

# BASIC CONCEPTS FOR COACHING ATHLETICS

By Ron Parker

*The author offers his five basic concepts for coaching athletics with a focus upon developmental learning strategies. Re-printed with permission from the author.*

Every athletics coach should have a foundation of concepts or principles on which to base coaching decisions. In order to evaluate skill instructions and drills recommended by other coaches or in books, periodicals and on-line articles, the coach needs a set of basic coaching concepts.

I have found, since beginning coaching athletics 42 years ago, that 5 basic concepts have allowed me to refine the skill instructions and progressions that I use for coaching all events. Through the years of coaching, I have managed to simplify my methods by getting rid of drills, instructions and progressions that, simply, do not work. I have done this through both trial and error and by evaluation using the following 5 Basic Concepts.

## CONCEPT 1 OBJECTIVE

***The objective of the event will dictate the skills necessary to execute the event.***

As an example, in the long jump, the objective is to jump from a 20cm. wide board and to land as far as possible from the takeoff board into a sand pit. To reach this objective, it is clear that the athlete must

- use as much speed as he/she can control
- jump as high as possible to increase the time in the air
- extend the legs as far as possible in the landing without falling back

The coach can develop skill practices to train these three ingredients. One drill that I have found that works very well for enabling the athlete to stay in the air longer is to place one (or even two) high jump landing mats on top of the sand landing area. The athletes will take a few jumps onto the high jump mat and then the mat is removed. The athlete, subsequently, jumps higher, stays in the air longer and jumps farther.

Another example could be in the sprint hurdles. The objective is to sprint to the finish line as fast as possible while clearing 10 barriers. In order to achieve the objective, the athlete must clear the hurdles with a minimum lift of the body. The athlete must clear the hurdle so that he/she can return to the track in full sprinting stride. Lateral movement over the hurdles, although necessary, must be minimized to avoid twisting of the body and deviating from the objective of sprinting towards the finish line. For example, since the athlete needs to drive the lead leg high to clear the hurdle, the result will be a lifting of the body. To counteract this lift, the hurdler must lean towards the hurdle. Also, to learn basic hurdle skills, all hurdle clearances must be done using the complete movement over the hurdle. One leg drills

over the hurdles will interfere with the sequencing of the motor skills involved in hurdling and should, therefore, not be done.

## **CONCEPT 2 SPEED**

***Speed must be used to learn motor skills.*** For motor memory to take place, movements or drills must be done at 85 to 95% or greater speed in training. Movements that mimic the skills of an event will not be transferred to the execution of that event if the pace of the skill practice is not close to the execution of the event.

In order to properly learn the skills necessary to jump 2.00m, practice jumps must be at heights between 1.70m and 1.90m or higher. In sprinting, the athletes will not learn the skills needed by walking or running at slow speeds imitating correct form. Transfer to motor memory will be negligible, if any.

Similarly, the javelin cannot be learned by throwing slowly. Although the intensity of each throw can be less than competitive speed, throws must still be done quickly. For an athlete with a best of 50m off a five stride throw, practice distances should still be 42m or farther.

Sometimes walking through a movement can help with the visualization of the movement but it will not become part of the motor memory. ***The best skill learning for any event takes place doing the whole movement at close to competitive speed.***

## **CONCEPT 3 REPETITION**

***Repetition is necessary to embed a skill into the motor memory of the body.*** The repetitions should be done at speed (Concept 2). It takes 6 to 8 successive weeks of repeated skill practices at the rate of twice weekly to create the motor memory when learning a new skill. It will take even longer to supplant an incorrect skill with a new skill. 8 to 12 repetitions of the skill are necessary for each training session. Once the skill becomes part of the motor memory, the athlete will no longer have to think of the skill; it will occur automatically.

Accomplishing a skill in just one or two workouts will not be enough to create a permanent motor memory. It will be forgotten if not repeated.

## **CONCEPT 4 RELAXATION**

***Relaxation is necessary for the complete, unopposed engagement of the muscles used in the execution of an event.***

In order for the Agonist muscle group (eg Triceps) to fully flex, the Antagonist muscle group (eg. Biceps) must be relaxed so that it does not apply resistance to the contraction. Relaxing one muscle group will aid in the relaxation of the adjacent muscle groups. Relaxation will chain and so will tension. By relaxing the hands while sprinting, so too will the forearms and shoulders be able to relax.

## CONCEPT 5 POWER

### ***POWER = PERFORMANCE***

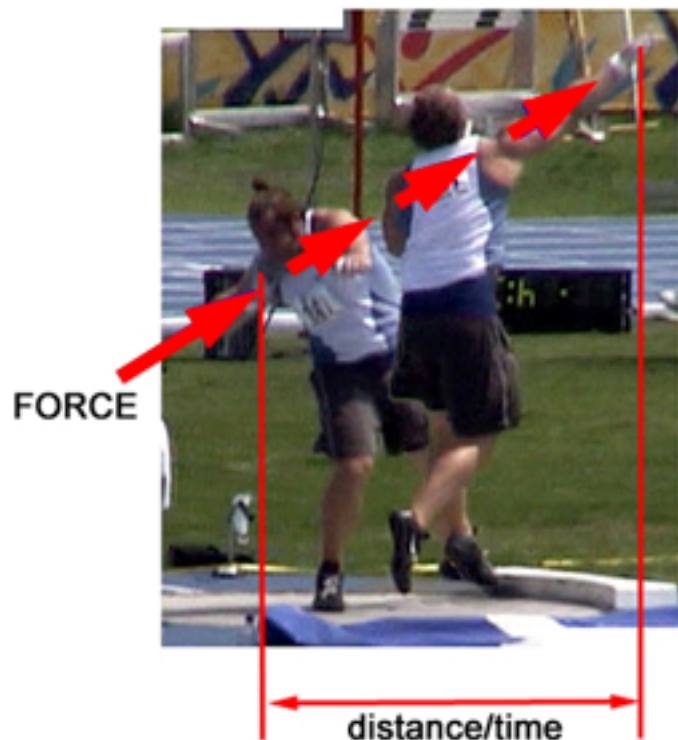
#### **Power = Force x Distance/Time**

- The more force that is applied, the better the performance will be.
- The greater distance through which the force is applied, the better the performance will be.
- The faster (less time) the force is applied, the better the performance will be.

#### Definitions:

- Force = force applied (strength)
- Distance = the distance through which the force is applied (in the direction of acceleration) (skill)
- Time = the duration of the application of the force

The following two illustrations show how the formula is applied. The high jumper applies a great deal of force down against the ground while the body rises from a low position to a vertically extended position in a very short time (quickly). The shot putter applies a great deal of force against the implement over a long range of motion in a short time to launch the shot as far as possible.



By applying these basic concepts to skill teaching, the athletics coach can ensure efficient skill learning by their athletes. Also with knowledge of the biomechanics concepts of athletics (another article) the athletics coach can be very effective in the teaching of skills to athletes.