

Chapter 7: The Practice Session - Talent Development

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Abstract

Talent identification and development is an important part of youth sports coaching and it is clear that coaches and significant others play an important role at every stage. This chapter provides an understanding of how young people develop from novice to elite level. It also outlines common pitfalls and misconceptions about the necessary requirements and characteristics of talented youngsters (such as early selection and specialisation, win focus). Implications for effective talent development are provided, with practical examples of what coaches can do to facilitate the process and help to develop the potential of all young people within their influence.

Introduction

One important role for any sports coach is to nurture the potential of young people and help maximise the natural talents they were given. Part of this role includes the identification and development of that talent, which could be interpreted as helping to find and guide those who have the aptitude and desire to reach an elite level within performance sport.

Performance sport and the search for excellence forms only a part of the coaching fabric, as it is inextricably linked to sport participation and related recreational activities. This becomes

apparent when reviewing the lives and experiences of those who have made it to the very top in sport. At one stage even they were only involved in sport for fun. Due to the experiences, opportunities and support they were given, in combination with their aptitude and desire, over time they developed into, and succeeded as, elite sportsmen and women. This means that every coach, whether it be a volunteer coach with an under 8's cricket team or a national head coach, has some role to play in the development of talent and perhaps more importantly, young people in general.

In fact, the course of a young person's sporting life can be shaped significantly as much (and perhaps more) at an early age, as it can be at a later stage in development. The influence of PE teachers or 'early' coaches as the inspiration for many budding youngsters, before aspiring for excellence within sport, is reported on many occasions.

Conversely, there are also reports of young people being demotivated, burning out or dropping out due to excessive pressure and lack of appropriate support. As such, it is important to understand how talent develops across the lifespan, the characteristics of those that 'make it', and gain insight and ideas from the experiences and support processes that appear to facilitate development. This will help clarify the role of the coach at various stages of development and enable coaches to work with more confidence, backed by evidence to support their practice.

This chapter will start with an overview of talent development. Specifically, this will outline the various phases and transitions involved in the progression of talent and the associated qualities, support and experiences that appear to facilitate development. Second, the chapter will examine common pitfalls in talent identification and development, such as early

selection and specialisation, reliance on performance and anthropometrics as indicators of 'talent', short termism and outcome focus. Third, the chapter will provide implications for the philosophy and role of the coach, including the relative emphasis on talent identification and/or talent development, and the holistic role of the coach within the 'talent development environment'. Some practical examples will be discussed in relation to the promotion of important psychological characteristics within the coaching process, against a backdrop of effective goal setting, review and athlete support, and the use of challenge to facilitate psychological growth, transfer of skills and self-regulation.

The nature of development

It's a long term process

One thing that those involved in talent development research have agreed upon is that it takes time to become world class at anything, including sport. For example, Ericsson and colleagues (1993), developed a rule of thumb called the '10,000 hour rule'. This highlighted the evidence that suggested at least 10,000 hours of deliberate practice were required to become an expert in any domain. An important feature of this practice is that it involved specific criteria (see below) to be considered deliberate practice:

- Deliberate practice designed specifically to improve performance —specific goals, feedback and opportunity for repetition
- Deliberate practice is not inherently enjoyable (note: sometimes it can be in sport), but effortful
- Deliberate practice is motivated by wanting to achieve excellence

Indeed, stagnation and limitation in performance and developments were seen as a lack of motivation to engage in further deliberate practice, as highlighted in the quote below:

The development of typical novice performance is prematurely arrested in an effortless automated form, experts however, engage in an extended, continued refinement of mechanisms that mediate improvements in their performance. Most amateurs do not improve their performance only because they have reached (in their minds) an acceptable level!

(Ericsson *et al.* 1993, p.63)

The implications for this theory are that the earlier an individual is engaged in deliberate practice, the better they will become, because they have the opportunity to spend more time engaging deliberately. Of course, this has further implications for the identification and selection of talent and also has been used as evidence for the need for early specialisation and high work ethic from the outset.

Specialisation versus diversification

It is important to bear in mind that much of the subsequent talent development research puts this theory into its appropriate context. The research highlights that a significant proportion of elite athletes, especially those that have longevity within the sport, were late specialists in the activity that they eventually excelled in, and had a history of widespread participation at early ages in a variety of sports and activities. Many of those who specialised and engaged in serious, deliberate training at early stages dropped out in the development phase through de-motivation or burnout.

Furthermore, the 10,000-hour rule has been shown to not always be necessary, and that experience and skills developed through hours performing and practicing in different domains can transfer across to allow 'fast tracking' of performance development within a new sport. Research in the UK has shown that approximately half of all successful elite athletes started life as pre-elites in a different sport before transferring across at a relatively late age (approximately 14 years old). This highlights the need for a more complex and holistic consideration of the journey to elite status rather than assuming a need for specialising early and engaging in deliberate practice.

The need for staged progression

Work led by Bloom (1985) and Côté (1999) provided a more holistic picture of the nature of talent development by providing an understanding of the nature of progression as a staged process. In other words, it had started to emerge that for successful progression through the whole process, suitable foundations had to be laid effectively in a step by step manner. This foundation would facilitate progression through each subsequent stage. For example, without developing the necessary intrinsic motivation and love for the sport at early stages, it would not be possible to engage in the required amounts of deliberate practice over a long period of time, which would be necessary to be successful later on. Bloom noted:

There are many years of increasingly difficult stages of talent development before mature and complex talent will be fully attained...without the purposeful step by step talent development process, it is unlikely that even the individuals we studied (top world 25) would have reached the high levels of talent development reported.

(Bloom 1985, ch.14)

More specifically, Bloom's (1985) model of talent development identified three stages to progression—an initiation stage, a development stage and a mastery stage. Importantly, the transition between each of these stages was not triggered by chronological age or some pre-determined cut off point, but was initiated by certain tasks being complete, relationships formed and attitudes developed or learning achieved. The stages were characterised at three levels:

- Athlete qualities
- Coach qualities
- Parent qualities

An athlete in the Initiation stage could be described as playful, joyful and excited by their participation in the activity, with very little emphasis placed on competition. This general atmosphere was reinforced by the coach who tended to adopt a kind, cheerful and caring approach, with a very process oriented philosophy to their coaching. This helped the children build and develop crucial motivation as well as fundamental skills and attributes.

These are crucial years, even more crucial than those that follow, because it is during this period that our subjects became interested and caught up in the sport of swimming. In time that interest became self motivating. Had there been no excitement during the early years, and no sense that the young swimmer was very successful, there would have been no middle or later years.

(Bloom 1985, p. 141)

Parents were strongly involved in the socialisation of their children into the activity at this stage. They shared the excitement of participation, maintaining a very supportive and positive role and proactively sought out an appropriate mentor/coach. Peers also play a crucial role in sport socialisation as well. The progression from Stage 1 (Initiation) to Stage 2 (Development) was, in part, characterised by the development of an athletic identity: Children realising that they were no longer children who swim, they were swimmers. However, there was often a combination of features that triggered this change, including information related to the competence of the child. For example, a period of accelerated development often occurred and/or they were labelled as having 'potential' or 'talent'. Attitudes could also spontaneously change, such as an increase in commitment or task/achievement orientation. Sometimes a new, more technical coach was introduced triggering the move from initiation to development.

The development stage was characterised by more serious achievement orientation, the athlete more engaged and committed to pursuing excellence and their talent identified in some capacity. The coach tended to be more knowledgeable and demanding and developed a strong personal interest in the athlete as well as having the capacity to command respect. The parents started to make more sacrifices and take more of an organisationally supportive role, in the sense of helping to restrict unnecessary activities, help with transport and time management. The transition into the mastery stage was often triggered by an unexpected success or turning point. This was often in combination with sport becoming *the* priority in life and as a result of a strong independence emerging. Competition became a yardstick for success and often a master coach was introduced to facilitate this transition to expert status. In the mastery stage itself, fine tuning performance is a huge driver for hard work and the strengthened obsession with the sport fuels this commitment. The coach is increasingly demanding and often has a strong love/hate relationship with the athlete, while parents take on a lesser role, providing financial or emotional supportive where necessary.

However, it is important to note that this work is specific to a North American population, and as such, it is important to recognise cultural differences. For example, in the UK, over half of all elite athletes under 25 years of age are still financially dependent on their parents, with limited access to facilities and ‘master’ coaches, and a very different University sporting infrastructure and support process. Indeed, the emphasis on ‘transitions’ and occurrence of more varied pathways is also important to note. Having said this, the detailed and holistic description of the three stages and associated transitions, includes behavioural (for example, increasing commitment, becoming more obsessed), cognitive (for example, increasing task orientation, developing an athletic identity), and social factors (such as more technical coach,

less parental involvement, identified as talented), that all provide useful insight into *possible* requirements and potential pitfalls to successful development.

The role of deliberate play and deliberate practice

Building on this more generic work by Bloom, Côté and colleagues investigated a more sport-specific model of talent development, with retrospective interviews with elite junior rowers and tennis players. In a similar vein, three stages of development emerged. The sampling years (aged 6-12), the specialising years (aged 13-15), and the investment years (aged 16+). There are many similar concepts to Bloom's model, such as the nature of the atmosphere at different levels, and triggers to stage movement. However, Côté's model is sport-specific in nature and explicitly rooted in the theoretical concepts of deliberate play, deliberate practice and 'number of other sporting activities'. Deliberate play contrasting with deliberate practice in that it is defined as activities that maximise inherent enjoyment, focussed on process and experimentation, loosely monitored with no immediate focus on correction. As the names of the stages suggest, at early the earliest phase of development a wide range of activities were sampled, leading to the development of a range of fundamental movement skills and informal, perhaps unconscious, searching for what sport is most enjoyable and/or suitable. Critical incidents that triggered change and moved a child into the specialisation stage included positive coach experiences, encouragement from siblings, enjoyment, and/or success. Furthermore, it emerged that the 'split' between deliberate play and deliberate practice changed through the stages. In the sampling stage there was a high frequency of deliberate play and low deliberate practice, through the specialising years there was a similar amount of each, and through the investment years, deliberate practice dominated. Latterly, maintenance and career discontinuation stages have also been added to the stage model of athletic development.

Varied pathways: The need to consider individual differences

These stage models provide a useful breadth of information about what experiences, support processes and training may help to facilitate development in an effective manner. However, more recent research has highlighted a more idiosyncratic and individualised nature of many development pathways and the crucial nature of transitions and challenges (Collins and MacNamara 2011). Essentially, developing athletes must successfully negotiate and adjust effectively to these challenges to be successful. As such, these challenge points are perhaps worthy of greater emphasis rather than the stages per se. For example, results from some UK based research suggest many athletes do not consider themselves to have passed through the stages outlined above in a linear or straightforward manner, while many more transition and challenge points were highlighted. Given the apparent complexity of the route to elite status, aspiring athletes must be able to make the most of developmental opportunities when they arise (such as the first time appearance at new level of competition), and adapt quickly to difficult circumstances and setbacks (training/work balance, injury) and negotiate transitions, for example from junior to senior, if they are to maximise their potential and progression.

Generally, there are considered to be a significant number of 'normative' transitions, those that can be considered to be standard for most, if not all, developing athletes. These can be predicted and therefore planned and prepared for. For example, the transition from junior to senior sports is considered to be one of the most difficult 'normative transition' to deal with successfully, and is clearly crucial for the progression to elite sport performance. However, Wylleman and Lavallee (2004) established the 'developmental model of athlete transitions', and showed that athletes face a range of challenge points when their life is considered as a whole. As well as Bloom's talent development stages, there are stages and

transitions in athletes' psychological, psychosocial, and academic-vocational development. So for example, the transition from junior to senior sports may coincide with transitions in other spheres of life (for example, from school to college or university) adding life stress and making it even more challenging to cope successfully. Furthermore, there are also other much more individualised and unpredictable transitions called 'non-normative' transitions. These could be related to any life sphere for example, injury, de-selection, relationship or family stresses, financial or academic pressure, and are often more difficult to cope with due to their unexpected initiation and consequences. As such, it is clear that the developmental pathway is complex, individualised and filled with multiple challenges and opportunities that developing athletes must overcome and make the most of. This puts emphasis on the need for preparation for, support prior to, during and post transitions to ensure that progression is not stalled or halted due to inadequate coping skills or support. This means that part of the role of the coach is to be aware of current and potential transitions and challenges for their athletes and be able to prepare them physically and mentally to be ready for what comes next. As such, individualised athlete attention and psychological skills development is one of the many crucial skill sets that coaches need to maximise their effectiveness.

Common pitfalls in talent identification and development

Over emphasis on talent identification and early outcome success

Identifying talent within sport is considered to be one of the Holy Grails of coaching. Indeed, often much more emphasis is put on trying to identify talent rather than trying to develop it. Within many sports there are both formal and informal methods for attempting to identify talent. This ranges from the subjective opinion of a coach or selection panel, an organised system of scouts, through to more 'scientific' testing procedures. Most sports tend to adhere to a system of selecting young players in different age groups into a tiered system of 'elite

performers/teams' (for example, club, regional and national level representation). These opportunities often involve additional training, coaching and competition, above and beyond the normal opportunities afforded to 'less talented' peers. The selection processes are often subjective, and based on physical attributes and one off measures of proficiency or performance opportunities. Furthermore, the rationale for selection is often not clear, but tends to revolve around selecting the most 'talented' performers at a given time, where kudos is given to the team or performers and associated coaches who win the tournament or competition that year.

Future potential versus current performance capability

The definition of talent is often closely linked to performance capability, but importantly, less related to future potential. However, many perceive these two concepts to be the same.

While, of course there is no reason why someone couldn't have performance capability and future potential at any one time, it is important to recognise they are not necessarily synonymous concepts. This is particularly so at early ages where performance characteristics still have much development opportunity.

This focus on performance as a key selection criterion has resulted in some interesting and worrying consequences. For example, a phenomenon 'relative age effect' is common in many sports. This evidence shows that a larger proportion of children selected into more 'elite' teams/opportunities at age group level are born early in the selection year for strength sports and a larger proportion of those born late in the selection year are selected for gymnastic type sports. In other words, age differences (that is up to a year apart in any given age band), and maturational differences (potentially much more than one year apart), play a large role in performance capability and therefore likelihood of selection through childhood and

adolescence. Taking this further, many young people have been shown to rely on the physical advantages that made them ‘good performers’ at young ages (for example, relative physical prowess) and fail to learn the skills required at a later phase (such as tactical awareness, technique, performing under pressure), particularly where strong, knowledgeable guidance is not available. Ironically, a reverse relative age effect has been shown to exist in some sports, resulting in those younger peers who did make it into the system early being more likely to make it to an adult elite level. This initial ‘disadvantage’ may force the athletes to adapt and develop in the face of additional challenges and work hard to cope with training and performing against older and physically more developed peers from a young age. This highlights a very salient point in that many features of performance are trainable from early ages, and as such, a motivation and capacity to develop is far more important than having an ability to outperform peers at development stages if long term success is the goal.

The role of the self-fulfilling prophecy

Furthermore, talent or performance can be misleading when you take into consideration the past experiences of the players. In fact, one piece of research by Ward and Williams (2003) concluded that the higher skill levels of ‘elite’ soccer players as young as eight are likely to be as a result of the 200 hours of expert coaching they have received as opposed to any genetic superiority. As such, it is important to understand and take into account the nature of development, the goal and need for selection and subsequent development opportunities.

The theory of ‘self-fulfilling prophecy’ provides a good rationale and important considerations for coaches when assessing and working with young developing performers. It builds on the idea that perceptions of competence and ‘potential’ are important from both the athlete’s perspective (‘I could be quite good at this’ or ‘I am good at this’) as well as a

coach's perspective (that athlete has potential or talent). Indeed, Bloom highlights the fact that while being good in early phases of development is not well correlated with ability or success in any other later stage, perceptions of competence or being as identified as someone with potential can be important, if not crucial precursors to commitment to later stages and the pursuit of excellence.

Being good in one phase of the learning may not have a high relation to being good at a later phase, even though both phases are in the same talent field... ..Precociousness in a talent field is not to be dismissed, it can only be realistically viewed as an early stage in talent development.

(Bloom 1985, p. 538)

The self-fulfilling prophecy outlines how a coach's perception of a young person can have significant bearing on both the perceptions of competence and subsequent behaviour of an athlete and their eventual success. As such, it is important from a coach's perspective to have an open mind to athlete potential and provide equal opportunities where possible. For example, evidence has shown that athletes and young people in different contexts (such as school) who are perceived to have greater potential receive more instruction and feedback (of a more individualised and higher quality style), warmer interaction and acceptance, higher expectations and more opportunities to practice and learn. This differential interaction leads to changes in the athlete's own perceptions of competence and commitment, in addition to more tangible reduction in practice opportunities and feedback information. Research has outlined that those who are perceived to have greater potential make better gains in ability over a period of time, even if 'high potential athletes' are categorised randomly by researchers. So it is clearly important to provide equal opportunities to athletes within the

context of the nature of talent development and what constitutes having ‘potential’.

Otherwise, significant others (for example, coaches, parents, teachers) may have a negative influence on an athlete’s development, albeit inadvertently, without providing a realistic opportunity for the development of ability and self-motivation.

Recognising and managing unhelpful pressures

Given the complexity and context of how young people’s talent develops, for example, the disparity between performance and potential, the non-linear nature of development (such as early developers, late developers, sport transfers, changeable performance capability) and the importance of ‘setting’ up and supporting the process effectively, it is important to consider other external influences on coaches practice.

In many situations, coaches working across a range of different age groups feel pressure for their children to ‘win’. However, from the literature previously outlined, winning at early ages or selecting those children who are more likely to win at age group level is not the same thing as planning and preparing youngsters for long term development and success, and in many cases, it is often an unhelpful pressure. As such, the more influences that support a long term successful outcome the better. However, invariably this isn’t the case. For example, there may be explicit pressure from a governing body to produce certain results; to get funding or support, there is a goal of four medals at the U16 European championships or for a youngster to be selected for a regional age group squad, they must gain a certain performance time at a national competition. It could even be an implicit pressure, for example, perceptions of a coach's ability is often linked to ‘the outcomes’ that their teams or athletes achieve at competitions. So for coaches to achieve recognition and be perceived as a ‘top coach’ they

may need to select and train youngsters to win as opposed to having a more long term plan to help youngsters grow, develop and move successfully on to the next phase. For a coach with ambitions to coach at a more senior level, this is often a way (or sometimes the only way) to enhance their credentials as far as potential employees are concerned.

Another concern relates to the pressure that sports have to recruit young people. Quite often someone who is an outstanding performer in one sport, is an outstanding, or certainly very good performer, in other sports. As such, they will be highly sought after by many different sports. This, in combination with a general culture of outcome/win focus at every age group game and competition that is available, puts a lot of pressure on young people to be available for selection as well as the risk of burnout and injury. Of course, it is not only the multi-sport context of this participation; it is also the multilevel nature of sport participation. For example, a young person may play for their school, club, region and country all within the same season. Without sports and organisations working together with the best interests of the young person at heart, it can lead to too much too soon, resulting in enhanced risks of over playing, de-motivation, injury and burnout.

Promoting the characteristics of effective developers

Holistic fundamental skills base

While it can be useful to focus on what is wrong or challenging with the system, it is perhaps more valuable at an individual coach level to try to understand some of the more 'controllable' factors regarding enhancing athletes' potential to succeed. To help with this, it is important to understand the typical characteristics of those who have potential to improve and progress effectively, and then consider the extent to which these factors can be developed.

A key feature of people who are able to show potential is the capacity to learn and develop. There are a number of factors related to this within a sport context, including physical and psychological attributes, appropriate support and opportunities. Physically, it has been shown that fundamental movement skills and coordination is a crucial platform from which more sport specific skills can be developed robustly. As such, it is clearly worth spending time putting these in place before too much focus on sport specific skills. Although it also makes sense for this to happen at early stages, even at later stages, particularly where shortfalls exist, it is worth promoting and reinforcing fundamental movement skills. Therefore, this area of development affords an opportunity for all sports to work together, even if benefits are not immediate sport-specific performance. In other words, everyone is developing the platform for potential, and when children choose certain sports to participate in, they will be more successful if they begin with good fundamentals regardless of where or who they learnt them from.

Building for the long term

Of course this philosophy of putting the foundations in place applies right through the system, including the development of performance capability over the long term. For example, increasing training load can easily enhance fitness. However, for example, if appropriate techniques or strengthening does not happen first, then potential is limited (even if a faster short term performance increase is likely). Increasing training load in this case will only take a person so far and will also increase the chances of injury occurring. Leading on from this, performance at later stages is also a consequence of acquiring a package of holistic skills. As such ensuring that a range of sport-specific skills are put into place, such as technical, tactical, physical and psychological, is crucial. This is an important point because many coaching sessions and programmes are often reported as being somewhat uni-dimensional, dominated by technical development in, for example, team sports, or physical fitness in endurance sports.

Furthermore, it has been shown that different performance factors are more important at different ages, adding more complexity to the picture. For example, hard physical running may be more likely to lead to victory at younger ages, and decision-making and good technique, post adolescence. As such, if a coach has a strong win focus, then selection and training may be dominated by different factors year on year. However, if the coach has a long term development vision, they are likely to present a more coherent development programme throughout the system aimed at developing well prepared adult, elite performers in the long run, albeit at the risk of slower or lesser age group performances per se.

The role of psychological characteristics

In relation to psychology, the capacity to learn and develop is crucial. For example, on a basic level, someone who is not committed or motivated will not make as many steps towards maximising their potential to the extent that someone who is committed and motivated will. As such, these factors would usefully be facilitated by the coach. Indeed, research has already shown the importance of intrinsic motivation development, which is crucial at early stages. This can be facilitated through the age groups into elite sport, even when there are huge extrinsic pressures and rewards available, which can often reduce intrinsic motivation. Theory suggests that promotion of perceived competence, autonomy, and relatedness facilitates the development and maintenance of intrinsic motivation.

In addition to this, learning ability has been shown to be underpinned by the ability to self regulate thinking and emotions. For example, skills such as planning, monitoring, realistic self-evaluation, curiosity and confidence are all associated with effective learning outcomes. Indeed, part of the process to transitioning to the mastery stage in Bloom's model, involved a move toward becoming a self-regulatory, independent athlete learner. However, it is important to note that other research suggests this process usefully starts much earlier in the development phase. Importantly, many of these skills and attributes can be taught, learnt and reinforced in practical ways. Finally, the journey to reaching elite status is never smooth. The psychological skills required to succeed not only relate to learning capacity, but also to the ability to handle pressure allowing someone to make the most of opportunities when they arise, adapt quickly to challenging circumstances and negotiate change as it occurs.

How psychological characteristics develop

Interestingly, recent research has highlighted that psychological skills develop over time, and through a variety of means. For example, Gould *et al.* (2002) highlighted a number of sources of psychological development, including the community, individual personal reflection, non-sport and sport personnel, and the sport process itself. However, the biggest influences seemed to be family and coaches. These sources facilitated development both directly, through teaching or facilitating 'lessons learnt' and indirectly, through modelling or unintentionally creating 'psychological' environments. Furthermore, Bull *et al.* (2005) highlighted influences on the development of mental toughness in cricket to include family background, (for example, parental influence and childhood circumstances), opportunities to survive early setbacks, exposure to foreign cricket and being in an environment where success had to be earned.

Taking this further, Collins and Macnarama (2011) highlight the necessity for coaches to challenge people to develop and use psychological skills and self-regulation at an appropriate level.

This requires using both natural life challenges (for example, exams, transitions between schools) and intentionally created challenges (such as training with a mixed age range, playing out of position, challenging physical or psychological drills or experiences). They recommend a more systematic and intentional approach to psychological skills development including:

- Teaching relevant skills
- Facilitating the application of the skills through challenging situations
- Modeling the skills

- Reflection and refining of skills as part of an ongoing process of development
- Encouraging transfer of skills across contexts

Indeed, this process can be well facilitated by coaches. The nature of the most pertinent psychological skills and ideas for development will be covered later.

Role of the coach in talent development: Philosophy and goals

In summary, it seems that the literature provides a good understanding of many of the requirements of athlete development, from novice level through developmental into elite and beyond. Furthermore, the literature also highlights some of the potential pitfalls, including:

- Lack of understanding/emphasis between ‘potential’ and ‘performance outcome’, particularly at young ages.
- Overlooking the importance of individualising practice and allowing for variability in development and performance.
- Uni-dimensional training programmes, with a lack of structured emphasis on holistic development, in particular a psychological input.
- Overtraining and playing.
- A culture where ‘winning’ at every level seems to be prioritised and reinforced at a number of levels.

As such, it is important that this knowledge informs a coach’s philosophy, driving coaching practice and decision-making. Ultimately, it seems that it is worth considering the acronym TID (talent identification and development) as TiD (TALENT identification and DEVELOPMENT) where identification is an important but smaller part of the process, managed in an on-going and open way, and effective development is where the focus should be emphasised. In a well-run development environment, talent will emerge and be identified

over time. To help summarise, on the basis of the key issues emerging from the talent identification and development literature, Martindale and colleagues (2005) developed guidelines to highlight key considerations when setting up talent development environments (TDEs). These are outlined in Figure 7.1. They have also developed and validated the Talent Development Environment Questionnaire (TDEQ), which can be used by coaches or those in charge of organising and running TDEs to gain feedback from their athletes on the key features of practice that have been identified as useful facilitators of talent development (Martindale *et al.* 2010). This holistic structure can be used to guide practice and decisions, but it would be implemented most effectively with special consideration of the systematic development of key psychological attributes. This aspect of development is considered next.

Figure 7.1 A summary of the key features of effective TDEs

Individualised & Ongoing Development

KEY METHODS

KEY FEATURES

Integrated, Holistic & Systematic

- Develop a Long Term Vision, Purpose & Identity

Long Term Aims & Methods

- Provide Accessible Opportunities & Fundamentals to as Many Youngsters as Possible
- Provide Flexible Systems to Allow for Performance & Physical Development Variation

- Identify, Prepare for, and Support Individuals Through Key Transitions
- Provide Individualised Programmes & Regular Individual Goal Setting & Review Processes

Identifying and promoting the psychological characteristics of developing excellence (PCDEs)

What Are The PCDEs

There have been a number of psychological skills and attributes identified in the literature that have been shown to be associated with effective progression and performance. While it is difficult to prioritise certain skills and strategies over others, a relatively consistent set of skills termed the psychological characteristics of developing excellence have emerged from focussed research in this field (Abbott, Collins, Martindale and Sowerby 2002; Macnamara *et al.* 2010). These include:

- Self-motivation
- Commitment and role clarity
- Goal setting and self-reinforcement
- Quality practice
- Effective and controllable imagery
- Realistic performance evaluation and attribution
- Coping under pressure
- Social skills

Committing time to understanding, identifying and promoting these characteristics within individuals will enable developing athletes to make the most of their development, coaching and performance opportunities whilst coping more successfully with the inevitable ups and downs of sport and life. In other words, by doing this, coaches will be investing effort into developing the attributes that facilitate self-regulation, learning, development, progression

and performance. Ultimately, this will maximise the chances of effective talent development and long-term success.

Context Specific Nature of PCDES

It is important to outline that the way in which these characteristics are embodied is often highly context specific. For example, commitment in a 14-year-old regional rugby player will be very different to the required commitment in an 18-year-old professional. Perhaps training five hours a week would be appropriate at 14, including appropriate rest, cross training and balanced competition schedule, but this would clearly not be sufficient for young professional player. Indeed, the nature of the application of some of these characteristics also changes. For example, self-regulation and independence will become more pertinent as an athlete matures and develops, a feature that would need to be incorporated, encouraged, and facilitated through the operationalisation and development of the PCDEs. As such, this context needs to be recognised appropriately and in keeping with the context and long term goals of the player. Furthermore, commitment may well ‘look’ different in different sports. For example, in judo, a ‘committed’ player may be one who is able to keep going hard in practice, address identified weaknesses and show progress, maintain a healthy diet, while in contrast a curler, may ‘show’ commitment by training independently of organized squad sessions, demonstrate consistent effort by consistent preparation, and support the efforts of others. As well as sport-specific aspects of these psychological characteristics, as with any development process, there are likely to be individual specific contexts as well, although clearly, many will cross over as generally relevant between sports. This encourages the development of a general awareness of expectations for athletes at their current levels and as they develop further. This is not only useful to provide clarity for the athletes and help to identify appropriate role

models, but also to develop coherent understanding between coaches, parents and significant others.

Profiling

One way of starting the process of incorporating PCDES into practice is to profile these characteristics for individuals and/or on a more generic level; the sport-stage context. This starts by using the eight PCDES identified above as a framework for identifying relevant behaviours that could be considered to embody each characteristic.

It would be useful to do this in conjunction with other coaches to help brainstorm the most relevant and pertinent aspects. This template can then either be adapted over time or to suit individuals more specifically. Below are some examples of each of the characteristics, and behaviours that may represent them appropriately within a practical setting.

Self-motivation:

- Practises away from team training
- Enjoys practising and competing

Commitment and role clarity:

- Listens, takes advice, asks for advice
- Consistent and appropriate warm up and cool down

Goal setting and self-reinforcement:

- Sets process, performance and outcome goals with coach
- Independently and realistically self-reinforces achievements

Quality practice:

- Maximizes understanding about why things are done as they are in training
- Independently evaluates training and competition performance

Effective and controllable imagery:

- Takes time in training to use imagery to prime new movements or techniques
- Use imagery to learn to deal with difficult situations

Realistic performance evaluation and attribution:

- Realistically evaluate performance regardless of win or loss
- Evaluates why do well or not

Coping under pressure:

- Show confident behaviour under pressure
- Consistent pre-event routine regardless of importance of event

Social skills:

- Can ask the coach questions which help to get useful feedback about how to do better
- Can interact effectively with team mates in order to help the learning process

Although all of these characteristics are important for development, and as such need to be facilitated and reinforced through practice, it is worth periodically identifying the priority for individuals and/or the development environment more generally. So once these characteristics have been identified and operationalised appropriately, performance profile techniques can help pinpoint the main focus for development, the process for which is outlined next.

1. Brainstorm the key behaviours associated with each PDCE.

This is often more challenging than it initially seems; doing it in groups helps to develop clarity by bouncing ideas off like minded people. Get the athletes involved, use their attributes to put together ideas and use role models as templates to work from. Think about someone who has become successful in the sport and consider what they were

like as a developing performer. Be as specific and ‘observable’ as possible. Record these ideas in a format similar to that in Figure 7.2.

2. Rate how important each of the behaviours are to developing full potential in the long term (0-10) and record it under importance.
3. Rate the ideal score required on each behaviour to develop full potential in the long term (0-10) and record this under Ideal Performer.
4. Rate where the athlete is currently between 1 and 10, and record that under Current Score. NOTE: This could be done by the athlete themselves and/or the coach(es), and/or the parent(s) and so on. It is interesting to find out how different people define the priorities and rate what level they think has been achieved to date. Often, initially people do not independently come up with the same results.
5. Identify the most important factors to work on by performing a simple calculation:

$$(Ideal\ Score - Current\ Score) \times Importance\ score = Profile\ Score$$

The most important factors to work on will have the highest Profile Scores.

Self-Motivation	Importance (0-10)	Ideal Performer (0- 10)	Current Score (0-10)	Profile Score
Practises away from team training	10	10	7	30
Commitment and Role Clarity	Importance (0-10)	Ideal Performer (0- 10)	Current Score (0-10)	Profile Score
maintain a healthy diet	9	10	6	36

Goal setting and Self-Reinforcement	Importance (0-10)	Ideal Performer (0-10)	Current Score (0-10)	Profile Score
address identified weaknesses and show progress	10	10	7	30
Quality practice	Importance (0-10)	Ideal Performer (0-10)	Current Score (0-10)	Profile Score
keep going hard in practice	10	10	3	70
Effective and Controllable Imagery	Importance (0-10)	Ideal Performer (0-10)	Current Score (0-10)	Profile Score
Takes time in training to use imagery to prime new movements or techniques	10	10	7	30
Realistic performance evaluation and attribution	Importance (0-10)	Ideal Performer (0-10)	Current Score (0-10)	Profile Score
Realistically evaluate performance regardless of win or loss	9	10	3	63

Coping under pressure	Importance (0-10)	Ideal Performer (0- 10)	Current Score (0-10)	Profile Score
Show confident behavior under pressure	10	9	5	40
Social skills	Importance (0-10)	Ideal Performer (0- 10)	Current Score (0-10)	Profile Score
Can interact effectively with team mates in order to help the learning process	10	9	6	30

Figure 7.2. Profile of Psychological Characteristics of Developing Excellence

Promoting and reinforcing PCDEs

An advantage of clearly identifying the behaviours associated with effective talent development, and the reasons behind why they are required, is that people are more likely to understand what is expected and will be more likely to ‘buy in’ to their importance. This helps reduce second-guessing by athletes, coaches or parents, provides clarity on what to look for, who might make a good role model and what to encourage and reinforce.

While there are many ways to facilitate the *development* of PCDEs, it seems that a practical approach is likely to lead to the greatest effect. This would involve coaches and significant others using a combination of teaching skills/strategies, designing challenge and/or using natural life and sport challenges to test, develop and refine the application of mental skills in a transferable, self-regulating way across different life domains of the athlete. Using role models is crucial to highlight, reinforce and motivate developing performers to commit to mental development, as is a consistent goal setting and review process. Indeed, understanding the principles of effective goal setting will help structure positive development process of these characteristics. For example, research highlights a number of important considerations such as setting:

- Specific goals
- Moderately difficult but realistic goals
- Long and short term goals—stepping stones to success
- Combination of process, performance and outcome goals
- Always both training and competition goals
- Record goals and get feedback on progress
- Identify strategies to help achieve success
- Foster individual commitment to goals and ensure adequate support is available

Two factor process: Coach behaviours and coach systems

One way to think about this systematically is to consider a 2-part process of development. First, the manner in which the coach interacts with the athlete, and second, the structures/systems within the talent development environment itself. To simplify, these two features can be termed coach behaviours and coach systems. For example, if a key behaviour has been identified as 'work hard at their own level', it may be agreed that for an athlete to show this they need to set self-referenced goals, train, review and reward themselves based on a realistic perspective of their current stage of development.

One example of coach behaviours and coach systems that could encourage this is as follows: Coach behaviour - provide individualised, goal related feedback; in other words provide feedback that is related to the quality of training, effort and progression in relation to the personal goals that have been set. This would need to be in combination with Coach Systems – monthly review meeting, where the coach and the athlete sit down together to discuss goals, progress and evaluate feedback specifically in relation to what was set previously. This combination approach is illustrated in Figure 7.3.

Figure 2: An example of a coach system and coach behaviour that promote the required behaviour (see Collins *et al.* 2010)

Of course, these two elements do need to work coherently together. For example a monthly meeting in which feedback is given unrelated to goals set or not referenced to processes within the athletes control would not facilitate the desired behaviour. As such, it is very important to see these processes as a working partnership. In fact, the more avenues in which this behaviour is reinforced (for example, role models, during training introduction talks, meetings, post match conversations, parents and so on), the more likely consistent results will emerge.

Integration of concepts and keeping it simple

Finally, there is rarely only one answer, and as the coach will know their athletes better than others they may have important insight into what is appropriate and required for progress. Of course, there will also be sport-specific and other context-specific factors to be considered, including individual coaching style preferences. Some of the behaviours that are identified may well be relevant for more than one PCDE. For example, 'turning up on time to training' may relate to commitment, motivation and quality practice. In other words, promoting certain behaviours may have multiple positive side effects and encourage integration with one another, something that is helpful and the coach should be aware of. The more simple, straightforward and integrated the behaviours, coach behaviours and coach systems are, the more likely they will be successful and consistently used over time. The following examples and a blank template from Collins *et al.* (2010) illustrates this potential similarity.

Example 1

Example 2

Example 3

Example 4

Blank Template Example

COMMITMENT BEHAVIOUR: _____

Coach Systems

Coach Behaviours

Conclusion

Talent identification and development is an important part of youth sports coaching. Coaches and significant others at early stages play as important a role as those coaching or supporting at an elite level. Understanding the way in which young people develop to an elite level is central to designing effective training, competition and support programmes. Crucially, there appear to be many common pitfalls and misconceptions about the necessary requirements and characteristics of talented youngsters (such as early selection and specialisation, win focus). In short, it is important to take a long term perspective and recognise the necessity to build foundations for future development in a step by step manner. However, this is not to say that everyone develops in the same manner. Research suggests that development is often idiosyncratic and transitions between the various stages in development are likely to be the key challenge points and drivers to successful development.

Within this structure, providing coherent and consistent messages to young people throughout development is important, as is consideration of a holistic package of skills. Of course, performance, and the manner in which athletes apply themselves is crucial at every stage. However, many people become too focussed on the outcomes of competition and training (for example, who won). Outcome focus has been shown to be negative and not particularly relevant for developing athletes. In fact, many successful elite athletes attribute their success to being able to stay self-focussed even under immense pressure to win. Building on this psychological perspective, the psychological characteristics of developing excellence have been shown to be key in the facilitation of self-regulating individuals capable of effective learning, performing consistently under pressure and ultimately developing successfully through to the elite level. As such, it is recommended that coaches consider systematically

incorporating such psychological skills development and the necessary challenge to athletes into training. Some of the practical ideas presented in this chapter will help start this process.

References

- Abbott, A., Collins, D., Martindale, R. and Sowerby, K. (2002). *Talent Identification and Development: An Academic Review*. Edinburgh: **sportscotland**.
- Bloom, B.S. (1985). *Developing Talent in Young People*. Ballantine. New York.
- Bull, S., Shambrook, C., James, W., & Brooks, J. (2005). Towards an understanding of mental toughness in elite English cricketers. *Journal of Applied Sport Psychology*, 17, 209–227
- Collins D., & MacNamara, A. (2011). The rocky road to the top. Why talent needs trauma. *Sports Medicine*, 42(11), 907-914.
- Cote, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, 13, 395-417.
- Ericsson, K.A. Krampe, R.T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, 363-406.
- Gould, D., Dieffenbach, K. and Moffett, A. (2002) Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, 14, 172-204.
- MacNamara, A. & Collins, D. (2010). The Role of psychological characteristics in managing the transition to university. *Psychology of Sport and Exercise*, 11, 353-362.
- Martindale R, Collins D, Daubney J 2005 Talent development: A guide for practice and research within sport. *Quest*, 57: 353-375
- Martindale, R.J.J., Collins, D., Wang, J., McNeill, M., Sonk Lee, K., Sproule, J. & Westbury T. (2010) Development of the Talent Development Environment Questionnaire (TDEQ) for Sports. *Journal of Sports Sciences*, 28(11), 1209–1221.

Ward, P., and Williams, A.M. (2003). Perceptual and cognitive skill development in soccer: The multidimensional nature of expert performance. *Journal of Sport and Exercise Psychology*, 25, 93-111.

Wylleman, P., & Lavallee, D. (2004). A developmental perspective on transitions faced by athletes. In M. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 507-527). Morgantown, WV: Fitness Information Technology.

FURTHER READING

Collins, D., Richards, H., & Button, A. (2012). *Psychology for Physical Performance*. Kidlington, Elsevier.

Baker, J., Cobley, S., & Schorer, J (2012). *Talent Identification and Development in Sport: International perspectives*. London, Routledge.

WEB LINKS

<http://www.sportni.net/NR/rdonlyres/991FF96E-C6DB-4700-A900-F4DF2732E81A/0/ParticipantDevelopmentinSport.pdf>

This link provides access to SportsCoachUK's 2010 report: 'Participant Development in Sport: An Academic Review'. It outlines the main research findings and provides clear implications for participant development in sport and/or physical activity involvement.

<http://www.sportscotland.org.uk/sportscotland/Documents/Resources/DevelopingthePotentialofYoungPeopleinSport.pdf>

This link provides access to a sportScotland report outlining a pilot project with young people aiming to provide them with the skills to fulfil their potential through a sport context.

Implications for all those involved with youth sport at any level.

BIOG

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