

Drills – extending the discussion

There is plenty of discussion about the role of 'drills' in the learning process with commentary ranging from their effective use to the often seen 'waste of time' rituals.

I decided a long time ago that rather than spend inordinate amounts of time debating the terminology and role of 'drills', I would support the improvement of coaches and coaching development by keeping the framework or landmarks of their decision-making focused on the journey of movement patterns. In this way one does not have to classify the movement pattern being taught and progressed as a 'Drill' or anything else.

To this end I have tried to simplify how coaches receive and manage the information that should enhance their journey. The landmarks / checklists that I have ended up choosing are: General to Related to Specific in the context of Efficiency to Consistency to Resilience. Each of us will have a different framework or set of guidelines or order of things that we pass on to the next generation of coaches and these ramblings are not to be viewed in any other way than my personal interpretation. This is simply the place that my journey has taken me to and each of us will create our own journeys and places. There is never only one way of doing things.

I use derivatives of each movement pattern destination to create landmarks along the journey. Once the overall destination is understood (somewhere on the continuum from physical well-being to high-performance in a sport) the derivatives can be created. For the majority of the population who have physical well-being as their desired outcome the destination will be such actions as sitting, standing, walking, skipping, hopping, leaping, running, lifting, reaching, bending, rotating, carrying, pivoting. For those involved in the vehicle of sport, the destination can be in all of the above plus the complexities of running, jumping, throwing, kicking, catching, striking and flotation. Each of these fundamental elements are made up of the foundation movements of Squat, Lunge, Pull, Push, Brace, Rotate, Hinge and Landing and all their variations. Further classifications have been used in all this understanding which can be of value as further landmarks and checklists e.g. Locomotion, Non-Loocomotion and Manipulative skills.

The progression sees the keystone foundation movement pattern being shifted along the continuum of variability from General to Related to Specific where it is finally exposed to the chosen keystones of the required technical model. The keystone patterns are those that form the foundation upon which others can evolve, and the variability is the exploration of all the nuances that will be encountered as the keystone evolves into the complexities of the destination pattern. The demand will be on the coach's toolbox to have a wide and deep supply of progression and regression options to choose from to weave into the unique fabric of the individual athlete's journey. As these options are used and the effect of them learned so the coach will begin to create and use mixtures of these variables in the most effective way. Like all teaching and coaching it will be a matter of exploring an option, witnessing the result, giving appropriate feedback and then either solving the puzzle over time or making another intermediate adjustment.

It is always easy to go off at tangents to the keystone elements of the coaching development journey as we, as coach mentors/developers, often get too tangled up with all that we know. We don't have to transfer all we know to the coaches in front of us. We need to see them develop the skills needed directly at the cutting edge of their work – the coach-athlete interface - and so they need what is needed, not everything we know.

One can arrive at this structure in both a bottom-up and top-down manner. For the developing athlete there will be a bottom-up journey starting from a wide and deep movement vocabulary required for general physical well-being for the rest of their life and progressing onwards to the chosen sport / competition specific activities. In a bottom-up journey once the General layers are adequately adapted to then they can be adjusted and refined a little closer to the end goal and appear to be Related. As adaptation and repeatable excellence arrives in the Related then further refinement will see the advent of Specific activities where a very clear relationship to the end goal becomes visible. A top-down journey is often illustrated in the performance development and high-

performance sectors where the senior athlete who has progressed through the system, cycles through preparation, pre-competitive and competitive cycles with the top being the actual competition activity with all the intensities, pressures and complexities that this can bring. The related activities are a little further removed from the Specific and the general activities are further removed. This cyclic phenomenon sees the athlete always keeping in touch with the fundamental elements of their journey as each cycle of preparation is designed to unlock higher performance at the specific levels.

A simple example using movement patterns is seen below in the journey from the foundation pattern of triple flexion and extension through to running technique. Each activity will need to be taught until it is singularly efficient (Efficiency); then exposed to being able to be repeated (Consistency) and then exposed to being efficient and consistent under the pressure of such elements as changes in speed, direction, amplitude, complexity, forces, fatigue, pressure (Resilience). These progressive 'adventures' will culminate in the chosen keystones of the required technical model. My own journey has taken me to the following keystone destination in the sprinting model for track athletes – Toes Up, Heel to Hamstring, Step over Opposite Calf in a posture resembling a shallow 'C' shape. These technical model keystones make perfect sense to me but will be gobbledygook to others so keep focused on your own language and concepts – no use trying to understand mine. I have technical model keystones for running (within both a Track and Football setting, throwing, jumping and swimming so, rightly or wrongly, I have destinations to aim at.

Example journey from General to Running Mechanics

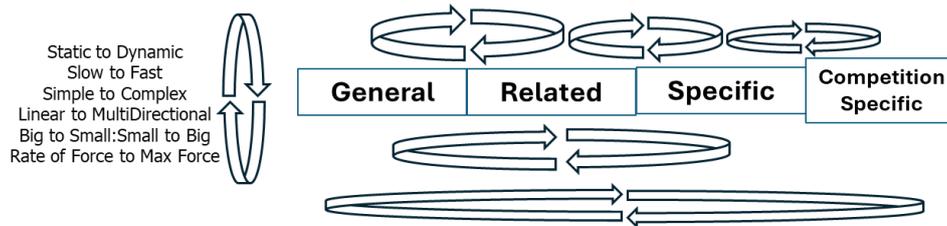
The General activities can start with the triple flexion/extension foundation movements of Bodyweight, Aqua Bag, Sand Sack, Barbell and Dumbbell - Front and Back Squat; High Pulls, Cleans, Snatch; Split Squat, Split Pulls, Split Cleans, Split Snatch, Step Ups and Lunges. These patterns have, within their variability excursions, patterns of Vertical and Horizontal Jumping and Landing and simple Hopping, Leaping/Bounding activities that bring into play the cyclic nature of the gait cycle. Simple Running Action patterns e.g. Marching, High Knees, A-Skips, Heel to Hamstring, Dribbles, etc also make their appearance here.

The Related activities can see the previous patterns shifting and morphing so the athlete is exposed to more of the cyclic nature of the gait cycle with all its related postures and forces. Some of the patterns seen in the General phase that are a more distant derivative take a step backwards and, while they are visited cyclically, they appear less frequently e.g. all in-place, double leg activities like the Squat, Clean, Snatch matrices.

The Specific activities are extensions of the Related where the speed, intensity and complexity of them are much closer to the competition specific qualities.

It is easy to see that within each layer there is the opportunity to expose the pattern to a variety of processes such as changes in speed, direction, amplitude, external resistance and complexity. It is also easy to see how the journey from General to Related to Specific naturally increases the speed, intensity and complexity of the movement pattern. An important element in learning is also illustrated in this system of progression as the keystone movement pattern is regularly exposed to variability, a powerful learning tool.

The diagram illustrates just some of the cyclic exposure one can consider. It illustrates the journey General to Related to Specific but at the same time shows the various ways of linking the components together in a cyclic manner. Each pattern should navigate such variables as speed, complexity, direction, amplitude and force as shown on the left of the diagram. At the same time the changing emphasis between General, Related and Specific can be managed as illustrated on the right of the diagram. Each individual athlete will have a unique blend of these components.



It must also be considered that it is not only movement patterns that can be classified into the G R S CS but also the metabolic / intensity / force and rate of force elements / complexity. The more one travels to the right of the diagram, so these elements climb in their intensity. The use of this process allows the athlete to experience the next level to the right on the continuum in a controlled manner. This brings about the 'Can-do, Can-do, Can't-do, Can-do' journey where the next level can be experienced and if it is too early to stay there (the athlete has not adapted to and consolidated at the previous level) there can be a step back to the appropriate level.

Whether these activities are called 'Drills' or not doesn't matter. Once the coach and the athlete understand the continuum and appropriately journey along it in safe cycles, the Why? the What? and the How? become clear for both coach and athlete.

It saddens me that school Physical Education has shifted so far away from the development of all-round physical well-being that the journeys illustrated here no longer exist. It is therefore the responsibility of the sports clubs (the only other viable vehicle for physical well-being) to ensure that this movement vocabulary is a major component of early engagement. Any headlong dash to sports specific will carry forward copious limitations to future progress.

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