

Methods of teaching the technique of passing individual distance for the first class of complexity in sports tourism

STANISLAV SOBOLEV¹, NATALIA SOBOLEVA², MAXIM ZLOTNIKOV³, OLGA RATUEVA⁴, LEONID SIDOROV⁵

^{1,2,3} School of Physical Education, Sport and Tourism, Siberian Federal University, Krasnoyarsk, Russia

⁴ School of Philology and Language Communication, Siberian Federal University, Krasnoyarsk, Russia

⁵ Institute of Physical Culture, Sport and Health, Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russia

Ratueva.olga@mail.ru

Abstract

Problem Statement: modern training of tourists-athletes participating in walking distances in closed spaces makes high demands, especially for technical training, which must be built taking into account the individual characteristics and the initial readiness of an athlete. With the development of sports tourism, due to the specificity of the content of this activity, there was a need for methodological support of the educational process. **Approach:** making historical review of scientific literature it was found out that velocity (speed), strength, endurance, agility and flexibility were purely speculatively referred the physical qualities. This approach was based on the observation of external, clearly manifested characteristics of a person's motor activity, easily measurable in physical measures of mechanical motion. **Purpose:** to develop a methodology for technical training for the girls of 8-10 years, taking into account the structure of competitive activity at the individual distance indoors, in order to improve the individual characteristics and the initial readiness of an athlete. **Results:** the conducted experiment showed significant changes in the experimental group: the results were improved by 22.2% in comparison with the control group where results were improved by 10.2%. Comparing these indicators, we can see that the method proposed by us is the most effective, because the percentage ratio in the experimental group is twice more than in the control one. **Conclusions:** the obtained results confirm our hypothesis that the technical readiness of tourists-athletes specializing in the discipline "distance - walking" will significantly increase if to develop a methodology for technical training for the girls of 8-10 years, taking into account the structure of competitive activity at the individual distance indoors.

Keywords: sports tourism, physical training, individual distance, competitive activity, methodology, athlete, experiment

Introduction

Modern training of tourists-athletes participating in walking distances in closed spaces makes high demands, especially for technical training, which must be built taking into account the individual characteristics and the initial readiness of an athlete. Athletes - tourists who take part in competitions in enclosed spaces should have the following qualities: explosive strength, motor agility, speed endurance, strength and quickness [13].

In modern sports training, general physical training is not related only to a skilled physical excellence, but to the level of development of qualities and abilities, providing an indirect impact on athletic achievements and the effectiveness of exercise. General physical training should be done during the whole year training cycle [4].

Special physical training is characterized by the level of development of physical abilities, capabilities of organs and functional systems that directly determine achievements in the chosen sport. The physical fitness of the athlete is closely connected with sports specialization. In some sports the result is defined, first of all, by speed-power opportunities, the level of development of anaerobic production; in others - by aerobic productivity, endurance to long-term work; in third ones - by speed-power and coordination abilities; in fourth ones - by equitable development of various physical qualities [5; 8; 11].

Material and methods

For the solution of the tasks set in this work, the following methods were applied to provide full information and objectivity:

1. The analysis of literary sources. This method allowed to study the qualitative characteristics of the studied material in support of the relevance of the chosen topic and to consider the main issues related to the topic of the work. We have analyzed: technical and physical training of athletes - tourists, as well as the structure of competitive activity in sports tourism, in particular in the discipline "distance - walking".

2. Pedagogical observation. From the entire competitive process we studied only the elements of the distance. The observation was carried out with the help of video files, which recorded all the actions of the athletes during the covering of the technical stages of the distance from start to finish.

3. Timing. This method was used to determine the time spent on each component of the structure of competitive activity at the distance of the first class of complexity as a whole, by measuring the time spent at the individual technical stages of the distance of each athlete individually. Before the calculation of the results from the video, at all technical stages, the components of the structure of competitive activity were identified, and then the time required for the passage was measured.

4. Pedagogical experiment. It was done to clarify the effectiveness of certain methods, means, forms, types, techniques and new content of teaching and training. According to the purpose of the study a stating experiment was chosen. According to the change of conditions – a natural experiment was chosen, because minor changes, which were not noticed by the participants, in the training process were included [3].

5. The method of mathematical statistics. According to the control distance some average results, coefficients of variation, variance, standard deviation, standard error were calculated [6; 9].

Participants and procedures.

In order to further study of the competitive activity of athletes - tourists a hidden pedagogical observation was conducted.

Observation and pedagogical research were conducted at open competitions on sports tourism on walking distances in enclosed spaces in sports club "AKADEM". In the observation 20 athletes from different teams of Krasnoyarsk region took place. The age group is 2006 - 2008. The first class of complexity.

Sportswomen were divided into 2 equal groups. During six weeks from 04.04.16 - 15.05.2016 (two trainings a week) two groups were trained in different methods. The experimental group had special exercises according to a technique offered by us and the control group had exercises without deviation from the training plan. Both groups had two academic hours' training. A control distance was the distance of the first class complexity. The distance was planned according to the rules of conducting sports competitions in sports tourism, in discipline "distance-walking" [10; 12]. The video was divided into segments, which consisted of the distance segments shown in Table 1.

Table 1. Segments of the distance " walking – personal"

Distance segments	Techniques
A	overrun (start – working area 1)
B	a rope crossing
C	overrun (working area - 2 - working area - 3)
D	parallel rope
E	indoor rock climbing
F	rope crossing descent
G	overrun (working area – 4 - finish)

On the basis of our own experience a special method of teaching the technique of passing an individual distance in sports tourism was developed, the discipline of distance is "Hiking" indoors. Its main idea was to teach each technical segment of the training separately. To conduct the study, a six-week training program was developed and it is presented below.

Six-week training program:

Week 1. On Tuesday and Thursday: a rope crossing, parallel rope;

Week 2. On Tuesday and Thursday: parallel rope, indoor rock climbing;

Week 3. On Tuesday and Thursday: indoor rock climbing, rope crossing descent;

Week 4. On Tuesday and Thursday: a rope crossing, parallel rope;

Week 5. On Tuesday: race in the experimental group;

On Thursday: race in the control group;

Week 6. On Tuesday and Thursday: a rope crossing, parallel rope, indoor rock climbing, rope crossing descent.

Also, the methodology included a set of exercises aimed at developing the physical abilities of tourists – athletes [13].

1. Running from the start from different positions, including the positions: sitting, lying face down or up, lying head in the opposite direction (relative to the direction of movement). Every exercise was done 2-3 times to 7 - 10 meters with the interval of 1.5 - 2.0 minutes. These exercises are recommended to be done on a signal, in a group or independently, but preferably with time control [2].

2. Fastening a carbine hook from one rope to another one. Two ropes are stretched in parallel at a distance of six meters. Ten carbine hooks are fastened on one of the ropes. The task of the athlete is to move the carbiners from one rope to another and back for the shortest amount of time.

3. Crossing the swinging crossbars. The participant must get on horizontally suspended crossbars to overcome the obstacle.

4. Relay race "climbing wall". The group is divided into two subgroups. Each participant climbs up the stand, then down and then passes the baton to the next teammate. The team wins which passes the distance in the shortest amount of time.

5. Shuttle run is running from one point to another and back, repeating several times. Physical strength is helpful while doing this exercise [7].

6. Knot tying. This is an elementary and effective exercise aimed at the development of athletes' fine motor skills.

Results

The results of the pedagogical observation are presented in Table 2.

Table 2. The pedagogical observation results

№ participant	Techniques							Time sec
	Segment A	Segment B	Segment C	Segment D	Segment E	Segment F	Segment G	
	overrun (start – working area 1) sec.	a rope crossing sec.	overrun (working area - 2 - working area - 3) sec.	parallel rope sec.	indoor rock climbing sec.	rope crossing descent sec.	overrun (working area – 4 - finish) sec.	
1	5	10	5	12	14	5	4	0:55
2	5	11	5	11	17	5	5	0:59
3	5	12	4	12	15	6	6	1:00
4	7	14	5	12	17	6	4	1:05
5	8	17	6	16	17	6	5	1:15
6	7	16	6	18	16	6	6	1:15
7	6	18	6	18	17	6	6	1:17
8	6	20	6	19	16	7	5	1:19
9	7	26	5	23	21	6	6	1:34
10	7	32	6	27	23	6	6	1:47
11	6	32	6	23	28	6	6	1:47
12	6	33	6	25	27	6	6	1:49
14	7	34	6	24	27	6	6	1:50
15	6	38	5	31	28	6	5	1:59
16	7	32	6	38	28	6	6	2:03
17	7	39	7	40	33	7	6	2:19
18	7	42	6	47	36	7	6	2:31
19	8	42	6	48	37	6	6	2:33
20	7	44	6	47	38	6	6	2:35
\bar{x}	6,2	25,6	5,4	24,6	22,8	5,8	5,3	1:35

In Table 2 the color highlights the time intervals on which, for some reasons, the participants spent more time, compared with the passage of the distance by the leader. Received digital material has been subjected to mathematical processing. Figure 1 shows the structure of competitive activity.

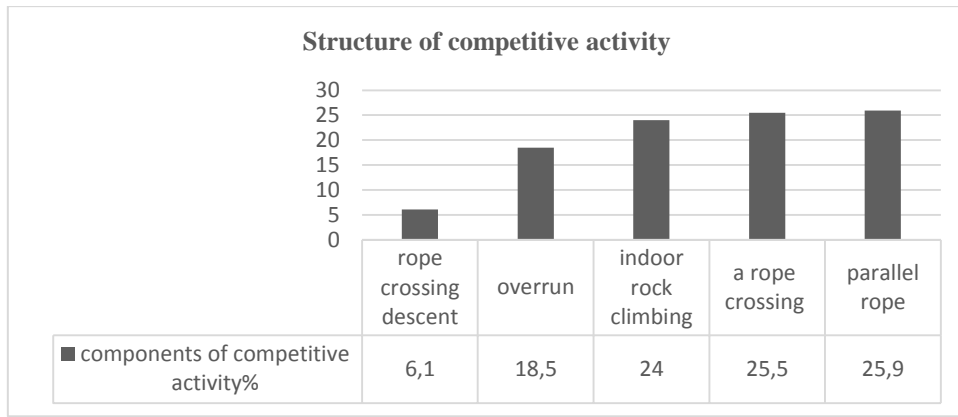


Figure 1. Technical components of the competitive activity at the distance of the first class of complexity

From the figure it is clear that most of the time at the distance of the first class of complexity an athlete spends on the passage of a parallel rope, rock climbing and a rope crossing. The reason is in the performance of a large number of motor actions at each stage. Also much time is spent on running between stages. And less significant period of time is spent on the passage of the rope crossing descent.

Discussion

Analyzing the results of pedagogical observation, it has been identified:

1. In segment A, athletes 5, 19 showed speed reduction, perhaps associated with long perception of a sound signal. In segment B, athletes 10 - 20 lost time while fastening and unfastening to the rope, they chose the lowest tempo of movement. In segment D, athletes 15 - 20 lost a significant amount of time because of numerous breakdowns from the parallel ropes. In segment E, athletes 17 - 19 had bad technique of climbing. Athlete 20 could not open the carbine hook. In segment F, athletes 8, 17, 18 at the stage of descent, spent much time on fastening and unfastening to the rope.

2. The development of high-speed skills, work with fine motor skills related to fastening and unfastening to the rope, removal of ropes.

Recommendations:

1. To pay more attention to speed and strength training, as athletes have lack of such skills at competitions.

2. To include in the training repeated sprints to and fro between marked points or lines (shuttle run).

3. To take into account that power agility manifests when there is a changeable work of muscles (indoor rock climbing, a rope crossing).

In Figure 2 there is a histogram showing the differences and changes in the results before and after the experiment in both groups.

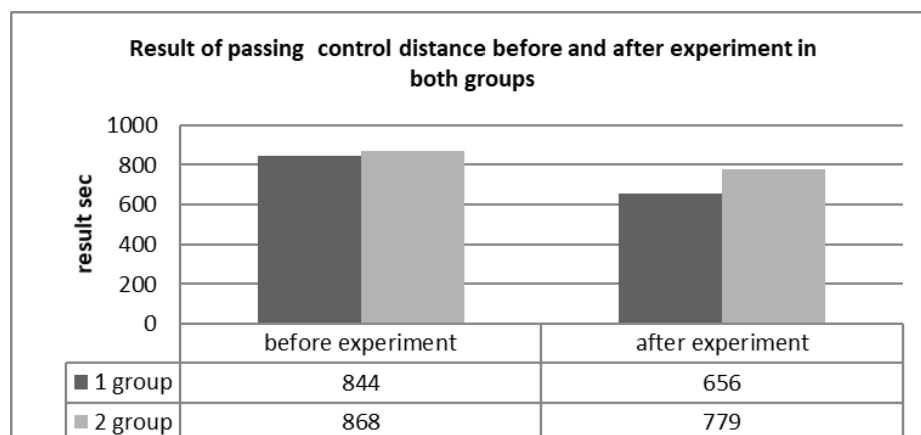


Figure 2. Results of the control distance before and after the experiment in both groups

The results obtained after the experiment in the experimental and control groups allow us to conclude that the proposed method is effective, as the calculated Student's t-distribution is more than tabular one. It is shown in Table 3.

Table 3. Results of control distance before and after the experiment in the experimental and control groups

№ athlete	experimental group		control group	
	before experiment	after experiment	before experiment	after experiment
1	66	52	68	62
2	68	53	69	64
3	71	56	70	65
4	78	57	82	70
5	85	65	88	81
6	94	69	95	82
7	94	72	97	87
8	95	76	98	87
9	96	77	100	90
10	97	79	101	91
average rate of change (\bar{d}), sec.	15,66		7,41	
standard error (S_d), sec.	7,95		4,35	
modified student's t-test	6,81		5,89	

Conclusions

1. It was discovered that technique skills are always connected with development of physical qualities. This study allowed us to see the ratio of physical qualities and the level of development of technical training necessary for successful performance in competitions in sports tourism indoors.

2. After a pedagogical observation, we determined the structure of competition activity for individual distance of the first class difficulty. It was also found that the structure of competitive activity consists of technical components: rope crossing descent 6,1%, overrun between stages 18,5%, indoor rock climbing 24%, a rope crossing 25,5%, parallel rope railings 25,9%.

3. After the experiment, we have found that in the experimental group there were significant changes. The results are improved by 22.2%. The results in the control group are improved by 10.2%. Comparing these indicators, we can see that the method proposed by us is the most effective, because the percentage ratio in the experimental group is twice more than in the control one.

The obtained results confirm our hypothesis that the technical readiness of tourists-athletes specializing in the discipline "distance - walking" will significantly increase if to develop a methodology for technical training for the girls of 8-10 years, taking into account the structure of competitive activity at the individual distance indoors.

References

1. Ashmarin, B.A. (1990). Theory and Methods of Physical Education: Study Guide for the Students of Physical Culture Department (Ed. by B.A. Asharin). Moscow: Prosveshchenie.
2. Galimov, G. J. (1999). Formation of motor skills and pedagogical skills in artificially created environments. - Moscow. - 358 p.
3. Galetski, V. M. (2004). Abstract, course and diploma works: textbook for stud. of faculty of physical culture and sports. Krasnoyarsk State University – Krasnoyarsk. - 113 p.
4. Grishina, Y. I. (2010). General physical training. To know and be able to: textbook for universities / Y. I. Grishina. – Rostov-on-the-Don: Feniks. - 249 p.
5. Guzhalovsky, A. A. (1987). Results and prospects of studying the laws of ontogenesis of physical abilities of a man / A. A. Guzhalovsky // Theory and practice of physical culture. No. 12. – S. 31-34.
6. Ivanov, V. S. (1990). Fundamentals of mathematical statistics: textbook for institutes of physical culture. / Edited by V. S. Ivanov. - M.: physical Education and sport. - 176 p.
7. Lyakh, V. I. (1987). About the classification of coordination abilities / V. I. Lyakh // Theory and practice of physical culture. - No. 7. - P. 28-30.
8. Maximenko, A. M. (2001). Fundamentals of the theory and methodology of physical culture: textbook for students of pedagogical universities 2nd ed., / A. M. Maksimenko. – M.: the 4th branch of Voenizdat. - 319 p.
9. Machinskaya, S. V. (2008). Sports Metrology: textbook. Manual / S. V. Machinskaya. – 2nd edition. - Moscow: Academy. - 238 p.

10. Regulations of carrying out competitions on group of disciplines "Distance - walking". - Moscow: Tourism and sports Union of Russia. - 2014.
11. Sobolev, S. V. (2014). Improvement of the training process in sports tourism in the discipline "Distance - walking": monograph / S. V. Sobolev, N. V. Soboleva, S. K. Ryabinina. – Krasnoyarsk. - 76 p.
12. Official website of sports tourism [Electronic resource]. – Mode of access: <http://www.tmmoscow.ru/>
13. Sobolev S. V., Rozhin S. V., Soboleva N. V., Ryabinina S. K., Ratueva O. N. (2017). Technique of indoors vertical rails “climbing” in sports tourism at individual distance // Journal of Physical Education and Sport: Vol 17(3), Art 165, pp. 1078 – 1083.