

CACC Planning Project: Long Jump Training for an Elite Athlete

By: Boo Schexnayder

Irving “Boo” Schexnayder hails from Baton Rouge, Louisiana and has risen to become one of the top horizontal jumps coaches in the world today. He was the personal coach to two-time World Triple Jump Champion Walter Davis and 2004 Olympic Silver medalist in the long jump John Moffitt. In addition, as a collegiate coach he has coached 10 athletes to 19 individual NCAA titles. Schexnayder is renowned for his methodical and scientific approach to athlete development and is a highly respected clinician and teacher.

INTRODUCTION

The CACC’s Planning Project aims to provide coaches with a series of audio interviews and accompanying articles that describe the various elements of a proven training system for a particular event group and athlete performance level. This article is a summary of the interview with Boo Schexnayder on the training of an elite level long jumper.

This content series does not intend to explain to a coach the exact process of developing an athlete and does not offer suggestions for any event or athlete level outside of this realm. We would also like to highlight that the process of installing such a system requires the coach to think critically about the individual characteristics of their athlete and in the technicalities of implementing such a system such as training environment considerations and the coach-athlete relationship to name a few. In other words, we advise to use this content as a method to think critically about how best to train a long jumper rather than simply to use a carbon copy of this training system without critical evaluation.

THE ANNUAL PLAN

The annual plan to be presented here is similar to a double periodization but without a return to general preparatory work in the second period. Depending on the importance of the indoor competitive phase that may be due to the presence of a major championship, the indoor competitive phase may change. Thus Coach Schexnayder terms this system a “1 ½ periodization cycle.”

The general preparation phase (GPP) has a 1-2 month duration, depending on the training history of this elite athlete. For an athlete with a healthy background of general fitness training, such as that perhaps seen with an older athlete, the GPP may last only one month. For a younger elite athlete and so with less developmental history an additional month may be required.

While the specific preparation phases (SPP) are approximately 2 months in length, the competitive phases (CP) have a 2-3 month duration. The number of indoor competitions varies depending on the importance of the indoor season. Nonetheless, including indoor competitions may be important to help the athlete's mentality towards training, to see the effects of the work already completed or simply just for higher intensity sessions that allow the coach to evaluate the performance level of this individual.

The season is followed by a one month active rest phase in which the athlete is encouraged to participate in other physical activities, such as racquet sports, hiking, jogging or even the occasion weight room session (none of which is prescribed by the coach). These phases are shown in Figure 1.

RP	GPP		SPP		CP		SPP		CP		
Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug

Figure 1. An annual plan for an elite level long jumper.

As discussed, because GPP elements are not included after the first CP together with the fact that the SPP does not return to overly general training, this program is not a true double periodization. The second SPP may overlap with the CP slightly but coaches must be careful not to schedule too many meets that could hinder the effect of the SPP intentions. For an athlete without a championship season or whom might need more development, the first CP can be used in a way similar to a SPP period of development. However, given a championship season, the CP becomes more significant and the annual plan is more similar to a double periodization.

While the organization of training elements is similar to a block design as they appear in a similar order each week in each phase (excluding recovery weeks), the exercises are being varied slightly each week in response to the coach's evaluation of the athlete and simply for the sake of variation. Throughout all phases a three-week on, one-week off system is used.

The description of the exercises used within each of these phases will now be described using Dr. Anatoliy Bondarchuk's exercise classification system. Namely, training prescription will be described as one of four general types:

- General Preparatory Exercises (GPE): *Exercises which do not mimic the physiological demands or the technical execution of the competitive event*
- Special Preparatory Exercises (SPE): *Exercises which mimic the physiological demands but not the technical execution of the competitive event*
- Specific Development Exercises (SDE): *Exercises which mimic the physiological demands and a component of the technical execution of the competitive event*
- Competitive Exercises (CE): *Full or nearly full executions of the competitive event.*

GENERAL PREPARATION PHASE

Clearly, general preparatory exercises are used within this period. However, other SPE and SDE work is completed in this period as well. As mentioned, a one-week recovery period is used at the end of each three weeks of training. This is illustrated in Figure 2 for an athlete completing a two month GPP.

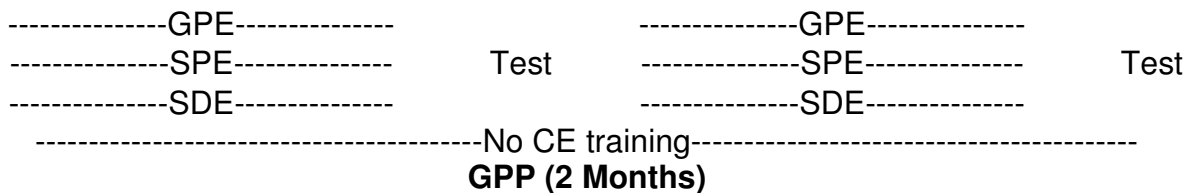


Figure 2. The GPP period of development.

As the above figure illustrates, the recovery week is used as a time to test various plyometric, sprint and strength abilities of the athlete. Coach Schexnayder uses a variety of tests in this week including the Olympic lifts, sprinting times, heave distances and jumping abilities.

For the GPP, a weekly microcycle is shown below in Figure 3.

M	T	W	R	F	S	S
Accels Jumps Circuit Weights	Circuit Training Low Intensity Technical Mobility Training	Stadium Runs Bounding Weights	As T	Accels Jumps Circuit Weights	Extensive Tempo (100-200m)	Rest

Figure 3. Example of a GPP microcycle.

The Monday and Friday sessions begin with acceleration development. This work begins as a combination of 10's, 20's and 30's (around five repetitions at each distance) with the recovery being slightly less than full rest in order to promote some lactate development in the last few reps. The accelerations may be a combination of flat accelerations and resisted runs. As the GPP progresses, this work may morph into a similar volume but over distances of 20, 30 and 40m. The jumps circuit on these days is a typical multiple jumps circuit. While the accelerations acts to lay the foundation for future speed work, this jumps circuit helps to condition the leg for the technical work down the road. Lastly, the weight training on these days begins with the Olympic lifts, typically around six sets of four to five repetitions. Weighted jumps or lighter back squats are then prescribed in approximately four sets of six. A third exercise is for the upper body, which could be a bench press or speed bench.

On Tuesday and Thursday some circuit training using weights comes before low intensity technical work. This technical work can start off being some simple, low amplitude jumping while progressing towards short approach jumping towards the end of the GPP.

Wednesday targets the vertical component of running and jumping through the use of stadium runs. As Boo lives in Louisiana, hill running is difficult to incorporate which could be another option for coaches in a different geographical setting. Bounding and a weight session including the Olympic lifts and some other ancillary type lifting complete the session.

Saturday is the last day of the microcycle before a rest day on Sunday. On Saturday extensive tempo is performed with runs of distances from 100-200m in length. The recovery between these runs is approximately 2-3 minutes.

The work on Monday and Friday has the most strain on the neuromuscular system, given the acceleration work and style of weight training. Thus, the week is set up in part to ensure that this neurological work is performed when the athlete is rested. As such lower intensity days follow the intense days. As mentioned, variation in the volumes, distances, weights and exercise types are varied for the sake of variation but also to progress towards the demand that the SPP will place on the athlete.

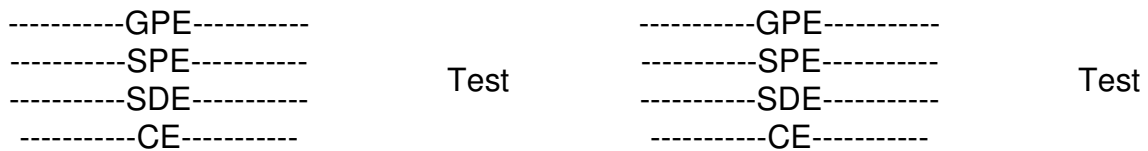
As described, the weightlifting component in the GPP includes Olympics, statics and simple circuit-style bodybuilding work. The focus of the Olympic lifting is on power using simple exercises, while the static lifts are primarily bilateral exercises starting patiently with reps at 40-60% of the one rep max.

As we will see, Coach Schexnayder places a great deal of emphasis on the technical cuing system used and more generally on the coach-athlete communication structure in order to vary training and move the athlete towards a peak condition. The GPP can be

used as an opportunity to start to introduce some technical cues that can support the development in the later training blocks. Since Boo clearly understands the intent of his training, we highlight the importance of trying to understand what work you want to achieve as a coach rather than simply providing an exercise prescription without knowing the effects.

SPECIFIC PREPARATION PHASE

The SPP in this training system is a system in which the work is varied both for the sake of variation and depending on the athlete’s progress. These variations are usually small but occur frequently (i.e., weekly). As in the GPP a three-week on, one-week recovery (testing) format is used. For a two month SPP, this is shown in Figure 4.



SPP (2 Months)

Figure 4. The SPP period of development.

The testing week is still used as in the GPP – to test a variety of physical skills of the athlete in terms of strength, sprinting and jumping. A weekly format for training in the SPP is shown in Figure 5 and the clear similarities to the GPP allow for a seamless transition between the two phases.

M	T	W	R	F	S	S
Accels Jumps Circuit Weights	Circuit Training Short Approach Jumps Specific Core Training	Full Approach Runs Bounding Weights	Med Ball Gen. Strength	Speed Depth Jumps Weights	Tempo	Rest

Figure 5. Example of an SPP microcycle.

On Monday, the acceleration work can be any combination of spike work from rolls, blocks or resisted runs. These runs range upwards towards 40m and 300m is the recommended maximum volume. The type of runs used is varied through the SPP without any fixed progression. The jumping work on this day is some more intense horizontal bounding work, while the weight training targets absolute strength primarily

through the use of double leg squats. For this Coach Schexnayder typically uses approximately 30 reps of total volume broken into 5-6 sets.

The circuit training on Tuesday is similar to the GPP as it is a weight training circuit using typical ancillary type exercises. Technical work is included in the form of short approach jump work, which follows an interesting progression throughout the SPP. At first, 6-step approaches are used while working towards 12 steps at the end of the period. To move towards 12 steps, Boo progresses similarly to that seen in Figure 6 for an SPP including 8 short approach technical sessions.

Short Approach Step Count	6	8	6	8	10	8	10	12
Landing (L) or No Landing (NL)	NL	NL	NL	L	NL	L	L	L
Session #	1	2	3	4	5	6	7	8

Figure 6. Progression for short approach technical work in an SPP.

As one can see, the length of the run is increased while at times dropping back down to a shorter approach run. In this way athletes are being exposed to both sessions that they are familiar with and can complete easily while also having sessions that are difficult for them to complete successfully at that time. The landing of the short approach jump progresses towards the competition landing as the SPP progresses.

The specific core work that completes the Tuesday session is also an interesting addition as Boo trains the athlete to use their core functionally. For example, they could work on their core integration by doing some of their exercises walking or in movements related to their competitive event.

Full approach runs are scheduled for the Wednesday session. Here the athlete completes a series of full approach runs, the competitive event minus the landing. Whereas the short approach work typically acts to develop penultimate and takeoff mechanics, the full approach work is a time to work on other aspects of the event including steering, rhythm, runway accelerations, etc. A volume consistent with that seen in a competition is used – about 8-10 approach runs. Completing this session is some bounding (repetitions approximately 20-30m in length to a total volume that should not exceed 350m; in an intense week or for a tired athlete this may be skipped) and weight room work focusing on power development using the Olympic lifts. Again, variety in the lifts is necessary simply for the sake of variety.

The Thursday session is a recovery day in which some simple medicine ball and easy GPE work is prescribed.

The priority of the Friday session is the development of speed. Here approximately five runs of 90-110m with a variety of float-sprint-float assignments can be used with a rest of about 5 minutes. After this some depth jumps can be incorporated before a weight training session again working on power development using the Olympic lifts particularly using single leg exercises.

The Saturday session is a tempo workout that is similar to that seen in the GPP and can support the process of recovery in conjunction with the rest day on Sunday.

The weightlifting work uses the same style of exercising than that used in the GPP: Olympics, statics and bodybuilding exercises. However, they are completed with a focus on different elements. Olympics use more complex movements while introducing rate of force development (RFD) work at 70-90% of maximum. The static lifting intensifies also to 70-90% of maximum, while single leg work and a diverse range of exercises is used. Bodybuilding is used periodically to review these elements. When competitions approach, the Olympic lifting heavily focuses on RFD, static lifting is removed and ballistic lifting is incorporated. The ballistic lifting, while adding another component of RFD work, acts to enhance and maintain strength levels.

On the whole, the SPP within Coach Schexnayder's training system incorporates a few key elements. For one variety is included for the sake of variety in an effort to keep the athlete from becoming stale with a particular training element while the weekly structure remains relatively fixed. The weekly cycle is kept fixed because this organization allows for the proper recovery before the intense (particularly neurologically) sessions. For example, the acceleration, full approach runs and speed development sessions (the most strenuous days of the week) follow either a day of rest or non-intense training. This is also why the absolute strength and power development work is included on these days, so as to allow for maximum recovery.

Boo employs some unique methods of including other aspects of variety to prevent staleness. He stresses the importance of changing the cuing system from time to time to prevent the athlete from focusing on one aspect of development for too long. This technique is used in the CP as well to help an athlete better reach a peak condition. As peak conditions are a function of physical and mental development (to unknown extents and ratios) this is a very interesting aspect of Boo's training method and coaching style.

COMPETITIVE PHASE

The competitive phase marks a deviation from absolute strength work and into emphasizing technical work and recovery. Certainly, this period is dictated by the meet scheduling and financial or contractual demands placed on an elite level athlete.

However, the competitive phase will continue unless there is a significant break between competitions (roughly 6-8 weeks).

The week of a competition for this training system is shown in Figure 7.

M	T	W	R	F	S
Accels Jumps Circuit Weights	Short Approach Jumps	Full Approach Runs Speed Endurance Weights	Recovery (Easy Technical)	Stimulation	Competition

Figure 7. Example of a CP microcycle.

On Monday, some acceleration development work (similar to the previous periods), horizontal bounds and a weight session are included. The weight training session consists of some Olympic lifting and ballistics such as squat jumps. The Tuesday session includes some short approach jumps across a shorter number of steps than may have been completed near the end of the SPP (approximately 8-10 steps).

The volume of full approach runs varies depending on the athlete's level of fatigue. To assess this, coaches must look carefully at an athlete throughout warm up. In particular, an athlete's running gait can reveal to the coach how much work the athlete can safely complete while keeping in mind the need for recovery for the weekend competition. To touch on some of the speed development and speed endurance qualities – useful in combating the fatigue seen in the last few jumps of a competition – Coach Schexnayder prescribes a few runs across 120-150m (still of the sprint-float-sprint variety). To complete the session some Olympic lifts and more ballistic lifting is included. It should be noted that in this period static lifting is removed completely and ballistics are also reduced significantly. Olympic lifting retains a presence but with a reduced volume and density.

Thursday represents a recovery day in which the athlete may be able to do some simple, low intensity technical work. Friday, the day before the competition, acts as a session intending to stimulate the athlete with the inclusion of some multiple jump activities or perhaps a few starts out of blocks across short distances.

This completes the preparation for the Saturday competition. Note the reduced overall intensity while completing only activities closely related to competition success: technical work, the endurance needed for competition and the overall rest and recovery that allows the athlete to be fresh for the event. As alluded to earlier, one other element that supports Boo's process of preparing an athlete for competition is the introduction of new cuing methods. Specifically, about 2-3 weeks away from an important competition he will begin to cue an athlete a certain way, a timeframe that allows the athlete to

become familiar with that new emphasis just in time for the competition. This raises important questions as to potential mechanisms of periodized coach-athlete relationships and communication.

Boo primarily works with American athletes who – even at the elite level – typically have to have a strong showing at the National Championships in order to qualify for the major international events. For this important meet, he ensures that his athletes have at least 6 competitions in their preparation. For other coaches and athletes in different situations, this could perhaps be shifted.

CONCLUSION

Coach Schexnayder is an incredibly well organized and thorough coach, which has made his system easy to describe in this article. For coaches of mature and possibly elite athletes this program is a proven system; this article has provided a theoretical framework of a training structure that a coach can study and learn to apply with unique twists for an athlete based on the need for individualization. Before we conclude, we emphasize this point: Think carefully about how to use the elements learned in this installment of the CACC's Planning Project in order to help improve your coaching practices.