



Comparative analysis of the systems of classic and block periodization in the shoot boxe

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Introduction:

The organization of the training in the combat sports is a very complex procedure, being the training of many physical and technical qualities necessary to excel in these sports. While planning the training of the shoot boxe in particular, many factors have to be considered: the athletes must have a wide motorial knowledge and characteristic that are common with other combat disciplines such as wrestling and hit boxing.

That's why we started an experimentation to compare the effects of different models of the training periodization, applied to the shoot boxe. In particular we compared the classic training periodization system in which the physical qualities are developed side by side, and the blocks periodization system (of Verchoshanskij) oriented for the development of single physical qualities during succeeding periods.

Methods:

The experimentation was carried out on a group of 20 shoot boxer of regional level (age 19±3; weight 70±11; height 176±8).

They were divided in two groups of 10 athletes with a similar competitive level.

During the training period, lasted 15 weeks, the total working load of the exercises was the same in the two groups, but the scheduling organization was different. The first group trained on the basis of the classic periodization system, while the second group trained with the blocks system for the prevailing training of:

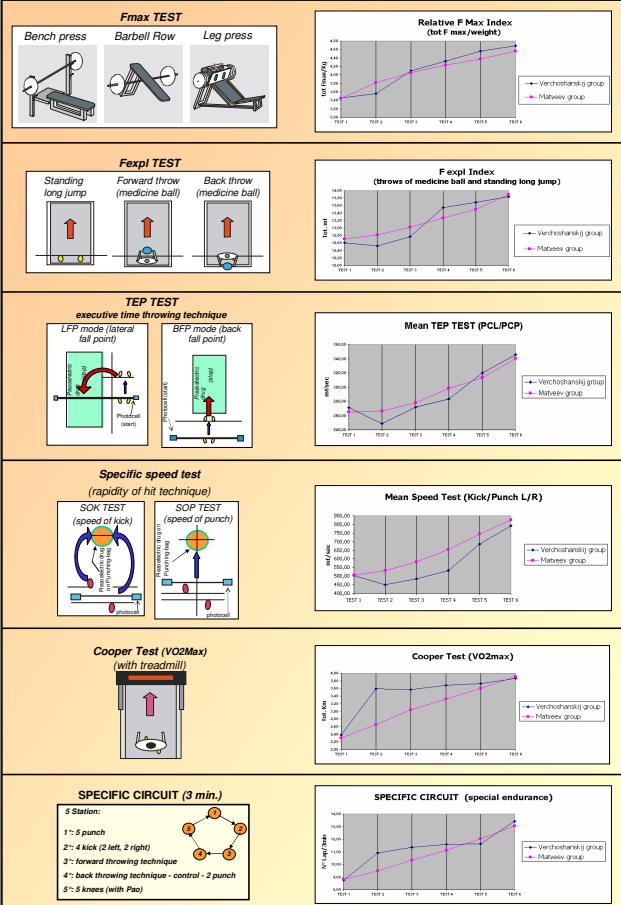
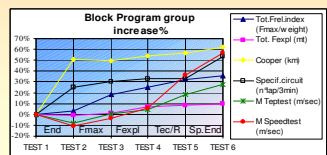
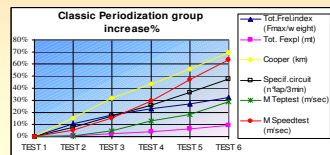
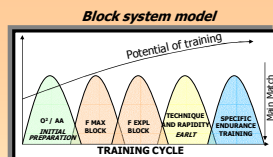
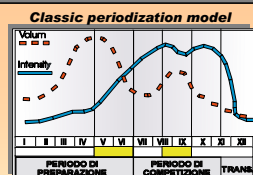
- 1) Endurance (and anatomical adaptation)
- 2) Fmax,
- 3) Fexpl.
- 4) technique and rapidity
- 5) specific endurance training (control match and specific circuit training).

Each block lasted 3 weeks.

To value the trend of the training the subjects had to do every 3 weeks (at the end of each block) a complex test battery with:

- Trials to value the Fmax (bench press, leg press, barbell row)
- Trials for the Fexpl (throws of medicine ball and standing long jump)
- Trials to value the rapidity of the throwing techniques (TEP test lfp-bfp)
- Trials to value the rapidity of the hit techniques (SoP test, SoK test)
- Trials for VO2max (Cooper)
- A circuit to value the specific endurance (with final check of HR max and of the HR recovery)

The collected data were statistically analysed (mean, SD, Anova two-way with replication) in order to verify the performances' variation obtained.



Results:

The analysis of the results shows that at the end of the cycle of training, both groups put in evidence a remarkable and significant increase (between 9% and 69%; $p < 0,001$) with similar results in many tests.

The increase in the first group (classic) was linear, while the second group (blocks) had a more varying trend and in particular we remarked significant decreases of the specific rapidity (-9/11%; $p < 0,05$) at the first block (endurance) that in effect is not always signed in the Verchoshanskij's models.

The percentage of increase of Fmax.rel., of Fexpl and of the rapidity of the throwing techniques was higher in the second group (blocks), but this difference didn't result significant. The difference related to the hit rapidity, instead, resulted significant: the first group showed weirdly a better result than the second (63% vs. 57%; $p < 0,01$).

The first group had a better result also for the endurance (69% vs. 62%; $p < 0,01$), while the second group registered a significantly higher increase in the specific endurance (54% vs. 48%; $p < 0,001$) above all due to the last training block.

Conclusions:

Finally, we can state that the results obtained are quite near to our expectations and to the indications of sport literature. In fact we noticed that the periodization training block model was only partially adaptable to the necessities of the athletes of not high level. Indeed to better use the potentialities of the blocks programming is probably necessary to low the lasting of the "endurance block", while increasing the lasting, the quantity and the intensity of the strength and of the "technique" blocks (hardly practicable with athletes of low level). In this way we can really activate the effect of retarded training on long term (EARLT).

Our aim is to go on with the study of this system of periodization applied to the combat sports training in a close future.

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