

# A 3-step learning and performance strategy for the 100 metres start

By Ronnie Lidor, Dapeng Chen

*A 3-step learning and performance strategy to be applied before the start of the 100 metres is introduced in this paper. The strategy is composed of three components: Readiness, focusing attention, and being at the 'zone.' A step-by-step schedule for the implementation of the strategy before the start takes place is presented. Practical considerations for the coach and sprinter are presented as well.*

## ABSTRACT

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## Introduction

*"My thoughts before a big race are usually pretty simple. I tell myself: Get out of the blocks, run your race, stay relaxed. If you run your race, you'll win. Just run your race. Channel your energy. Focus."*

*Carl Lewis, 1990*

The way a sprinter performs the 100 metres reflects all the preparations he/she has made for the race. The success or failure

of all the physical conditioning and mental training will be determined in the next few seconds. It is no wonder that sprinters normally experience an enormous amount of pressure and anxiety prior to the highly critical start. There is too much at stake for the start of the race to be left to chance.

Athletics fans probably all remember the rare event which occurred during the 1996 Olympic Games in Atlanta: Linford Christie, the outstanding British sprinter, false started twice in the 100 metres final and was disqualified. Thousands of spectators in the arena and millions more all over the world watching this on their television screens felt a lot of sympathy for Christie. No one wanted to see a long and successful career end in such a way. However, Christie's reaction time was faster than the minimum reaction time of 100ms allowed by the rules.

By observing Christie and other first class sprinters such as Donovan Bailey, Maurice Greene or Marion Jones, readying themselves the short period of time (20-25s) just before the race begins, we get the impression that all are practicing some kind of mental preparation. It appears that each of them has his/her own systematic set of pre-performance routines. Each has a self-structured series of behaviours that he/she executes over and over again before the start of the race.

The purpose of this paper is to present a learning and performance strategy for providing athletes with the psychological and emotional means to be mentally prepared for a sprint event. This strategy should assist the individual to build a pre-performance routine, stay in focus prior to the race, and control his/her thought behaviours in a more systematic manner. The strategy can be used by both beginners and experienced sprinters during practices (e.g., learning) and competitions (e.g., performances).

### What is a learning and performance strategy?

A learning and performance strategy has been defined as a form of guidance for learners to acquire skills, as well as an approach that should be helpful for individuals in selecting performance strategies and building or repairing them (Singer, 1988). A task-pertinent strategy is an optimal organisation of cognitive processes designed to achieve a goal for a task. In addition, a well-developed strategy should enable individuals to control the way in which they think in problem-solving situations. To summarise these interpretations of the term 'learning and performance strategy', a strategy is the overall plan one formulates for accomplishing particular achievement goals with a learning task, and the knowledge about the usefulness of this plan (Lidor, 1999).

A learning and performance strategy can be applied during the preparation period before the start of a 100 metres. During this

period, athletes have the time to ready themselves for the event. They can implement a set of mental behaviours that will presumably assist them to perform better. The suggested 3-step strategy can be used immediately prior to the race. In fact, it can be utilised until the moment the sprinter hears the sound of the gun.

### Last-minute preparation

In a typical situation, a few minutes before the start (e.g., 3-5 minutes), sprinters spend some time by themselves on the track. They are totally focused, and seem to ignore what is going on around them. They should use every second and minute to gradually build-up their self-confidence toward the coming event. They have to relax, but not too much. They have to plan their actions in advance, and be at their best on the blocks and starting line. On hearing the gun, they should have reached the peak of their mental preparation.

Achieving this mental state may be fairly easy if it is done in a sterile performance environment, one in which no particular stress is put on the individual. If all the conditions around the individual are quiet, pleasant, and friendly, it is not complicated to 'clear the mind' and be in focus. However, as we all know, at a major athletics competition, the last-minute preparation takes place in a noisy stadium environment in which there is an enormous amount of visual and auditory distractions. There are many psychological and emotional obstacles to overcome, some of which are very hard to approach. In this challenging situation athletes have to achieve the highest level of proficiency. In this real-world situation, they have to perform at their best, and sometimes beyond it, to succeed.

### A 3-step learning and performance strategy for the 100 metres start

The proposed strategy is composed of three sub-strategies, which have been found

in the literature of motor learning and sport psychology to be useful techniques for enhancing learning and facilitating performance of motor skills. In addition, anecdotal evidence has shown that athletes in individual sports such as track and field and swimming, as well as team activities such as basketball and volleyball, have been using these strategies before execution of self-paced events (activities which are performed in a stable and predictable environment as in the long jump in track and field and free throws in basketball). In the case of the 100 metres, the proposed strategy should build the athletes' mental state, and help him/her attain a

## Readiness

When preparing for the race, the athlete must be psychologically, mentally, and physically ready to execute at his or her best. Ideally, he/she should know how to control and direct emotions and motivations in order to achieve an optimal arousal condition for the sprint to be learned/performed.

The readiness strategy includes two stages, which are executed one after another. Stage 1 is executed before the sprinter goes to the blocks, and Stage 2 is performed when he/she is on the blocks in a ready position for the start.

Sub-strategy	Periods of time to implement before the start	Emphasis
Readiness	1-5 minutes before the start	--
Stage 1	3-5 minutes before the start	general readiness for the race; the athlete is on the track
Stage 2	1-2 minutes before the start	specific readiness for the start; the athlete is on the blocks
Focusing attention	30-60 seconds before the start	the athlete is on the blocks; concentrating on only one relevant and external cue of the track environment
Being in the 'zone'	0-30 seconds before the start	the athlete is on the blocks; clearing the mind and letting the movements flow

Table 1. Suggested schedule for the implementation of the 3-step strategy.

psychological and mental peak upon leaving the blocks.

The three components of the strategy are as follows:

- ◆ readiness
- ◆ focusing attention
- ◆ being at the 'zone'

In the next sections we will describe what should be done in each of the sub-strategies. Table 1 presents a suggested schedule for the implementation of the strategy before the start.

## Stage 1: General Readiness for the Race

General readiness for the race can be achieved through the following procedures:

- ◆ relaxing the body and the muscles of the legs
- ◆ feeling the energy of the body and the mind
- ◆ focusing only on the blocks and the near environment
- ◆ thinking about the action of the start
- ◆ imaging the stance of the body when standing at the blocks

When the athlete is ready, he/she moves to the blocks. The athlete positions his/her body at the blocks. When positioned at the blocks, the second stage of the readiness strategy should be undertaken.

## Stage 2: Specific Readiness for the Start

Specific readiness for the start can be achieved through the following procedures. These are performed when the athlete is on the blocks:

- ◆ feeling the stance of the legs on the blocks
- ◆ feeling the distance between the blocks and legs
- ◆ feeling comfortable on the blocks
- ◆ feeling the force the legs generate
- ◆ looking ahead
- ◆ imaging the act of the body during the start
- ◆ imaging the explosion of the body from the blocks
- ◆ imaging oneself performing the start to his/her best ability
- ◆ imaging the running style while moving on the track

The specific readiness is based upon two mental procedures: awareness and imaging. By developing awareness of oneself and the performance environment, and by imagining the start, the athlete may feel in control on his/her actions. A state of self-confidence and self-trust should be achieved. At the end of this stage, the athlete should narrow his/her focus, and try to be part of the very near environment.

## Focusing attention

Being in the start position on the blocks, the athlete has time to select the appropriate cue and to focus attention correctly. When the same activity is repeated under almost the same conditions as in the competition, the athlete should be able to develop an optimal state of concentration. This in itself

may reduce the negative effect of any potential distractors, thereby resulting in better performance.

The focusing attention step directs the athlete to refine his/her last minute concentration before the start. The next procedures should be applied by the athlete a short period of time (e.g., 60-75s) before execution:

- ◆ concentrating intensely on one relevant feature associated with the track, such as the lines of the track, or any other external cue
- ◆ thinking only of this specific cue
- ◆ blocking out any internal thoughts such as "I wish I had more time to practice," or "I am not ready for this race"
- ◆ blocking out any external distractors such as the noise generated by the audience, or officials walking near the starting line

Athletes implementing this step of the strategy may be able to reduce their information processing activity and perform the task without conscious attention, as if in a state of automaticity. This mental state should assist athletes to move to the next phase of the strategy.

## Being 'in the zone'

At the very peak of their mental preparation before the start of the race, athletes should feel an 'optimal zoning stage' where they lose themselves in their actions, and the only thing that they care about is their plunge ahead on the gun's signal. They have to perform without thinking of anything. They should attempt to execute without being aware of what they are doing, and 'just do it'. Put simply, athletes should relax their mind and let their movements go ahead with minimum conscious effort.

In attempting to achieve the mental state of the 'zone', athletes should continue focusing attention on only one external cue. During the focusing act they also have to:

- ◆ clear their mind of thoughts
- ◆ let the movement flow
- ◆ perform the act without paying attention to details
- ◆ perform the act as automatically as possible

Being in the 'zone' should be the prime goal of any sprinter. Feeling this mental mode a few seconds (e.g. 20-30s) before the initiation of the start should result in reduced anxiety, stress and irrelevant thoughts. The athlete will feel 'on task' and ready to perform.

### Practical Considerations for the Coach and Athlete

One of the most important reasons why some athletes are more successful than others in learning and mastering skills, as well as in achieving success in competition, is that they have control and direct cognitive, mental, and emotional processes through the use of appropriate strategies. In order to grasp strategies and apply them effectively, athletes have to use these strategies in solving real-world problems under different conditions (Chen & Singer, 1992). By practicing a strategy over and over, athletes acquire the knowledge of where, when, and how to use it.

On the basis of research (Schmidt & Lee, 1999) and our own experience, we can identify four factors that need to be considered when discussing and successfully initiating a well-learned movement pattern. These factors are:

- ◆ how much practice has been done
- ◆ the current psychological state (e.g., attentional focus)
- ◆ the current physical state (e.g., fatigue, injury)
- ◆ the overall functioning of the whole person

To assist athletes in enhancing their psychological state before execution, as well as in reaching a zone of optimum functioning,

we have proposed a 3-step mental strategy. Coaches and athletes should practice this strategy on a permanent basis, as they do when acquiring motor skills, techniques and new patterns of movements. From the early start of practice, this strategy should be introduced to the athletes.

The following considerations should be taken into account by the coach and sprinter while applying the principle of our 3-step strategy:

- ◆ the earlier the sprinter is exposed to the strategy, the better
- ◆ the coach should introduce the strategy when instructing the sprinter how to perform the techniques of the skill, e.g., the start
- ◆ the coach should discuss with the sprinter the benefit of the utilisation of the strategy; after he/she understands what needs to be done, some modifications of the strategy may take place
- ◆ the coach should emphasise the usage of the strategy in practices as well as competitions
- ◆ the coach and sprinter should evaluate the contributions of the strategy to the overall performance; they may suggest additional ways of improving the mental state of the sprinter during practices and competitions

### Conclusion

A learning and performance strategy such as the 3-step strategy presented in this article should assist athletes to enter the optimum zone before the start of a sprint race. The strategy may provide the athlete with the cognitive means to promote his/her overall preparation. It will be of benefit for both the novice and the skilled sprinters only if it is practiced over a long period of time. Coaches and athletes should spend a reasonable period of time on acquiring effective mental skills, as they typically do when attempting to acquire motor skills.

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