

A study on a mathematical model to design experiments for human muscle activities

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Abstract

In the context of diagnosis–prognosis, a core of coherent aims and objectives emerges, for which effective work strategies, intended to solve them in a planned and programmed manner are proposed. Prognosis is the starting point in the elaboration of work strategies with sports teams and is defined as “a scientific prediction of the development of future event states, expressed as prognostic information”.

This method can be made operational using mathematical statistics, includes simulation and optimization and may lead to effective training programs. The calculation technique, by calculating the working variants and determining the optimal variants, increases the decision-making speed in the selection of action strategies and technologies regarding the achievement of the proposed objectives, without changing the essence of the problem to be solved.

It should be considered that the ethical principles of the society no longer allow for experiments in humans and the only way to mediate the requirements of modern scientific research – which are difficult because of the complexity of problems – is the use of the most advanced calculation techniques aimed at the optimization of motor activities.

Keywords: design, model – modeling, simulation, optimization, sport motor skills.