

## **PATTERN OF USAGE OF VARIOUS MEANS IN HANDBALL DURING THE SPORTS CLASS IN SCHOOL**

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**Key words: education, handball, method, test, progress, resultat**

### **Abstract:**

In this article I wanted to highlight the importance of sports activities in the training and development of the personality of our children, with a view to their integration into society and to good human interaction for a healthy and harmonious life. I have described the role that handball plays in the school curriculum. I then presented and described the specificities of the development of pre-teenagers, which is important for the smooth running of the educational process. I also presented the methodology, the tasks, working methods and means used in the pedagogical research and the technical-tactical means necessary for the physical training. Finally, I presented the research and investigation methods as well as the scientific/experimental approach which allowed me to draw the final conclusions.

### **Introduction:**

For the adults that have not practised a sport in childhood and adolescence it may be difficult to show interest in the physical activity which is required to maintain health, wellbeing and a good mental being. The handball game forms the respect for discipline, for the physical education teacher or the coach, referee, as well as for teammates, even for those from the opposing team. Furthermore, the handball develops the team spirit, courage and perseverance, resilience, as well as the physical and mental combativity. In the experiment which constitutes the basis of my research, I started from the following assumptions:

— the selection and use of appropriate means specific to the handball training that is part of the curriculum of the physical education for the Vth and VIth grade of the secondary education contribute to the harmonious education of these pupils, leading to good results in their competitions at this level;

— the selection of the means of training of the handball teams of the secondary schools must take into account the patterns of playful

training specific to students of 11-12 years old;

— the regular assessment of secondary school pupils helps to determine their level in handball as well as their progress during the 2016-2017 school year;

— the selection and application of the most effective ways and means specific to handball contribute to influence their motivation, by raising the technical-tactical level of the students willing to practise this sport;

— the application of means and methods, in line with the time allocated by the school curriculum and the pupil's skills, may lead to a development of resistance and perseverance of the children when practising this sport. My goal is to make the children love this sport, and particularly to be aware of its importance, as well as of the physical education's importance, in general; I would also want the children to understand that handball is a very effective means to preserve the health and social life balance.

### **Material-method:**

In my work I used the following: the specialist literature method, the method of observation, measurements and testing, the experimental method, the registering method, the mathematic-statistical data processing method, the graphic representation method and the survey method (quizz). Regarding the materials, I have used: the sports hall (dimensions identical to those of a normal classroom) equipped with chest gym, mattresses, etc.; 1 handball field; 1 football field; balls for handball, cones, milestones, ropes, walking sticks etc.

The research was carried out in the school year 2016-2017, 15.09.2016-15.06.2017, Bucşoia —Secondary School Frasin — Suceava County, where I acted as a teacher of physical education and sport.

For the experimental approach I have chosen the **fifth grade (experiment group)** and the **sixth grade (control group)** from Bucşoia, whom I have been training since the primary school. The classes selected for research are ordinary classes, with children from different social backgrounds, an element which contributed to these classes' originality. The Vth grade has 15 pupils and the VIth grade has 19 pupils, one pupil being exempted from sports activities. *The pupils in these classes had two sports classes per week during the school year 2016-2017 and these classes took place according to the methodology and the school curriculum. I should point out that these students*

*participate in handball competitions: the National olympics handball competition, as well as the area competition. After the testing of the two classes (the experiment group and the control group), at the beginning of the school year (the initial test) and at the end of the test (the final test), I grouped these results obtained by the students and centralised them in the tables corresponding to each test. To assess the level of preparedness, I carried out the following tests, using the specific units of measurement, as follows: rounders- metres (m), 50 m running-speed (s); long jump (both types) - metres (m); the cone drills 5x10 m -seconds (s), - the resistance running-minutes (min.).*

Procedure: In order to process and interpret in the most efficient manner the results obtained by the pupils in the results, I made an analysis using the following indicators: the arithmetical mean ( $\bar{X}$ ), standard deviation (S), the coefficient of variation (C) and the t-test. In order to see if this value is significant or not, one shall consult Fischer's table of variables for a degree of discretion  $f = n-1$ , (the number of subjects being 15 and 18), which, for the present research, has the value of 1.76, corresponding to a confidence margin of 0.05 % (95 %). If the value that I have obtained is greater than the value in the table, then one can say with a 95 % probability margin that the results are significant, i.e. pupils have progressed significantly, thereby confirming the assumptions of the research. In what follows, I will present these findings and conclusions obtained by using the statistico-mathematical indicators presented above, as follows:

**Rounders [Aruncarea mingii de oină de pe loc (m)]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	17.80	19.93	21.67	24.89
S	3.14	2.87	5.97	5.21
$C_v$ (%)	17.66	14.37	27.56	20.94
t test	<b>1.75</b>		<b>1.72</b>	

When analysing this table one can see that the difference between the arithmetic averages of the two tests is lower for the experiment group, which means that the pupils of this group have progressed less in this test as compared to the pupils from the control group. Both groups have moderate standard deviations (the sharing of the best results grouped around the arithmetic mean) and the results obtained at the final testing were homogeneous. As far as the t test is concerned, one can note that for

both groups I have obtained a value of t which is very close to the corresponding reference value for this research (i.e. 1.76): one can therefore say that the students of both groups have made progress.

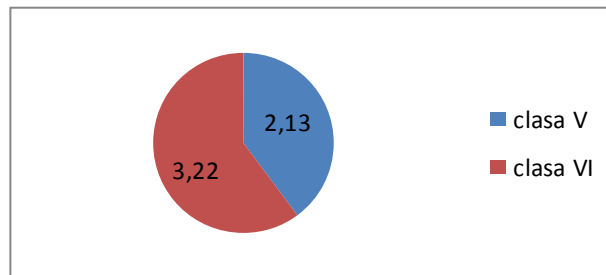


Diagram 1

**Running- speed [Alergarea de viteză (50 m)]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	8.81	8.51	8.69	8.43
S	0.44	0.41	0.46	0.46
$C_v$ (%)	5.05	4.86	5.24	5.46
t test	<b>1.72</b>		<b>1.75</b>	

When analysing this table one can note that the difference between the arithmetic averages of the two tests is higher for the experiment group of students, therefore this group has progressed more in this test as compared to the pupils from the control group. Both groups have moderate standard deviations (sharing best results grouped around the arithmetic mean) and the results obtained in the final testing were homogeneous. Regarding the t test, one can note that for both groups, I obtained a value of t that was very close to the corresponding reference this research (i.e.1.76), which makes one safely say that the students of both groups have made progress.

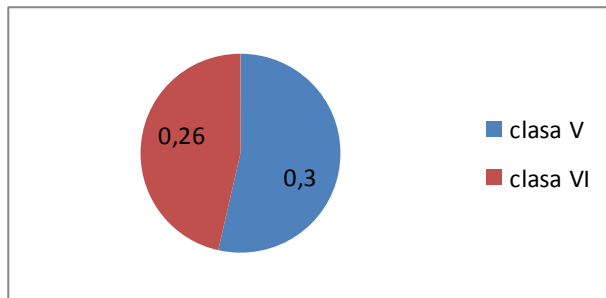


Diagram 2

**Long jump, type I [Săritura în lugime cu elan (m)]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	2.53	2.64	2.63	2.69
S	0.07	0.08	0.11	0.10
$C_v$ (%)	2.76	3.22	4.14	3.76
t test	3.76		<b>1.78</b>	

When analysing this table one can note that the difference between the arithmetic averages of the two tests is higher for the experiment group of students, meaning that this group has progressed further in this test compared to the pupils from the control group. Both groups have obtained moderate standard deviations (sharing best results grouped around the arithmetic mean) and the results obtained at the final testing were homogeneous. Regarding the t test, one can note that, for both of the groups, I obtained a value that was higher than the t reference corresponding to this research (1.76); one can therefore say, with a confidence margin of 95 % (to a threshold of 0,05), that the two groups have progressed significantly.

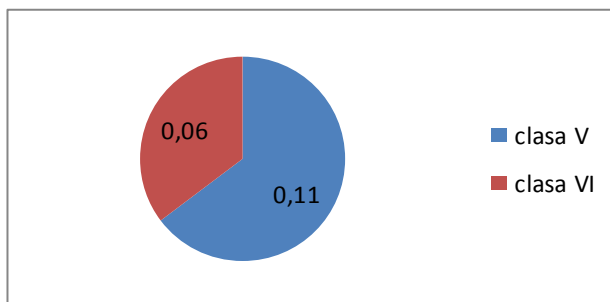


Diagram 3

**Cone drills [Naveta 5x10m]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	21.33	21.05	20.68	20.01
S	0.40	0.43	1.13	1.24
$C_v$ (%)	1.90	2.02	5.46	6.21
t test	1.85		<b>1.7</b>	

When analysing this table one can note that the difference between the arithmetic averages is lower for the experiment group, meaning that the pupils of this group have progressed less in this test as compared to the pupils from the control group. Both groups have obtained moderate standard deviations (sharing best results grouped around the arithmetic mean) and the results in the final testing were homogenous. As far as the t test is concerned, the experiment group obtained higher values as compared to the reference value (1.76); one can therefore say with a margin of confidence of 95 % (with a threshold of 0,05) that this group has progressed significantly. The control group of students has obtained a value of t that was very close to the reference value, which means that they made progress.

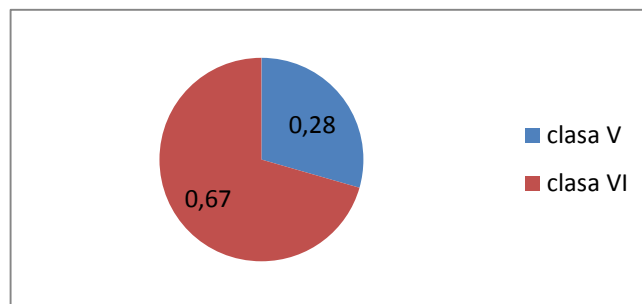
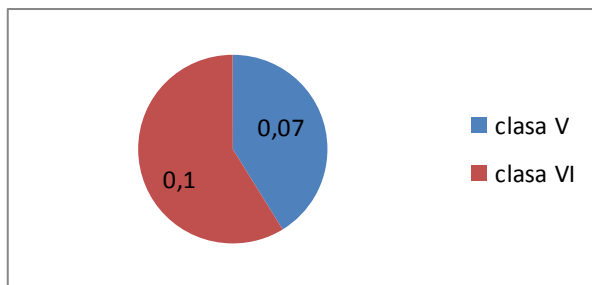


Diagram 4

**Long jump, type II [Săritura în lungime de pe loc (m)]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	1.56	1.63	1.71	1.81
S	0.09	0.10	0.18	0.18
$C_v$ (%)	5.98	6.00	10.66	10.13
t test	1.91		1.71	

When analysing this table one can note that the difference between the arithmetic averages of the two tests is higher for the experiment group of students, meaning that this group has progressed more in this test as compared to the pupils from the control group. Both groups have obtained moderate standard deviations (sharing best results grouped around the arithmetic mean) and the results in the final testing were homogeneous. Regarding the t test, the experiment group obtained a higher value than the t reference value corresponding to this research (1.76), which makes one say with a confidence margin of 95 % ( threshold of 0,05) that this group has progressed significantly. The control group obtained a value of t that was very close to the reference value, meaning that they made progress.



**Diagram 5**

**Resistance running [Alergare de rezistență (min)]**

Statistical indicators	T.I. – Cl. V.	T.F. – Cl. V.	T.I. – Cl.VI.	T.F. – Cl.VI.
$\bar{X}$	3.21	3.13	3.19	3.11
S	0.12	0.11	0.12	0.12
$C_v$ (%)	3.86	3.47	3.79	3.83
t test	1.83		1.76	

When analysing this table it appears that differences between the arithmetic averages of the two tests are equal for both groups, therefore the two groups have progressed in the same way. Both groups have obtained moderate standard deviations (sharing best results grouped around the arithmetic mean) and the results obtained in the final testing were homogeneous. Regarding the t test, one can note that for both groups I have obtained a value of t that was equal to or greater than the corresponding reference value of this research (i.e. 1.76); one can therefore say with a confidence margin of 95 % ( threshold value of 0,05) that the two groups have progressed significantly.

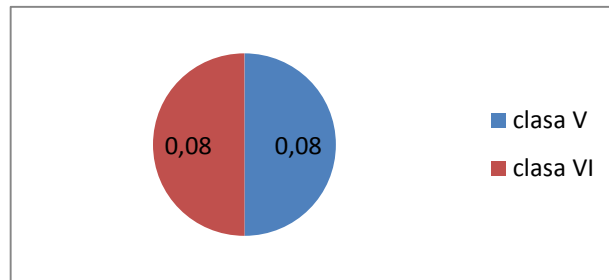


Diagram 6

**Conclusions:**

Following the research undertaken on the topic announced at the beginning of my work, and as a follow up of the analysis of the results obtained, I would like to draw some important conclusions:

- confirmation of assumptions;
- the handball game, as it currently practised during the sports (PE) classes of the secondary education requires ongoing cooperation between the physical education teacher and the pupils, on the one hand, as well as between the sports (PE) teacher and the other teachers;
- the specific means used for preparing the pupils in both classes for handball took into account the age of pupils, their level of preparation, as well as the sports competitions at which they wanted to participate; the aim was to achieve the best possible results;
- the selection and usage of the most effective means and methods specific to handball proved that this may influence the technical and tactical level of the students willing to practise this sport; these means and methods were applied in line with the time allocated by the curriculum and the skills of the pupils;
- the objective assessment of the students was achieved by conducting at least 2 tests — the initial and the final one, each one being conducted several months apart; the physical tests were appropriate to the age of the students and the level of preparation and the results that were obtained will be verified in the future. After processing and interpreting the data, I concluded that the tested students registered a progress; this progress showed an improvement of the results achieved at the final testing as compared to those obtained in the initial testing phase; it makes me conclude as well that efficient means and methods have been used and that this research work has achieved its objectives.



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### MODEL DE UTILIZARE A MIJLOACELOR DE HANBAL ÎN LECȚIA DE EDUCAȚIE FIZICĂ ȘI SPORT

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**Key words: educație, handbal, metodă, probă, progres, rezultat**

### Rezumat:

Lucrarea de față evidențiază importanța activităților sportive în formarea și dezvoltarea copiilor noștri, a personalității acestora precum și a capacității de integrare în societate, în vederea unei bune interacțiuni umane și a trăirii unei vieți armonioase și sănătoase. Scopul învățământul românesc este atingerea unor obiective prin care să se poată realiza, la un nivel cât mai înalt, procesul instructiv-educativ, punându-se accent pe formarea unui tineret sănătos. Tema aleasă este una actuală, fapt ce reiese și din literatura de specialitate studiată. Am descris rolul pe care handbalul îl are în programa școlară precum și caracteristicile care stau la baza învățării lui. Apoi, am prezentat și descris particularitățile dezvoltării somato-funcționale, psihice și motrice ale elevilor preadolescenți, aspect important pentru buna desfășurare a procesului instructiv-educativ. De asemenea, am prezentat metodologia cercetării, sarcinile de lucru, metodele și mijloacele utilizate în cercetarea

pedagogică precum și modelul de mijloace tehnico-tactice necesare pregătirii fizice. În final, am prezentat metodele de cercetare și de investigație precum și demersul științific experimental din care s-au extras concluziile finale.