Whether you’re a new student learning basic techniques, or an elite athlete preparing for a title bout, the instructions or feedback coaches provide can substantially affect your learning and performance. The role instructions play in directing a fighter’s focus of attention (or ‘attentional focus’, as we say) has been the subject of intense investigation in recent years and is of practical relevance to coaches in all martial arts and combat sports.

Defined simply, attentional focus refers to what we get trainees to concentrate on during training and/or competitions. In this line of research, it is common to distinguish between an internal and external focus. Directing one’s attention inward, towards a body part or even muscle group, leads to an internal focus. For example, you might say to a student, “Focus on extending your arm as fast and as forcefully as you possibly can.”

In contrast, directing one’s attention externally — that is, to the effects of the movement on the environment — promotes an external focus, for example: “Focus on hitting the pad as fast and as forcefully as you possibly can.” Irrespective of the athlete’s skill level, external focus (‘focus on the pad’) has been shown to be superior to the internal one. This effect was established with activities requiring balance, accuracy, force and power, as well as cardiovascular and muscular endurance, all of which are important in martial arts. Furthermore, the superiority of external focus instructions is not limited to a particular type of person — it was demonstrated for males and females, young and old, untrained and elite athletes.

Attention Al focus feedback on punching performance among competitive boxers and kickboxers, including world-title holders. The athletes were asked to punch a punching integrator (a device measuring peak impact forces and punching velocities) under two conditions: External focus (“Focus on punching the pad as fast and as forcefully as you possibly can”) and internal focus (“Focus on moving your arm as fast and as forcefully as you possibly can”). Irrespective of the athlete’s skill level, external focus instructions led athletes to punch four per cent faster and with five per cent more force compared to internal focus instructions. We repeated the study with national-level taekwondo athletes who were asked to deliver roundhouse kicks to the punching integrator under similar instructional conditions, and observed similar effects. Considering the high skill level of the participants in these studies, the observed improvement was significant.

Attentional focus and striking

At the Australian Institute of Sport we recently investigated the effects of attentional focus feedback on punching performance among competitive boxers and kickboxers, including world-title holders. The athletes were asked to punch a punching integrator (a device measuring peak impact forces and punching velocities) under two conditions: External focus (“Focus on punching the pad as fast and as forcefully as you possibly can”) and internal focus (“Focus on moving your arm as fast and as forcefully as you possibly can”). Irrespective of the athlete’s skill level, external focus instructions led athletes to punch four per cent faster and with five per cent more force compared to internal focus instructions. We repeated the study with national-level taekwondo athletes who were asked to deliver roundhouse kicks to the punching integrator under similar instructional conditions, and observed similar effects. Considering the high skill level of the participants in these studies, the observed improvement was significant.

Talking the talk

About 15 years ago, one of us (GW) proposed the ‘constrained action’ hypothesis to account for the superior effects of an external over an internal focus. According to this hypothesis, which has been supported by many studies since then, an internal focus constrains our motor-neural system by leading to conscious control of movements that disrupts the automatic and fluid nature of the action. In contrast, an external focus promotes a more automatic response in line with the scientific minds at work in the Australian Institute of Sports Combat Centre and the University of Nevada, USA. In the first of this series looking at groundbreaking AIS research into martial arts and combat sports, PhD scholar, kickboxer and strength and conditioning coach Israel Halperin joins the University of Nevada’s Professor Gabriele Wulf in revealing a simple trick to better technique.
Another advantage of an external focus is reduced muscular fatigue due to the greater movement efficiency.

With the desired outcome. So, when an athlete concentrates on their movement’s intended effect, rather than on the body movements themselves, the motor system produces a more effective and efficient coordination pattern within muscles (i.e. recruitment of motor unit) and between muscles (i.e. a reduction of co-contractions). A complex movement such as a punch, which involves the integration of many muscles and body parts, will be executed with greater accuracy and force.

Another advantage of an external focus is reduced muscular fatigue due to the greater movement efficiency. Studies related to weightlifting, on the weight as opposed to their arms or legs. In combat, the greater accuracy and force. Combat-related performance will be no exception to this rule, so we therefore recommend that martial art coaches carefully choose the type of instructions they use with their trainees, and attempt to promote an external over an internal focus of attention (see the table above for some recommendations and suggestions).

Interestingly, research has indicated that the choice of words can have a big impact on motor performance. Combat-related performance will be no exception to this rule, so we therefore recommend that martial art coaches carefully choose the type of instructions they use with their trainees, and attempt to promote an external over an internal focus of attention (see the table above for some recommendations and suggestions).

Former combat-sports athlete Israel Halperin is a黑带 and strength and conditioning coach, and a PhD scholar with Edith-Cowan University in conjunction with the Australian Institute of Sport (AIS). Halperin works at the AIS Combat Centre testing and monitoring athletes, conducting research and providing overall support for the four Olympic combat sports of judo, boxing, wrestling and taekwondo.

With Shotokan karate champ Bernardo Mercardo

240 pages featuring:
- Basic & advanced fighting combos
- Sweeps & takedowns
- Bag drills
- Makwara training
- Amazing line drawings by Nobu Kaji

Learn from a KARATE LEGEND

Discover the secrets of Shotokan from the world’s best karate technician, Kancho Hirokazu Kanazawa

Contact the editor
Burcham Hall
National Institute of Sport
Canberra ACT 2601
Australia
Email: info@blitzmag.net
Website: www.blitzmag.net

Call (03) 9574 8460 or visit www.blitzmag.net to order

---

"Another advantage of an external focus is reduced muscular fatigue due to the greater movement efficiency."