

Rethinking Periodization

Developed in the former Soviet bloc, classic periodization can be successfully adapted to your contemporary sports program.

By Vern Gambetta

Vern Gambetta, MA, is the President of Gambetta Sports Training Systems in Sarasota, Fla., and the former Director of Conditioning for the Chicago White Sox. He is a frequent contributor to Training & Conditioning, and he can be reached through his Web site at www.gambetta.com.

Training & Conditioning, 12.2, March 2002,
<http://www.momentummedia.com/articles/tc/tc1202/period.htm>

Here's a strategy for success: Take classic periodization and throw away the doping and the 24-hour control of athletes. Then, apply its core concepts of detailed planning, timing, and monitoring of sessions to allow optimum adaptive response in pursuit of specific goals. This article describes how the proven ideas behind periodization can be adapted to contemporary sports programs.

Classic periodization is a concept that is very appealing in theory, but is not very practical for contemporary sports. Periodization originated in the former Soviet Union, where all aspects of athletes' lives were controlled. This control included diet, lifestyle, the athletes' competitive schedules, and even controlled doping. This systematic doping program has been extensively documented in two books: *Doping In Sport (Doping Dokumente: von der Forschung zum Betrug)*, by Brigitte Berendonk and *Faust's Gold: Inside the East German Doping Machine*, by Steven Ungerleider.

When total control and systematic doping are removed from the equation, periodization is simply planning, organizing, and monitoring your training into a structure that develops all biomotor qualities in a sequential and progressive manner. This structure made periodization work in the past and it can make periodization work in your program today. The big question is, how can that be achieved without the use of 24-hour control and the drugs that were applied in classic periodization?

The answer is to shrink the long-term time frame of classic periodization into much shorter, controllable periods of time. This adaptation of the periodization concept is something that I call "Planned Performance Training," or PPT.

IMPLEMENTING PPT

Begin the process of creating a PPT program for your athletes by carefully determining what the finished product should be. This finished product is a measurable performance goal such as a longer jump or a faster sprint time.

Next, you need to create a "year" plan. The goal of this year plan is to attain the finished "product" that we've just defined. When I talk about a "year," I refer to a "training year," which can be a July-to-July program for a basketball athlete, an academic year for a high

school athlete, and so on. The year plan should contain all details that can affect your athlete's training goals, such as the initial condition of your athlete, the length of the competitive season, overlapping seasons, when competition begins, when vacations occur, and even when academic exams are scheduled.

Once this year plan is completed, you can fill in the elements of that plan. Working backwards from the desired goal, divide the year plan into blocks. Each block has one or more general themes--such as speed, strength, or endurance. The themes could also include a major and minor emphasis on training. For example, a block can have a major emphasis on speed and a minor emphasis on strength training.

How long should the block be? The time frame for each block is determined by the time it takes for the athlete to reach the defined conditioning goals. In my experience, the time frame for blocks averages about four weeks, but some go as short as two weeks for an introductory teaching block to as long as six weeks for a general preparation block.

To work properly, one block must flow into another without apparent, abrupt changes. Placement and timing of blocks should also be interchangeable to allow for varied rates of progress. The following are basic examples of the types of blocks that I have used in my training programs:

Introductory Block. This consists of short periods of time to introduce new methods, skills, or tactics. The goal here is teaching, not training. This block can be as short as seven days or as long as 14 days, depending on the athlete's level of development.

Preparatory Block. There is no competition during this block. The emphasis is to raise work capacity or to address specific technical deficiencies. This block can have a very general emphasis for a developing athlete or a very narrow, specific emphasis for an elite athlete.

Competition I Block. The goal during this block is adapting the work done in a preceding preparatory block to a competitive mode.

Competition II Block. This encompasses the all-important competitions. The goal during this block is application-type work, which refines what was done in the Competition I block.

Transition Block. This is an active block that allows no detraining. The goals are to regenerate, rehabilitate, and remediate (to address any fundamental deficiencies). During the season, this type of block will probably never be more than three days in duration. Between competitive seasons it is ideal if this block is one month in duration.

THE SESSIONS

Next, you need to plan the training sessions that make up each block. When you plan these sessions, keep three considerations in mind. First, in order to effectively construct training sessions, it is important to understand the physiological, biomechanical, and

psychological changes that occur with training. Those changes are:

Immediate: What occurs during training and immediately after training.

Residual: The changes that occur from several hours to several days after a session.

Cumulative: This is the summation of training. The cumulative effect reflects long-term adaptation. It is the ultimate goal of your year plan--also called your "end product." Therefore, the focus of your session planning should be on the cumulative training effect.

Second, to achieve positive training results, carefully look at all of the components that make up each session. Be sure to emphasize complementary components--ones that work together to enhance each other--both within and between sessions. For example, don't mix speed and endurance. Instead, mix speed and strength. Here are examples of complementary training units: speed & strength; strength & elastic strength; endurance & strength endurance; and skill, speed & elastic strength. Ultimately, the training sessions have more than a complementary relationship. They should enhance each other and mesh in an ultimately synergistic effect.

Third, you need to arrange the daily sessions into seven- to 14-day cycles that are based on the athlete's ability to adapt to the training and then recover. When you create this cyclical structure, remember that the ability to recover varies from athlete to athlete. For example, I have one soccer athlete who can only tolerate one plyometric session in a seven-day cycle, while on the same team, I have another athlete who can tolerate three sessions in a seven-day training cycle.

MODULES

Your next step is creating the modules that make up each session. The training module consists of specific combinations and sequences of exercises that are carefully selected to sequence and flow from one exercise to the next within the module.

MONITOR PROGRESS

The plan should be accompanied by careful monitoring of the training to ensure that the desired adaptive response is achieved. Evaluating and monitoring training is a constant, ongoing process that should be part of each training session. Monitoring enables you to fine-tune the plan and the training according to the athlete's progress. It also helps you to better understand the effect of each training session and the effect on subsequent sessions.

Monitoring the training should be approached from both subjective and objective perspectives. Subjective monitoring includes a training demand rating scale, the ratio of sessions to hours trained, and video/qualitative analysis.

The training demand rating scale is a rating of perceived exertion where the athlete rates the stress of that particular training session from one to 10. A one is very low stress and a 10 is very high stress.

The ratio of number of training sessions to hours trained will vary depending on the sport, but over the years I have found that training is most effective when there are more sessions relative to hours trained, although this can differ for endurance sports such as cycling or swimming.

Video/qualitative analysis consists of subjectively viewing a video of the athlete in action for any obvious technical flaws. (For more information on the use of videos for analyzing sports performance, see "The Digital Difference" in the December 2001 issue of Training & Conditioning.)

Objective monitoring includes tests that can actually be measured. The tests include jump-and-throw, lab analysis, heart rates, biomechanical analysis, and competition evaluation.

Jump test(s) and throw test(s) will give a window into the athlete's nervous system by measuring the distance an athlete jumps or throws an object.

Blood & urine analysis/lab analysis gives an accurate reading into an athlete's actual physiological response and adaptation to training.

Heart rate measurements should be taken before, during, and after the workout. Remember that there are many artifacts when using heart rate measurements. Be sure to consider each case individually.

Video/quantitative analysis using biomechanical analysis software is used to measure angular changes and velocities of an athlete in action. (For more information about video sports analysis and biomechanical software, log on to www.AthleticSearch.com and look for "Biomechanical Software" in the Bonus Editorial section.)

Competition evaluation. Never lose sight of the fact that the ultimate test is the competition itself. Carefully analyze each of the competition results relative to the plan and adjust the plan accordingly.

Remember, failing to plan is planning to fail. This is especially true with periodization. Take the ideas that I have presented here and adapt them to your situation. I feel confident that these ideas will help make planning and implementation of your training programs more effective.

Looking for more information about training techniques? Articles from Training & Conditioning are archived at www.AthleticSearch.com.