

Optimizing technical training sample of 110 meters hurdles kinematics modelling variables

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Abstract

Background. Interdisciplinary research has been scientifically proven to optimize athletic performance. Studies and research on the kinematic parameters of sporting equipment in general and hurdles of pitch runner, and have proven useful in monitoring both the qualitative aspects of sports technology and the efficiency of the technical training programs.

Aims. The research objective is focused on identifying the kinematic parameters of the pitch over the hurdle in case studies, comparing them with existing models in the literature, developing technical training programs to optimize the athletes in question and evaluate their effectiveness from time to time.

Methods. In carrying out the main research, the methods used were observation, experimental methods namely video analysis, statistical and mathematical Kinematic parameters for the assessment of the hurdles runner step method was used using a video analysis room "Trouble Shooter" and two high quality software "Adobe After Effects" and "Quick AVI Splitter". These tools allowed us to obtain video, AVI and processing software based on the second, thus obtaining the values of kinematic parameters established. To determine the kinematic parameters we used the standard height of the hurdle, scaling the images reflected in the application software AVI with "Adobe After Effects". By using the software's "Quick Avi Splitter" image deployment was achieved AVI, frame by frame, thus obtaining the value of execution speed.

Results. Kinematic analysis of the parameters determined during the research highlights the quality of individualized technical training programs designed on the basis of monitoring those parameters. Analysis reveals significant differences from the first to the third measurement, the most cinematic parameters investigated.

Conclusion. The results showed that the use of software - their "Adobe After Effects" and "Quick AVI Splitter", as advanced measurement and analysis of kinematic parameters of leg runner hurdles, both in assessment and in the monitoring technique is adequate for the purposes of research. Optimizing technical preparation of these case studies of research was performed by manipulating the kinematic variables of stride runner hurdles with individual technical training.

Keywords: technique, kinematics, sports training, monitoring, optimizing.