MODERN MODELS OF TRAINING PERIODIZATION.
FEATURES OF PERIODIZATION IN DIFFERENCE AGES GROUPS.

By Oleg Segeyev
The basic simple model of all adaptation.
Principle of progressive overload

Increasing loads

Principle of progressive overload – optimal improvement.
Modern models of training periodization

Traditional model of periodization (by L. Matveev) («Traditional», «Classical»)

Blocks model of periodization (by Y. Verhoshansky) («Blocks periodization»)

Complexed model of periodization (by A. Bondarchuk) («Equable stepped»)

Shape of long term adaptation processes (A, B)

Dynamics of integral indicators of volume (V) and intensity (i) of loads

The principle organization of multidirectional loads in time
The ratio of generalized parameters of volume and intensity of training loads in a macrocycle, constructed according to the "classical scheme"
Formalized model of the distribution of basic training aids in the annual training cycles with “traditional” two-peak load organization (by L. Matveev).

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<tr>
<th>X</th>
<th>XI</th>
<th>XII</th>
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<tr>
<td>GPP</td>
<td>SPP</td>
<td>CP</td>
<td>GPP II</td>
<td>SPP</td>
<td>CP I</td>
<td>CP II</td>
<td>Rest</td>
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<td>Preparation period I</td>
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<td>Preparation period II</td>
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<td>Competition period</td>
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</table>
Distribution of TP and SFP in a training macrocycle according to the Yu.V. Verkhoshanskii model
Formalized model of the distribution of the basic means of preparation in the annual training cycles according to the "block" scheme of Yu.V. Verkhoshansky with two-peak load organization.
Body response for training load with using complex method of periodization by A. Bondarchuk.

3 types of body reaction for training load: 1 - 25%; 2 - 35%; 3 - 30%; other...
A - phase of developing sport form (shape, performance).
B - phase of saving sport form.
C - phase of losing sport form.
- the moment for changing drills
The formalized model of distribution of the basic means of preparation in the annual training cycles according to the A.P. Bondarchuk scheme (one of the options for athletes with a 3-month entry into the form)

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<th>VIII</th>
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<tbody>
<tr>
<td>First period developing of sport shape</td>
<td>Second period developing of sport form.</td>
<td>Third period developing of sport shape</td>
<td>Saving sport shape</td>
<td>Saving sport shape</td>
<td>Rest</td>
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</tbody>
</table>

- General speed - strength
- Specific speed
- Special speed - strength
- Specific strength

Winter season main competition
Summer season main competition

% Annual volume

General speed - strength
General speed - strength
General speed - strength

RESULT

Intensity of load
Volume of load

Winter season main competition
Summer season main competition

General speed - strength
Specific speed
Special speed - strength
Specific strength
Variants of annual program for athletes using complex method of periodization (by A. Bondarchuk)

- rest phase
- developing sport shape phase
- saving sport shape phase

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<th>VIII</th>
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For athletes who will get in form in two month time.

For athletes who will get in form in three month time.
The approximate ratio of the general, auxiliary and special preparation in the long-term training process (by Platonov 1997).

<table>
<thead>
<tr>
<th>Annual load volume (hours)</th>
<th>Special preparation %</th>
<th>Supporting preparation %</th>
<th>General preparation %</th>
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<tbody>
<tr>
<td>100-250</td>
<td>5</td>
<td>15</td>
<td>Initial preparation</td>
</tr>
<tr>
<td>250-600</td>
<td>45</td>
<td>50</td>
<td>Basic preparation</td>
</tr>
<tr>
<td>600-900</td>
<td>45</td>
<td>50</td>
<td>Special base preparation</td>
</tr>
<tr>
<td>900-1400</td>
<td>25</td>
<td>20</td>
<td>Maximum performance (achievements)</td>
</tr>
<tr>
<td>1400-1100</td>
<td>15</td>
<td>15</td>
<td>Achievement's conservat ion</td>
</tr>
</tbody>
</table>

Preparation stages
The approximate ratio of the general, auxiliary and special preparation in the long-term training process (by Platonov 2004).
Dynamics of volume (1), intensity (2) & percentage of intensity work in general load (3) at the different stages of long term preparation.

Stages of preparation
Traditional and optimal approaches to the selection of the sports reserve in the long-term preparation system

Long-term preparation stages

- Initial
- Basic preparation
- Special base preparation
- Maximal achievements
- Achievements conservations
- Achievement's decreasing

Number of athletes

- Traditional model:
  - 100000—150000
  - 30000—40000
  - 15000—20000
  - 3000—5000
  - 1500—2000
  - 700—1000
  - 300—400
  - 200—250

- Optimal model:
  - 100000—150000
  - 10000—1200
  - 500—600
  - 250—300
  - 100—150
  - 50—70
  - 20—30
**Phases of an athlete's development Based on THUMM (1987), GAMBETTA (1986), PIIA-TELENA (s/d) and THOMPSON (1991).**

<table>
<thead>
<tr>
<th>PHASE</th>
<th>INITIAL AGE</th>
<th>DURATION</th>
<th>GOALS AND CHARACTERISTICS</th>
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<tbody>
<tr>
<td><strong>SPORT INTRODUCTION</strong></td>
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<tr>
<td>Sub-phase I: Foundation</td>
<td>9-11 years (prepubescent)</td>
<td>4-5 years</td>
<td>• Basic technique learning in different events</td>
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<td></td>
<td>Sub-phase I</td>
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<td></td>
<td>12-13 years (pubescent)</td>
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<td></td>
<td>Sub-phase II</td>
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<tr>
<td><strong>EARLY SPECIALISATION</strong></td>
<td>14-15 years</td>
<td>3-4 years</td>
<td>• Technique refinement</td>
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<tr>
<td><strong>LATE SPECIALISATION</strong></td>
<td>18-20 years</td>
<td>3-4 years</td>
<td>• Technique mastering</td>
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<tr>
<td><strong>ELITE LEVEL</strong></td>
<td>21 - 24 years</td>
<td>Indeterminate</td>
<td>• Realization of the technical, physical and psychological potential, expressed by elite results achievement</td>
</tr>
</tbody>
</table>

**Sub-phase**
- Phase I: Foundation
- Phase II: Basic Training
Combination of technical, specific and general preparation in different age groups (by V. Petrov)
Combination of technical, specific and general preparation in different age groups (by V. Petrov)
Stage preliminary, or initial, training (duration 1-3 years)

Goals:
- Strengthening the health of children;
- Getting the physical fitness;
- To overcome the disadvantages of physical development;
- Getting the variety skills of the fundamental exercises;
- Getting interest in sports;
- Definition of event in athletics for the next stage

Training tools.
Specific preparation - 5%
Supporting preparation – 40 – 45%",
General preparation – 45 - 50%.
Total load volume – 150 - 200 hours.

Basic methods:
Playing games and exercise, development of technical skills - a holistic method.
Training sessions are held 2-3 times a week for 40-60 minutes and should if possible be combined with the lessons of physical education in school.
Stage of initial specialization, or pre-basic (duration 2-3 years)

**Goals:**
- General physical training and health promotion;
- Increasing the level of physical development and physical fitness;
- Creation of motor potential (regarding the specificity future specialization);
- Choice of sports specialization;
- Getting the experience of participation in the competition;
- The creation of interest for the long-term sports perfection.

**Training tools.**
Specific preparation - 15%
Supporting preparation – 50%,
General preparation – 35 - 40%.
Total load volume – 350 - 600 hours.

**Basic methods:**
Game, competitive and strictly regulated exercise - the repeated, alternating, circular, etc.
In addition to technical training with a holistic method, dissected method of teaching widely used.
Training sessions are held 3-5 times a week, by 1.5-2 hours.
Stage depth specialization or a special base (2-3 years)

**Goals:**
- Improvement of special physical preparation
- Improving the technique of chosen athletics event;
- Improvement of psychological preparedness;
- Getting experience of participation in important competitions.

**Training tools.**
- Specific preparation - 40-45%
- Supporting preparation – 35-40%,
- General preparation – 20 - 25%.
- Total load volume – 600 - 900 hours.

**Methods:**
- Widely used the whole arsenal of different methods.
- When planning functional training apply high training loads.
- They should be planned taking into account the differentiated specialization and individual characteristics of the athletes.
- Training sessions are held 5-8 times a week for 2-2.5 hours.
Stage of sports perfection, or maximizing the individual capabilities (duration 2-4 years)

**Goals:**
- To achieve the highest level of special physical and functional training;
- Improvement of technical skill;
- To achieve maximum results in the chosen sport discipline.

**Training tools.**
Specific preparation - 60%
Supporting preparation – 25%,
General preparation – 15%.
Total load volume – 900 - 1400 hours.
Stage of conservation achievements. (Duration is not limited as long as the results remain at a high level)

**Goals:**
- Improvement of technical skill;
- The maintenance of the previously achieved level of physical and features;
- The elimination of the disadvantages of private physical and technical preparedness;
- Improving mental readiness.

**Training tools.**
Specific preparation - 65-70%
Supporting preparation -20%,
General preparation -10-15%.
Total load volume - 1100-1400 hours.
Thank you for your attention!