

Pete's PETs: Performance Enhancing Tips: How an Athlete Learns a Skill.

We have heard time and time again that the most crucial element in the success of the athlete is technique development. Ericsson's Theory of Deliberate Practice demonstrates that for an athlete to attain expertise in their sport, they must be engaged in 'deliberate practice' (training requiring high levels of attention and effort). Further to that, the role of the coach in providing an optimal learning and training environment for this to happen, as well as meticulous planning (within the practice, and over the year) is crucial. The next two *Coaches Columns* will focus on the development of skill, and how you the coach can provide the best environment for this to happen.

A simple model to look at for how an athlete goes through the development of a skill is Fitts and Posner's 3 Stages of Skill Development Model. In their model, there are 3 specific Stages that an athlete goes through to develop a skill:

- 1) The Cognitive Phase
- 2) The Associative Phase
- 3) The Autonomous Phase

The Cognitive Phase

The Cognitive phase of learning a skill involves the identification and development of the component parts of the skill - involves formation of a mental picture of the skill. This is an athlete's first contact, or **initiation** to the skill.

Picture a *CanoeKids* or peewee athlete who has developed fairly good balance and is now learning the component of propulsion. These athletes may see older athletes performing the skill at a fairly high level, so they get a sense of what the stroke should look like. As athletes are being initiated to canoe-kayak technique in this stage, developing good habits from this stage such as positioning in the boat, posture, etc., **is crucial**. As a coach, when young paddlers first learn to paddle, teaching technique the "CanoeKids" way, you tell them to be "tall or big in the boat" (posture!), "reach" and "grab the water". Coaches need to ensure that the athlete doesn't lunge to reach, but rather rotates. By giving effective feedback, the athlete can learn how to stay tall, and positioned well in the boat and develop those crucial elements of technique that are extremely difficult to fix when athletes are older.

The Associative Phase

The **Associative Phase** involves linking all the component parts into a smooth action, which involves practicing the skill and using feedback to perfect the skill. The canoe-kayak athlete is developing the crucial movement patterns and timing of the stroke at this stage. The learning of the stroke requires the relevant movements to be assembled,

component by component, using feedback to shape and polish them into a smooth action. Rehearsal of the skill must be done regularly and correctly.

Canoe-kayak athletes at this stage of development need plenty of “quality” repetitions (skill done correctly and at a speed that makes the boat respond) to acquire and consolidate the skills involved in the perfect stroke. The use of drills and technical practices, as well as ample effective feedback can help athletes **acquire** and **consolidate** the various phases of the stroke.

The Autonomous Phase

I recently had the opportunity to listen to a presentation by track and field coach Gary Winckler (coach of hurdler Perdita Felicien, former University of Illinois and Florida St Head women’s track coach), arguably one of the top hurdle coaches in the world. One of the messages he sent was that his biggest goal as a coach is to ensure his athletes know *everything* there is to know about their event – technically, tactically, etc. This is the *autonomous phase* of learning a skill where athletes develop the learned skill so that it becomes automatic – involves little or no conscious thought or attention while performing the skill. In addition, at this point, athletes have a strong cognitive ability to know how they should look.

From a canoe-kayak perspective, athletes in this phase can look at a video of themselves and know what they have to change or work on. They also can feel how a change in technique affects the movement of the boat. At this stage, athletes are **refining** their technique and making minor improvements, especially in competition conditions.

Using appropriate feedback methods, and ensuring your athletes understand the technique as a whole can really drive your athletes to this stage of skill development.

In the next issue, we’ll focus on the proper methods of providing feedback.

Technique Development – Don’t Save it for the “Technical Workout”

As mentioned earlier, the autonomous phase of skill development really emphasizes the importance of using lots of quality repetition in order to develop movement patterns and technique.

Technique work doesn’t need to be saved for a pure “Technique” workout. If coaches follow some basic principles, technique development can be incorporated into every workout. Here are some ideas to incorporate technique development into a practice:

- 1) Ideally, skill development in a practice should be done at the beginning of the practice, when the athletes are mostly rested. Athletes will learn, and retain more when they (and their nervous system) are rested versus fatigued at the end of a workout.
- 2) As part of your athletes dryland and on-water warm-up, have them do technical drills that emphasize:
 - a. specific phases of the stroke,
 - b. elements of the stroke that require focus
 - c. preparation for the upcoming workout (e.g. timing drills in crewboats, start drills for a practice requiring all-out starts, etc).
- 3) In an aerobic capacity workout (a steady paddle for example), follow your training group for the workout and take the time to pull an athlete aside and do some drills or technique with them. This is a great time to do some great individual work with your athletes
- 4) Another way to break up a lower-intensity aerobic capacity workout where athletes aren't too fatigued is to add technical drills in between intervals. For example, in a 40 minute steady paddle, every 8 minutes, have your athletes do 2-3 different drills.

For specific drills, you can check out the drills section or the CKC technical templates in the coaching resources area of the website. www.canoekayak.ca

In the Next Issue...

Providing effective feedback and interventions
Tapering and Peaking, as well as

If you have any content you would like to see in the Coaches Column, or questions and comments, email Peter at pniedre@canoekayak.ca

