EVALUATION OF SPEED OF EXECUTION IN ALPINE SKIING BY USING OPTOJUMP SKI TEST

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Abstract: In alpine skiing speed development is a key element in preparing athletes from the youngest ages. Speed as other basic motor skills in developing physical training of athletes in alpine skiing often depends on the ability of each person and basic training, individual capacity for effort, hindering the training and the possibility of recovery and the necessary anatomical and physiological development programs.
Specific training should focus on developing and maintaining speed so as to be optimal muscle contractility and ensure high performance control throughout the period of competition.
The purpose of this research is to deliver a study on the development of speed in alpine skiing by using modern means of analysis and verification. Research methods used were: - the experimental method, computerized evaluation method of speed of execution by using computerized assessment system OptoJump and graphical method.
In initial testing, the maximum values were less than the maximum values performed at the final testing. The same thing happened with the minimum values performed in the two tests.
The results of this research led to the conclusion that the means used were accepted by athletes and led to more rapid progress. Methods used in training should be strictly quantified as the number of repetitions and content when working in order to obtain higher performance.
Keywords*: execution speed, alpine skiing*

Introduction

The speed development, both in theoretical and practical, is an ongoing concern for many experts in different activity fields (coaches, teachers, methodologists, physiologists and so on).
A trained athlete is a person who is very good in a particular form of physical activity, activity that follows a period of extensive physical and mental training. Training is a systematic process of repetitive exercises, progressive and involves learning processes. Training is the ultimate goal to improve the systems and functions athlete.
Well-organized training system is key to improving sports performance.
The training program must follow the concept of periodization, be adapted to the specific discipline, should be planned and structured to adapt to the specific discipline. It is known since ancient times that athletes have explored many methods to help them run faster, jump higher and throw as far as possible. (Pelin, 2007)
The main purpose of sports training is to increase effort and performance capacity of athletes. Training is a systematic long-term sporting activity, progressively layered. (Bompa, 2002)
Since all concerns converge to streamline sports training, assessing the effects of training is particularly significant, phases as designing, programming and conduct of business. (Tudor, 2005)
Thorough assimilation of knowledge, skills and abilities of athletes is largely ensured by judicious scheduling, logic both within each lesson and training in a weekly cycle stages of a training or an annual cycle. (Rachita, 2011)
Speed development requires a complex activity that is based on many guide books will provide the coach the best ways and means for improving high. Contemporary training activity requiring many hours of work from the athletes in which the volume and intensity are increasing continuously and exercises are repeated several times. (Netolitzchi, 2002)
An athlete may be strong, be vigorous, but may not have a lot of power, because it has a low rate of utilization and thus the ability to contract in a very short period of strong muscles. The power gain can be done by the use of specific methods of training. One of these methods is training using agility exercises.

Methods

Research Aim

This research intends to achieve a study about speed of execution development in alpine skiing by using modern means of analysis and verification.

Research Hypothesis

In this research the following methods were used:
- Bibliographic study method;
- Direct and indirect observation method (Epuran, 2005);
- The experimental method;
- Computerized evaluation method of speed of execution(pace) by the computerized assessment OptoJump - ski test;
- Graphical method.

Research Stages

The first step was to establish preparedness planning of training athletes followed by physical training content development means land used in the training lessons

Testing on the initial assessment of speed of execution.

Intervened in the preparation of skiers means of developing execution speed and develop a program for development.

The last step in organizing research was the final data collection.

Subjects, duration and location

This research involved four athletes, members of the national group of junior alpine skiing. The research was conducted as follows:

• On July 12, 2012 the initial testing took place by applying the test Counter Movement Jupm, within The Izvorani Sports Complex;

• between 13 July to 21 November 2012 the training program was applied;

• On November 22, 2012 the final test was held in Izvorani Sports Complex.

Results

The results obtained by the four athletes in the two tests - initial and final - are shown in the following table and in the following charts:

Fig 1 Initial test results N.A.

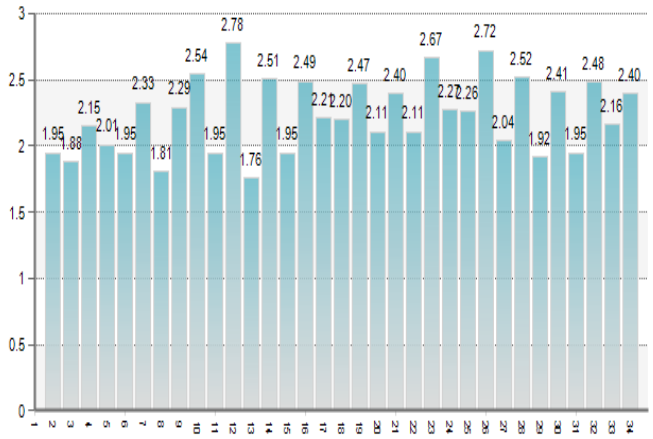


Fig 2 Final test results N.A.

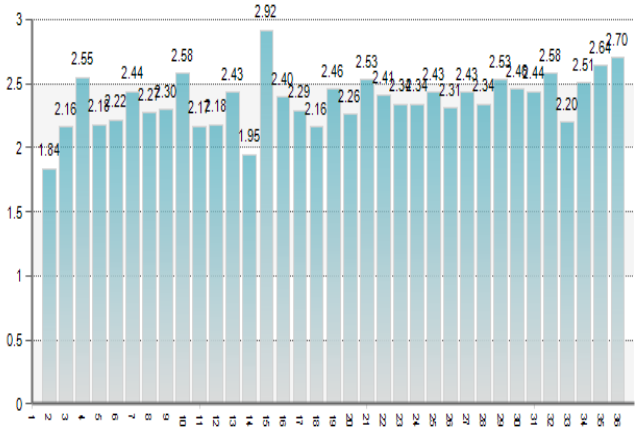


Fig 3 Initial test results K.Z.

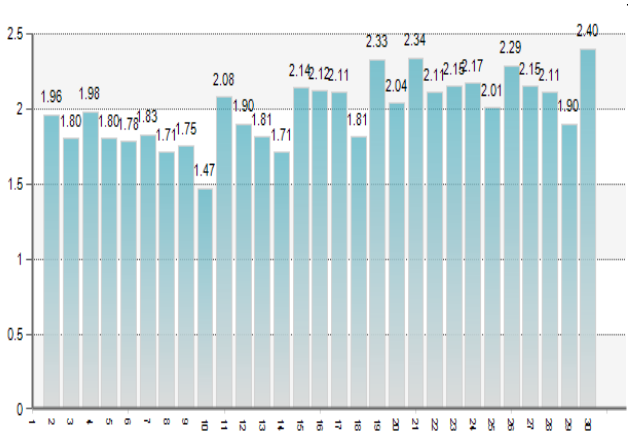


Fig 4 Final test results K.Z.

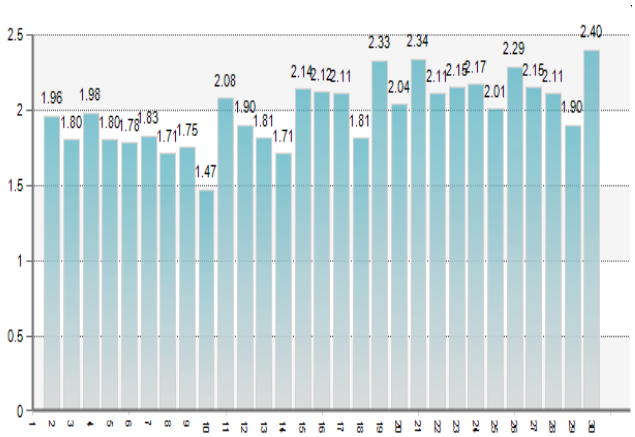


Fig 5 Initial test results D.M.

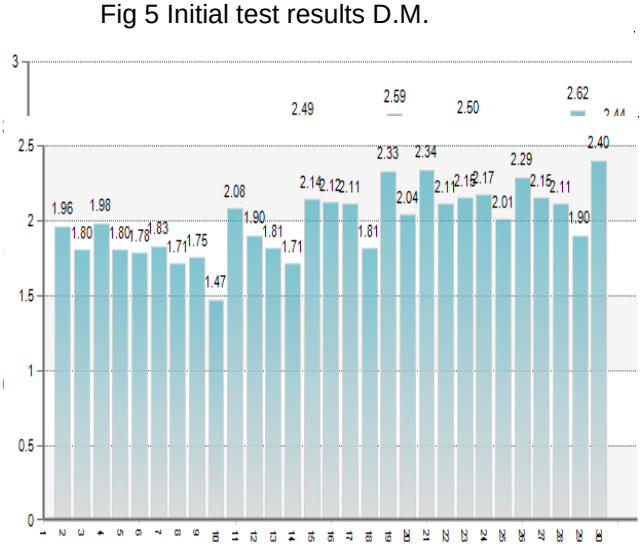


Fig 6 Final test results D.M.

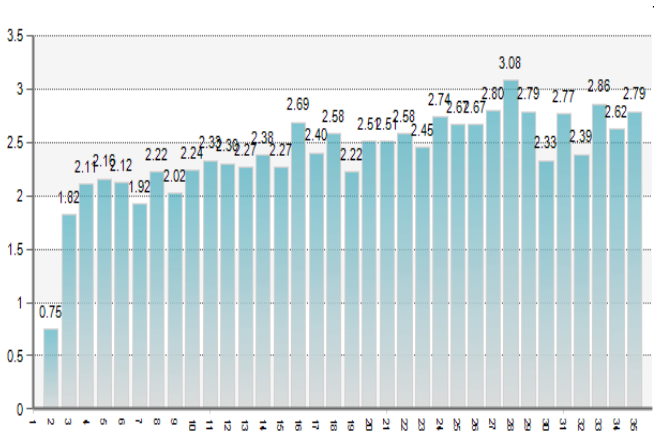


Fig 7 Initial test results R.F.

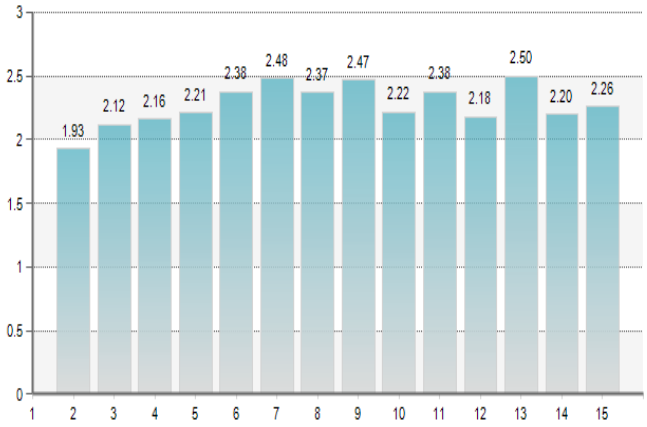
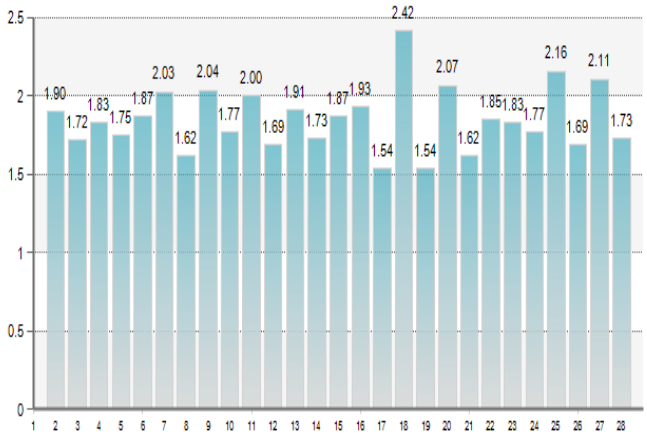


Fig 8 Final test results R.F.

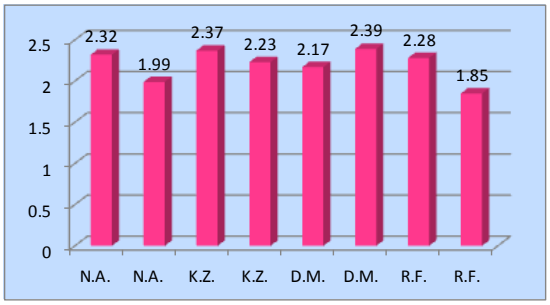


Athlete R.F. in the initial test at 15 of the second reached one of the two sensors, and thus has not been able to record the values at the end of the test, i.e. 30 seconds.

	N.A.	N.A.	K.Z.	K.Z.	D.M.	D.M.	R.F.	R.F.
	Initial testing	Final testing	Initial testing	Final testing	Initial testing	Final testing	Initial testing	Final testing
val. max.	2.64	2.40	2.92	2.78	2.62	3.08	2.50	2.42
val. min	1.95	1.47	1.84	1.76	1.53	0.75	1.93	1.54
media val.	2.32	1.99	2.37	2.23	2.17	2.39	2.28	1.85
media procentuală	8.20%	11.1%	8.90%	12.1%	11.1%	17.2%	7.00%	10.8%

Table - The difference between the minimum and maximum values

Figure 9 Average values taken from the two tests



Maximum and minimum values in the tests represents the pushing speed of one foot to the other kg.corp reported on for 30 seconds.

Athlete NA in the initial test had a 8.2% percentage. In the final test had a rate of 11.1%. Media was initially 2.32 and finally 1.99.
Athlete KZ in the initial test had a 8.9% percentage. In the final test had a rate of 12.1%. Media was initially 2.37 and finally 2.23.
Athlete DM in the initial test had a 11.1% percentage. In the final test had a rate of 17.2%. Media was initially 2.17 and finally 2.39.
Athlete RF in the initial test had a 7.0% percentage. In the final test had a rate of 10.8%. Media was initially 2.28 and finally 1.85.
As seen in the table all the athletes achieved an improvement in execution speed and had better executions final testing constant in front of initial testing.
OptoJump's use in testing athletes give objective data that help professionals to choose the best methods and means for optimizing athletic performance.

Conclusions

The training is always going on the assumption that the athlete is trained and that we can positively change the performance capacity.
Training is considered a process of development and personality formation athlete in terms of improving its physical sport to achieve a maximum performance.
Leading scientific training should be conducted with a larger number of objective data so that efficiency is maximized and resources are reflected in performance athlete.
The results of this research led to the conclusion that the means used were accepted by athletes and led to more rapid progress. Methods used in training should be strictly quantified as the number of repetitions and content when working in order to obtain higher performance.
The training is very important to have an optimal relationship between increasing demand and growth opportunities to face these demands. The scheduling of methods and their determination should be made carefully, very important are age, level of development of muscular and skeletal systems and the training of athletes.

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