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Features of 30-40 years old tourists-skiers' technical training in spring and autumn

Abstract. Purpose: compare the test results of the level of tourists' technical readiness of 30-40 years old skiers at various stages of preparation. Determine the effectiveness of developed programs to improve the technical readiness of 30-40 years old tourists-skiers. **Material and Methods:** 14 people aged 30 to 40 years old who have a different experience in water, hiking and mountain as well as ski-sport hiking took part in research. Analysis of scientific and methodical literature, pedagogical observations, pedagogical experiment, methods of mathematical statistics is used. **Results:** the test results of 30-40 years old tourists skiers which are the participants in the experimental group received at different stages of preparation and preparatory period and the results after passing ski sports hiking of the third category of complexity are processed. Their comparative analysis is held. **Conclusions:** It was found that the developed training program can effectively influence the increase of the level of tourists' and skiers' technical skills and preparedness.

Keywords: ski trip, technique, simulation exercises, roller skis, ski hiking.

Introduction. The structure of the preparation of the tourist-skier to ski sports hike consists of many species that are closely related and complement each other, but due to the characteristics of movement in the hike (skiing), technical training is one of the main.

According to the travelers [2, 5], the development of a rational technique of walk (correct formulation of the feet, reliance on the alpenstock, lanyard through the alpenstock or ice-ax) on steep trails, slopes, in overcoming low obstacles is paid a great attention while preparing for hiking and mountain hikes, so the main in the pre preparation period of the tourist-skiers is the mastering and consolidation of the ski technique, which includes the ways of passing the climbing, descents, turns, braking, and just before a hike with the same method done with a backpack.

At the ski hike movement is mainly done on the virgin snow, therefore, 0 additional element in the technology in the ski tourism will be tracking trails, often with a backpack. Not only a backpack, but also special clothes which is often necessary because of the strong wind and the cold (and sometimes both at the same time), restrict movement, complicate the use of certain techniques. Theoretical preparation includes the study of: the various elements of technology in different reliefs on different tracks, the basic elements of skiing technology and ski technique, the fitting and preparing ski and tourist equipment, as well as the types and characteristics of the original cartographic material in ski hikes.

The level of technical training of tourist must always correspond to the complexity and length of the route. The head of a hike must be sure in advance that each participant is able to pass the planned route with a certain margin of safety in case of an emergency, if the group is out of the schedule, and have to cover the distance over the daily task.

Considering that many ski hiking routes are carried out in a mountainous area with varied by nature and complexity of the relief, it is compulsory for tourists now to possess of special technique receptions [2, 5, 11].

The basis of the technical preparation of the tourist-skier is classical technique of ski steps [1, 3, 6, 7, 10]:

- alternating two steps' walk (used in flat areas, climbs);
- alternating four steps' walk (used on deep snow on the track with uneven natural obstacles);
- simultaneous one step's walk (used on sloping downhill, plains);
- simultaneous two steps' walk (used in the plain, sloping uphill);
- simultaneous without steps' walk (used in the plain, up to sloping mountain);

ski technics:

- kinds of stands from downhill;
- turning with plow;
- cutting (carving) turn;
- sliding turns;
- ways of braking.

Connection with academic programs, plans, themes. Studies carried out in accordance with the thematic plan of research of the Department of winter sports, cycling and tourism of Kharkov State Academy of Physical Culture (KSAPC) of the Ministry of Education and Science of Ukraine for 2013-17 years on the topic «Fundamentals of sport tourism in the recreational activities of different aged groups in Ukraine» (State registration number 0114U000366).

Purpose of research: Determine the effectiveness of designed program to improve the technical preparation of 30-40 years old tourists-skiers.

Tasks of research: 1. Develop the program of technical preparation of 30-40 years old tourists-skiers for the successful passage of the ski-sports hiking of II-IV categories of complexity. 2. Experimentally check the effectiveness of the proposed program of technical preparation of 30-40 years old tourists-skiers.

Methods of research: analysis of scientific and methodical literature, pedagogical observations, pedagogical experiment, methods of mathematical statistics.

Organization of research: Research was held from May to October, 2013-2014. The experimental group consisted of 14 people at the age of 30 to 40, having different experience of water, hiking and mountain hiking. Over the years, all members of the group went in for different kinds of sports; many of them have sports categories. By the beginning of the experiment, all members of the group had had different experience of ski sports hikes. Spring and Autumn period was a 6 months preparation period.

Expert assessment of technique movement indicators on roller skis (according to a 10-point system) and theoretical training (according to a 100-point system) of 30-40 years old tourists-skiers during the preparation period (n=14)

№	Types of movement technique / ski step	30-40 years old									
		$\frac{\bar{X}_1 \pm m_1}{\bar{X}_2 \pm m_2}$	t	p	$\frac{\bar{X}_1 \pm m_1}{\bar{X}_3 \pm m_3}$	t	p	$\frac{\bar{X}_2 \pm m_2}{\bar{X}_3 \pm m_3}$	t	p	
1.	Technique of movement with classical style, points	alternating two steps' walk	$\frac{4,9 \pm 0,23}{6,6 \pm 0,71}$	2,30	<0,05	$\frac{4,9 \pm 0,23}{8,4 \pm 0,69}$	4,80	<0,001	$\frac{6,6 \pm 0,71}{8,4 \pm 0,69}$	1,80	>0,05
		alternating four steps' walk	$\frac{5,3 \pm 0,45}{6,9 \pm 0,58}$	2,23	<0,05	$\frac{5,3 \pm 0,45}{8,6 \pm 0,62}$	4,32	<0,001	$\frac{6,9 \pm 0,58}{8,6 \pm 0,62}$	2,05	>0,05
		simultaneous one step's walk	$\frac{6,2 \pm 0,48}{7,9 \pm 0,58}$	2,27	<0,05	$\frac{6,2 \pm 0,48}{8,9 \pm 0,86}$	2,72	<0,05	$\frac{7,9 \pm 0,58}{8,9 \pm 0,86}$	0,96	>0,05
		simultaneous two step's walk	$\frac{6,5 \pm 0,54}{8,1 \pm 0,51}$	2,22	<0,05	$\frac{6,5 \pm 0,54}{9,1 \pm 0,58}$	3,24	<0,01	$\frac{8,1 \pm 0,51}{9,1 \pm 0,58}$	1,20	>0,05
2.	Mountaineering technique, points	Ways of passage ups	$\frac{6,1 \pm 0,31}{8,1 \pm 0,58}$	3,03	<0,01	$\frac{6,1 \pm 0,31}{9,1 \pm 0,59}$	4,53	<0,001	$\frac{8,1 \pm 0,58}{9,1 \pm 0,59}$	1,21	>0,01
		Ways of downs	$\frac{4,5 \pm 0,54}{5,7 \pm 0,66}$	1,42	>0,05	$\frac{4,5 \pm 0,54}{7,0 \pm 0,62}$	3,06	<0,01	$\frac{5,7 \pm 0,66}{7,0 \pm 0,62}$	1,42	>0,05
		Ways of braking	$\frac{4,9 \pm 0,51}{6,1 \pm 0,58}$	1,57	>0,05	$\frac{4,9 \pm 0,51}{6,8 \pm 0,48}$	2,77	<0,05	$\frac{6,1 \pm 0,58}{6,8 \pm 0,48}$	0,95	>0,05
3.	Theoretical training	$\frac{67,6 \pm 1,42}{72,5 \pm 1,00}$	2,82	<0,05	$\frac{67,6 \pm 1,42}{76,7 \pm 1,51}$	4,39	<0,001	$\frac{72,5 \pm 1,00}{76,7 \pm 1,51}$	2,32	<0,05	

Note. $\bar{X}_1 \pm m_1$ – average results (May); $\bar{X}_2 \pm m_2$ – average results (August); $\bar{X}_3 \pm m_3$ – average results (October).

Results of research: technical preparation with the use of specially-preparatory means (simulations, running with repulsion sticks, roller skis) was carried out in our experimental group during the before hiking training. Simulation exercises and simulation of ski steps – this exercise without skis, simulating some elements of (part of) the ski step or the step in general. Having mastered these exercises, having trained to automatic steps, corresponding ski, tourists skiers can much easier master the ski steps on snow.

Tourists trained the stands of skier doing simulation exercises, arms movements in alternate and simultaneous steps (staying on one place and walking), legs movements in alternate two steps' walk, coordination of arms and legs movements staying on one place and walking, coordination of arms and legs movements during braking and turns etc.

To speed up technical preparation of 30-40 years old tourists-skiers in their training, we used the movement on roller skis during the period from May to October. Roller skis helped to better master the technique of skiing steps and prepare the muscles for ski in the winter, as well as to develop the general and special endurance.

Mastering technique of ski steps on roller skis began as skiing, with preparatory exercises without sticks. Having achieved a sustainable balance and confidence while moving without sticks, started working off ski steps.

The expert assessment of technique indicators of ski steps and ski technique of roller skis, as well as indicators of the theoretical knowledge of skiing and sports tourism was held during the period of technical training (see table).

The assessment of alternate two steps' walk technique, which was 4.9 points on a 10-point scale of evaluation criteria of ski steps technique were evaluated after the initial development of movement technique [8]. During the preparation period the use of special means increased the assessment score to 3.5 ($t = 4,80$; $p < 0.001$).

Alternate four steps' walk is a basic step during tracking skiing trail in the deep snow, but the structure of the movements on roller skis generally corresponds to the movement of skiing.

Using this move during the summer period improved the quality of its implementation in relation to the initial indicators – May ($t = 4,32$; $p < 0.001$), and the second phase – August ($t = 2,23$; $p < 0.05$) of the preparation period.

Using a specially-preparatory means to continue moving on roller skis allowed to execute more perfectly simultaneous one step's walk and simultaneous two step's walk, which technique was estimated at 7.9 points ($t = 2,27$; $p < 0.05$) and at 8,1 points ($t = 2,22$; $p < 0.05$) in August and at 8.9 points ($t = 2,72$; $p < 0.05$) and 9.1 points ($t = 3,24$; $p < 0.01$) in October.

The complex process requiring manifestations of high coordination of movements and during their assessment in October we received not high points (7.0 and 6.8) accordingly using a variety options for technique of passage downs and braking by tourists skiers. Different ways of passage ups were also assessed as satisfactory, 9.1 points out of maximum 10 points were recruited by tourists-skiers, but statistically changing as in the second period of the researching – in August ($t = 3,03$; $p < 0.01$) and in the third period of the researching – in October ($t = 4,53$; $p < 0.001$).

Assessing the level of knowledge of 30-40 years old tourists-skiers, we found that the theoretical basis of skiing and ski tourism are at a quite high level which was 76.7 points out of possible 100 ($t = 4,39$; $p < 0.01$) at the end of the researching.

So, it was found that during the period from May to October, the technical preparedness of 30-40 years old tourists-skiers increased by using the roller ski training, which allowed them to master the technique of simultaneous one steps' walk and two steps' walk more (8.9; 9.1 points), of passage ups (9.1 points) and alternate four steps' walk (8.6 points).

Conclusions: It was found that the designed program of the preparation period of 30-40 years old tourists-skiers with the using of special means of training (ski roller training, simulation exercises) contribute to a better mastering technique of skiing to participate in ski sports hikes of II-IV categories of complexity.

Further research will focus on the development of physical training programs in preparation period in for water and mountaineering.

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