

subliniere a diferenței dintre cele două concepte atât în ceea ce privește disciplina metodologia cercetării activităților corporale cât și a teoriei educației fizice și sportului și didacticii.

Putem afirma că metoda anchetei îmbracă forme particulare de aplicare în domeniul activităților corporale. Această afirmație se bazează pe faptul că obiectivele urmărite în anchetele domeniului sunt relativ stabile, concentrate pe:

- opinii ale antrenorilor referitoare la procesul de antrenament,
- modul în care subiecții percep efortul/oboseala, sau diferite alte procese
- opțiuni de petrecere a timpului liber
- motivații privind practicarea sportului
- motivații privind alegerea unor anumite ramuri de sport
- etc

Făcând o comparație cu ancheta din domeniul juridic doresc să relievez faptul că în domeniul activităților corporale putem vorbi despre o participare conștientă și activă a subiecților și ca urmare a acestui fapt putem vorbi despre o eficiență mai mare și despre rezultate mai facile decât în domeniul juridic.

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THE IMPORTANCE OF THE FREQUENCY AND THE LENGTH OF PACE FOR THE RESULTS IN THE 400 m. RACE

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Key words: sprint, training, length and frequency of the pace.

Abstract: The performance sport is characterized by an intense physical effort which leads to get top sporting results in training and especially competitions. Only by combining biomotrical, bioenergetical and biomechanical parameters with well planned trainings, one can obtain notable performances in sprint races.

Introduction

The problems of the training methodology for the sprint races are to be taken into consideration by any trainer, in order to elaborate the training plans which, in our country, are unfortunately very heterogeneous, as they follow the methodic line of the Romanian Athletics Federation (F.R.A.).

At the international level, it can be noticed that the most important element is the work for improving the speed (especially the speed in an endurance régime) and the strength (focusing on each muscular group) which must be trained at the proper effort régimes (Ardelean T., Plocon E., Stoica M.-1993; Donati A.-1994; Stoica M.-1999).

The speed (mainly the speed in an endurance régime) and the strength are, for the 400 m. athletes, the most important basis movement qualities, therefore a proper training plan is essential, in order to reach the established targets.

Work hypothesis

The correct application of the training efforts system in the appropriate training phases, as well as reaching the ideal ratio between the length and the frequency of pace, leads to a significant improvement of the muscular efficiency and the sporting performance for the 400 m. runners.

The target of the research – improvement of the running technique, a fact which leads to changing the speed in order to get good results in the 400 m. race.

Research assignments :

- Compiling and studying a speciality documentary material on the the training efforts system for the 400 m. athletes;
- Implementing and developing a methodic orientation for training the athletes.

Research methods

In this study we used the following scientific research methods :

- The analysis of the specialty literature;
- The pedagogical observation;
- Control pedagogic researches by using instrumental methods:
 - timing;
 - video recording;
 - tests on the specific physical fitness;
- pedagogical trial;
- statistical and mathematical methods for processing the data;
- graphic and chart method.

Theoretical foundation of the study

The 400 m. race is considered a high intensity sprint race, but not maximal. The running technique for 400 m. is similar to that used for shorter races, but there is a certain characteristic determined by the distance and the effort required for covering it.

According to the experts, changing the running technique may lead to getting valuable results, delaying the sensation of fatigue and having a faster final acceleration.

Running speed can be achieved by combining the length and the frequency of the pace. Each athlete has a special characteristic of the running technique, in which the optimal proportion between the length and the frequency of the pace leads to valuable results. For fast sprint, these two elements are in inverted relation, when one enhances, the other one decreases, and the goal of the training is the optimization of each component (Rață.B.C.2008).

The organization of the research

Subjects

The subjects to be tested are performance sportswomen who practise the 400 m. race. They are 18-19 years old athletes from the School Sports Club – The Sports High School “Nicolae Trișcu” in Craiova. It is important to know that they have similar performances and years of training. They are also part of the 4 x 400 m. relay teams of the club which had notable performances at the Junior I National Championship.

The athletes were timed over 400 m. and the distance was divided in 100 m. segments (50 m. segments from 300 m. to 400 m.). We video recorded the tests and then analyzed each athlete and compared their results.

The results of the research and their interpretation

Using the video recordings, we analyzed the time results, the running speed, the number of paces, the length and the frequency of the paces on each segment of the distance.

Nr.crt.	Surname and first name	Parameters	Segments of the 400 m. distance (m.)					
			0-200	200-300	300-350	350-400	0-400	Difference 0-200 and 200-400
1.	V.G.I.	t (sec)	23,99	12,85	6,78	7,29	50,91	2,93
		v (m/s)	8,33	7,78	7,37	6,85	7,85	
		n (nr.)	89,5	45	23,5	23,8	181,8	
		l (m)	2,23	2,20	2,12	2,10	2,20	
		r (nr/s)	3,73	3,50	3,47	3,26	3,57	
2.	G.C.C.	t (sec)	23,70	13,00	6,92	7,45	51,07	3,67
		v (m/s)	8,43	7,69	7,22	6,71	7,83	
		n (nr.)	94,2	47	24,6	24,9	190,7	
		l (m)	2,12	2,12	2,03	2,00	2,09	
		r (nr/s)	3,98	3,62	3,5	3,35	3,74	
3.	D.R.	t (sec)	23,75	12,75	6,99	7,83	51,32	3,82
		v (m/s)	8,42	7,84	7,15	6,38	7,79	
		n (nr.)	99	50,1	26	26,6	201,7	
		l (m)	2,02	1,99	1,92	1,87	1,98	
		r (nr/s)	4,16	3,94	3,72	3,41	3,93	
4.	P.C.V.	t (sec)	23,70	12,71	7,05	8,28	51,74	4,34
		v (m/s)	8,43	7,86	7,09	6,03	7,73	
		n (nr.)	94	47,9	25	26	192,9	
		l (m)	2,12	2,08	2,00	1,92	2,07	
		r (nr/s)	4,48	3,78	3,54	3,14	3,73	

5.	B.M.B	t (sec)	25,20	12,70	6,77	7,30	51,97	1,57
		v (m/s)	7,93	7,87	7,38	6,84	7,69	
		n (nr.)	94,5	46,5	24	24,3	189,3	
		l (m)	2,11	2,15	2,08	2,05	2,11	
		r (nr/s)	3,76	3,6	3,55	3,34	3,64	
6.	A.C.A.	t (sec)	24,70	12,81	6,91	7,79	52,21	2,81
		v (m/s)	8,09	7,80	7,23	6,41	7,66	
		n (nr.)	89,5	45,5	24	23,5	182,5	
		l (m)	2,23	2,19	2,08	2,12	2,19	
		r (nr/s)	3,63	3,56	3,47	3,02	3,49	
7.	B.A.I.	t (sec)	24,80	13,00	6,99	7,53	52,32	2,72
		v (m/s)	8,06	7,69	7,15	6,64	7,64	
		n (nr.)	88,5	45,5	24,5	24,5	183,0	
		l (m)	2,20	2,29	2,18	2,12	2,19	
		r (nr/s)	3,53	3,66	3,57	3,12	3,49	
8.	M.G.A.	t (sec)	24,70	13,09	6,83	8,12	52,74	3,34
		v (m/s)	8,09	7,63	7,32	6,15	7,58	
		n (nr.)	86,1	43,5	23	22	174,6	
		l (m)	2,32	2,29	2,17	2,27	2,29	
		r (nr/s)	3,49	3,33	3,25	2,81	3,31	

NOTE : t – time, v – speed, n – number steeps, l – long steep, r – number steep/seconds

The evaluation of the results

Analyzing the video recordings we noticed that most of the athletes had a medium pace length of over 2 m., with a maximum of 2,29 and a minimum of 1,98 m. We also noticed a variation of the number of paces, 174,6 minimum and 201,7 maximum.

Taking into account the difference between the first 200 m. and the second part of 200 m., we can identify the two types of 400 m. runners: the sprinters and the semi-long distance runners. Those with small differences (1,57 – 2,72 – 2,81) are suitable also for 800 m. races. The others can also run 200 m. races.

Conclusions

After analyzing the results of our research, it is obvious that the two ways of improving the speed are efficient in 400 m. trainings.

According to the level of command of the movement capacities, speed for the 400 m. sprinters and resistance at speed in an endurance régime for the 400 m. semi-long distance type runners, there can be noticed an advantage for the sprinters. That is possible also because the rather short period of training (4 years at most). Once the sporting training, the experience and the movement capacities (especially the speed in an endurance régime) are improved, the performance itself will be improved..

IMPORTANȚA FRECVENȚEI ȘI A LUNGIMII FULEULUI ÎN OBTINEREA REZULTATELOR ÎN PROBA DE 400m.p.

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Cuvinte cheie: alergarea de viteză, antrenament, lungimea și frecvența fuleului.

Abstract: Sportul de performanță este caracterizat de efort fizic intens, care se concretizează prin obținerea de rezultate sportive atât în antrenamente cât mai ales în competiții. Doar prin combinarea parametrilor biomotrici, bioenergetici și biomecanici cu antrenamente bine planificate se pot obține performanțe notabile în probele de sprint prelungit (400m.p.).

Introducere

Problemele metodicii antrenamentului în probele de sprint sunt puncte de care trebuie să țină cont fiecare antrenor, în elaborarea planurilor de pregătire, care din păcate la noi în țară sunt foarte eterogene, ele urmând linia metodică a F.R.Atletism.

Pe plan mondial se poate observa că cel mai important element, este lucrul pentru dezvoltarea vitezei