

SKILL DEVELOPMENT

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PART 4 Advanced motor skill development

Abstract

In skill development part 4 we are going to look at “Advanced motor skill development” and how to implement a structured learning progression to improve your “perception skills”, your “decision making skills” and your “movement execution skills”.

SKILL DEVELOPMENT AND ABILITY

When looking at “skill development” in particular “advanced motor skill development” it is important to consider the ability of the individuals you are training. Ability is a genetic factor, it’s something you are born with and the ability you are born with will determine what type of skills you will excel at and what type of sports you will be best suited to (it’s the ability you are born with that will help you master the skills needed to excel at your chosen sport).

Those of you that have been involved in martial arts for a while, in particular those of you that have been instructing martial arts for a while, would have seen students that try hard and practice all the time, however they just don’t have the balance and coordination that is needed to excel, likewise there are some students that after a few lessons you can tell that they will go along way if they are dedicated and committed enough. The difference between these 2 types of students is the ability they were born with, if both students put in the same amount of practice each week, the students who were born with the ability that better suits them to martial arts will master the skills, balance and coordination at a faster rate and with greater ease than their counterparts, who were born with abilities that would better suit them to other sports, hobbies etc.

OVERLOAD

When looking at developing skills, you need to apply the same training principle that you would use to develop strength, endurance, flexibility etc, the principle being overload. The brain is no different to any other part of the human body in that it is a product of its environment and if challenged with a step by step learning progression that compliments your genetic ability, will adapt to greater levels. The key to skill development is truly mastering 1 level properly, then challenging the brain to a level of overload greater than it is accustomed to.

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A STEP BY STEP LEARNING PROGRESSION

In this article we will again use leg kicks and leg checks (from an orthodox fighting stance) as a means of explanation to help give you a better understanding of a step by step learning progression. We will start off with simplistic drills then progress to advanced drills.

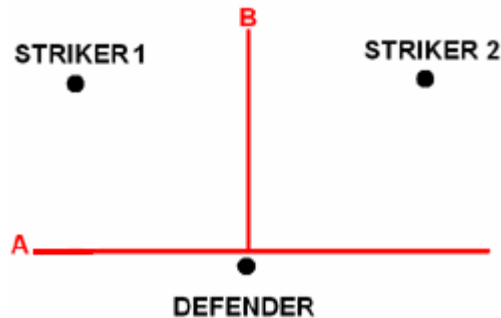
Our initial defense against an outside leg kick is to learn the movement pattern of a roll check, once you have mastered the movement pattern of a roll check, you then need to stand a training partner in front of you and get them to slowly throw outside leg kicks at you to develop your perception skills. As this is a set drill, your decision-making skills don't come into play.

Your next progression is to learn the defense against an inside leg kick, once again you need to learn the movement pattern of a cross check, once you have mastered the movement pattern of a cross check, you need to stand a training partner in front of you and get them to slowly throw inside leg kicks at you to develop your perception skills. As this is again a set drill, your decision-making skills don't come into play.

So far you have learnt the movement patterns of a roll check and a cross check and by standing a training partner in front of you, you have started to develop your "perception skills". Your training partner will now alternate between an outside leg kick and an inside leg kick, this next progression once again has no effect on your "decision making skills" as this is a set drill with a pre determined outcome. You are still practicing your perception skills although you haven't increased the overload on your "perception skills". You have however increased the over load on your movement "execution skills", now when defending against leg kicks you have to competently move your body from a position of balance where you can defend against an outside leg kick to a point of balance where you can defend against an inside leg kick.

Once you have mastered the balance and coordination (or your "movement execution skills") needed to move from one defense to another, your next progression is to get your training partner to take a random approach to kicking. No longer will your training partner alternate between outside leg kicks and inside leg kicks. Taking a random approach will place overload on your "perception skills", your "movement execution skills" and for the first time will bring your "decision making skills" into play

For your next level of progression you will add another striker, both strikers will be positioned where the defender has to use their full field of vision. Most if not all traditional defensive drills are performed with the training partner standing directly in front of you, this is OK if you plan on fighting your opponent in a narrow hallway where you know your opponent will always be standing directly in front of you, however striking contests are performed in an area large enough for your opponent to freely move around you and strike you from different angles. If you have fought or spared competitively, I'm sure you can relate to being hit by the strike you didn't see coming, this is often the result of you only partly training your full field of vision. Your perception skills will only pick up what you train them to pick up (your performance is a product of your training) and limiting the use of your full field of vision in training drills can lead to your demise as a competitive striker.



The defenders field of vision is forwards of line A.
Line B represents the division of the striker's territory.
Strikers can be placed at a range where footwork is required to make distance.
Strikers can also be placed at a closer range where there's no safety distance between the striker and the defender, this will cut down the delivery time and further increase the pressure on the defenders information processing skills.

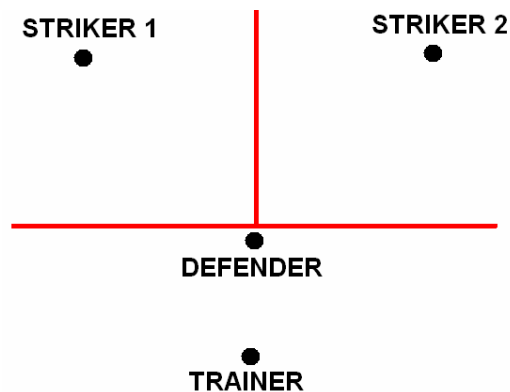
For your next level of progression, 2 strikers will be positioned as in the above picture and will take it in turns randomly throwing either an outside leg kick or an inside leg kick.

Incorporating 2 strikers into the drill has significantly increased the over load to the point where the defender will more often than not, look at the strikers feet to see where the next strike is coming from. To alleviate this problem you will incorporate a random jab or cross to the head (the defender won't know when the head strike will be thrown) in your next level of progression, this will bring the defenders focus back up to a point where they have to use their full field of vision.

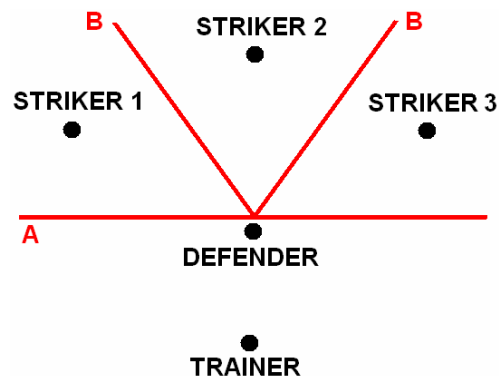
For your next level of progression, strikers will randomly throw round kicks to the legs and the upper body as well as straight punches to the head.

For your next level of progression, strikers will add a random front kick to the body along with the other strikes.

Once you have mastered this level, you could continue to add different strikes, however you have covered strikes to the legs, strikes to the midsection (with the midsection being struck from the front and side) and strikes to the head. At this point I prefer to go in a slightly different direction. For your next level of progression you will add a trainer, the trainer will be positioned directly behind the defender where the defender cant see the trainer, however both strikers can (as depicted in the next diagram). In the previous 2 on 1 drills, both strikers have taken it in turns to throw strikes, the defender never knew what strike was going to be thrown next, however the defender did know which striker was going to throw the next strike. Now we have a trainer, the trainer will randomly point to the strikers to throw strikes, this will put more pressure on the defenders field of vision and in turn their "perception skills".



Once you have mastered this level you will add another striker, positioning them directly in front of the defender and moving the original strikers further around to the sides as depicted in the next diagram. The trainer is once again in charge and will randomly point to the strikers to throw strikes.



Our goal with this drill is to truly perfect this drill at the highest level possible with the strikers throwing faster strikes, with absolute minimal pause between one strike and the next and with the drill running as fluently as possible.

Once you have mastered this drill you could continue to make the drill harder as there is no limit as to how far you can take these drills, however truly mastering this drill and continually practicing this drill will take your defensive skills to the highest of levels.

GUIDELINES FOR DRILLS

- 1) Use these drills at the beginning of training sessions after a light aerobic warm up. Keep rounds short e.g. 30-45 seconds, you can increase the length of the rounds however you'll have to watch the intensity, If lactic acid starts to accumulate then the quality of your practice session will suffer (lactic acid has an effect on your nervous system and these drills are all about training your nervous system). Another reason for keeping the rounds short is a high level of concentration is need especially when defending against multiple strikers. I tend to match up 3 students whose skill development is similar and rotate all 3 students every 30-45 seconds.
- 2) When incorporating a trainer into the drills, it is up to the trainer to make sure the drills run smoothly, the strikers rely on the timing of clear hand signals so they can execute a smooth flowing drill. When using the last drill with 3 strikers, the trainer has to ensure that the middle striker can see the hand signals aimed at the strikers on the left and right sides and when signaling to the middle striker the trainer raises a straight arm overhead.
- 3) When progressing to a new level it is of utmost importance that the previous level has been properly mastered.
- 4) When defending against punches and checking kicks, the defender should use blocks and deflections that will least effect their balance, otherwise the defender wont be back on balance quick enough to defend against the next strike e.g. When incorporating a straight punch to the head the defender brings their forearms to the head to block the strike rather that slipping the punch which would take their bodyweight forwards and over their left leg making it hard to check round kicks. If you were to use these drills for boxing then slipping a punch would be an appropriate defense to practice.
- 5) When performing these drills, the amount of force the strikers apply is minimal, the striker's objective is to throw quick precise strikes as fluently as possible, in time with the other striker/strikers. These drills are designed for the defender to master their technique in an environment that puts tremendous pressure on their nervous system as opposed to absorbing large amounts of impact.

CONCLUSION

If you have a good understanding of the requirements of your sport and a basic understanding of information processing, you'll find that with a little imagination you'll be able to create a structured step by step learning progression specific to your form of combat. You'll find that with a structured step by step learning progression, you will have an accelerated learning process that will really compliment those students that have that natural ability that suits them to your form of combat. Once you start to master the harder levels of skill development where you have 2-3 strikers throwing volumes of strikes at you from all angles, defending yourself against one combatant when sparing or fighting competitively will become a much simpler task.