

EFFECTS OF THE APPLICATION OF INERTIAL LOADS ON THE MORPHOLOGICAL PERFORMANCES IN THE STAGE OF RUNNING DEVELOPMENT AT MAXIMAUM SPEED

Abstract

The objectives of this study were: a) the training, application additional inertial burdens caused by changes in the kinematics and dynamic performance running at maximum speed, b) to identify the effects of such training on inter-relation kinematics and morphological performance. The sample consisted of respondents were students of the Faculty of Sport and Physical Education in Belgrade sorted into three groups depending on the running speed: 1 (K) - control group without additional burden (N = 7); 2(E - R) - experimental group with the load their hands (N = 7); 3(E - N) - experimental group with the load their legs (N = 7). It is realized with initial and final measurement of morphological variables and kinematics variables when they were running at maximum speed on the track 30 m long to the acceleration phase (0.5 - 25m). During six weeks training practice was performed 3 times a week, it was progressively more difficult and increasing the scope of work after every two weeks. The results indicate the existence of a significant correlation between running speed in the initial measurement of all morphological variables in all three groups. In Group 3 (E - N) running speed, which has been dropped comparing to the initial measurement, the final measurement is not significantly correlated with the morphological variables. Variable frequency and step length significantly correlate with morphological characteristics, and the additional burden affect the decline of their relationship with morphological characteristics. It is not entirely clear whether the experimental factors caused the loss of correlation links, or that the reason of sample was inhomogeneous (morphological and / or motor mismatch) or both.

Key words: speed run, inertial load, morphological performance