.91	FT 8.90	IT 5	FT 6
D.A	IT 5.9	FT 5.8	IT 1.72	FT 1.73	IT 31	FT 31	IT 12.2	FT 12.1	IT 7.44	FT 7.41	IT 6	FT 6
D.E	IT 6.1	FT 6.1	IT 1.69	FT 1.69	IT 27	FT 28	IT 11.8	FT 11.6	IT 9.11	FT 9.11	IT 6	FT 7
F.M	IT 5.9	FT 5.8	IT 1.75	FT 1.76	IT 28	FT 28	IT 12.5	FT 12.4	IT 7.87	FT 7.85	IT 5	FT 6
H.L	IT 6.4	FT 6.4	IT 1.62	FT 1.63	IT 24	FT 26	IT 11.7	FT 11.7	IT 7.91	FT 7.91	IT 7	FT 7
J.T	IT 5.2	FT 5.2	IT 1.69	FT 1.69	IT 23	FT 23	IT 12.7	FT 12.5	IT 8.06	FT 8.06	IT 8	FT 8
L.B	IT 7.4	FT 7.3	IT 1.71	FT 1.71	IT 27	FT 28	IT 10.7	FT 10.7	IT 8.15	FT 8.14	IT 5	FT 6
L.N	IT 6.9	FT 6.8	IT 1.63	FT 1.64	IT 31	FT 30	IT 11.3	FT 11.2	IT 9.14	FT 9.14	IT 6	FT 6
M.R	IT 5.8	FT 5.8	IT 1.68	FT 1.67	IT 23	FT 25	IT 11.7	FT 11.7	IT 8.91	FT 8.90	IT 5	FT 5
N.A	IT 6.3	FT 6.3	IT 1.62	FT 1.63	IT 17	FT 18	IT 12.5	FT 12.5	IT 7.58	FT 7.58	IT 7	FT 8
N.C	IT 5.8	FT 5.7	IT 1.56	FT 1.57	IT 24	FT 24	IT 11.4	FT 11.3	IT 8.14	FT 8.13	IT 5	FT 5
O.P	IT 6.4	FT 6.3	IT 1.70	FT 1.70	IT 19	FT 21	IT 13.7	FT 13.6	IT 8.05	FT 8.05	IT 6	FT 6
P.I	IT 6.9	FT 6.8	IT 1.72	FT 1.74	IT 26	FT 26	IT 11.6	FT 11.6	IT 7.59	FT 7.57	IT 5	FT 5
Z.C	IT 7.2	FT 7.1	IT 1.65	FT 1.66	IT 28	FT 29	IT 11.4	FT 11.3	IT 9.01	FT 9.00	IT 6	FT 7
Ma(A)	6.33	6.25	1.67	1.68	25.2	25.86	12.04	11.97	8.23	8.22	5.93	6.4
S	0.59	0.57	0.05	0.04	3.87	3.48	0.80	0.78	0.60	0.61	0.96	1.06
Cv (%)	9.32	9.12	2.99	2.38	15.35	13.45	6.64	6.51	7.29	7.42	16.20	16.49

Discussions

At the 30 m initial sprint run test, we obtained an average of 6.28 seconds while at the final one the average was improved by only 5.7 seconds, resulting in progress of 0,57 seconds between the two tests. At the same time, the witness group achieved a result of 0.08 seconds. The standard deviation was 0.55 on the initial test while the final one was 0.51 meanwhile C.V. was 8.75 initial and 8.93 on the final test (figure 1).

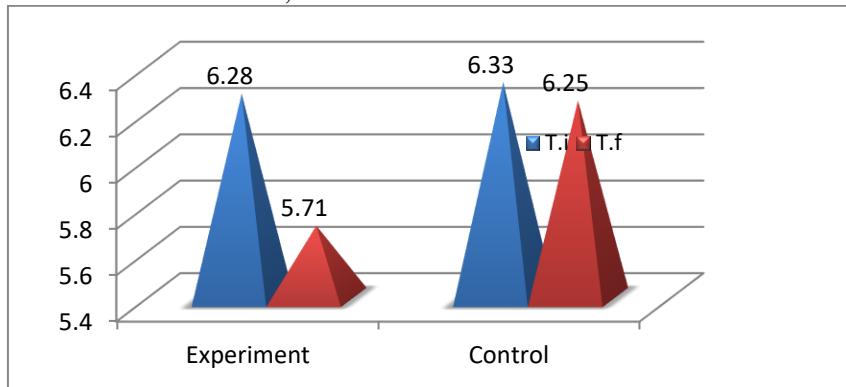


Fig. 1. 30m sprint run results

At standing long jump, the group average was initially 1.69 centimeters and after the experiment, it was increased to 1.73 centimeters which means that the girls have made progress of centimeters as a result of the experiment, four-time higher progress compared with the witness girl group whose progress was only of 1 cm. The standard deviation had the same value on both tests, which is 0.04 while C.V. was shifted from 2.36 to 2.31 between the tests (figure 2).

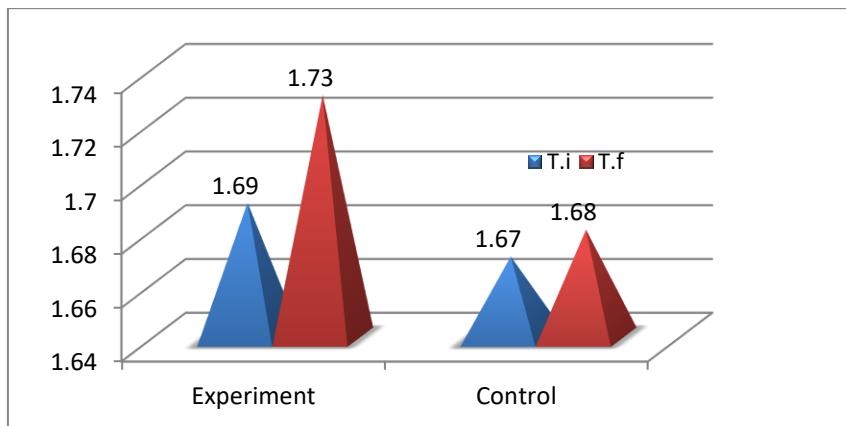


Fig. 2. Standing long jump results

The average distance reached by the girls at the throwing of the handball ball at the first test was about 24.2 meters while at the final one the average distance was about 28.06 meters meaning progress of around 4 meters, whilst the witness group average was only 66 centimeters longer. The standard deviation was 2.56 and significantly changed to 2.52 while C.V. 10.57 has reached its end to 8.98 (figure 3).

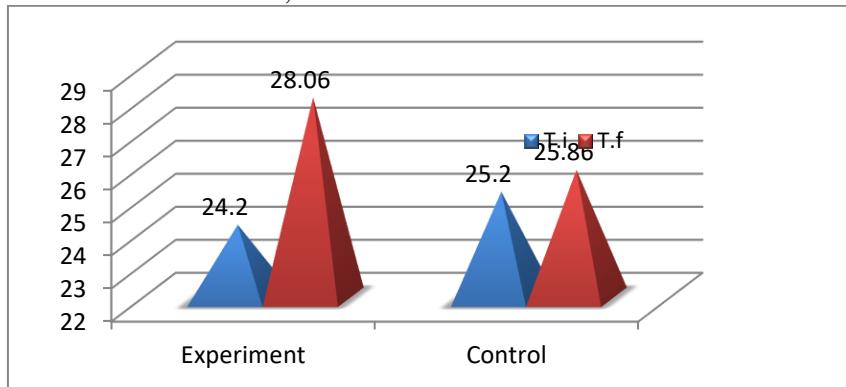


Fig. 3. Throwing of the handball ball results

Moving in fundamental position of defense sprint and ball throwing into the goal was initially done with an average of 11.92 seconds while at the final test it had an average of 11.44 seconds which proves that after these exercises the distance and throw have produced a higher speed, with half of the second, whilst the speed difference at the witness group was only 0.07 seconds. The standard deviation was 0.86 and afterward has reached 0.82 while C.V. was 7.21 and thereafter it went to 7.16 (figure 4).

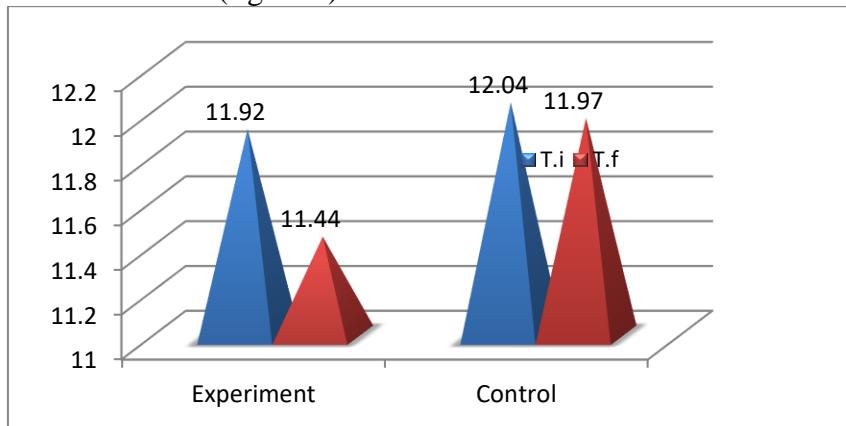


Fig. 4. Specific handball test results

Moving in a fundamental position of defense followed by a 5 meters print had an average of 8.23 seconds. The progress was 0.11 seconds although it seems low, the witness group progressed only 0.01 seconds. The standard deviation was 0.54 and its value remained unchanged between the two tests and C.V. was 6.47 and it became 6.56 (figure 5).

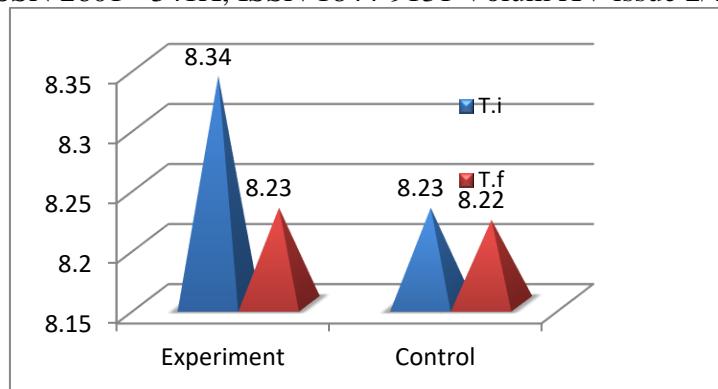


Fig. 5. Moving in a fundamental position of defense results

Three-player pass changing places is the last test, the evaluation was appreciated with grades, the average of the experiment group was initially 6, and at the end, the group obtained an average of 7.86 which means the progress of 1.86 points. At the same time, the witness group had the progress of only 0.47 points, increasing from 5.93 to 6.40 (figure 6).

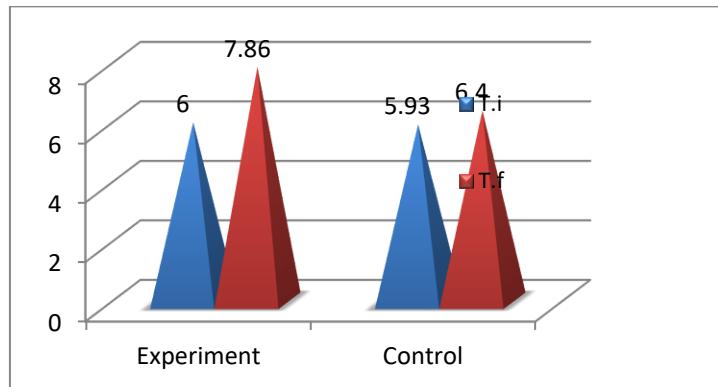


Fig. 6. Three-player pass with changing places results

The results achieved by subjects during research are a confirmation of the specific activity made by physical education teacher. The subjects with a good potential to practice handball at performance level could be included in a specific preparation in order to increase the efficiency of the specific game action [11-15].

Conclusions

Only with multilateral training approaching all levels (physical, technical, tactical, and mental) as well as a large number of repetitions, we can increase the

play level of the representative team and defeat the ones that they have their club members.

It is necessary for physical education teachers to keep in touch with each other regularly and to exchange ideas, impressions, and exercises so that we can determine the most useful and recommended methods to achieve performance.

If each of us is highly involved in the sport specific activities and we take the time to form a representative school team, we contribute directly to a representative team base foundation from which children can be selected for high-performance sports, so without realizing it we contribute to the future of Romanian sports.

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