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INTRODUCTION

Coach development programmes and awards cover key knowledge, understanding and skills within the face-to-face course. This supplementary resource should enhance your learning experience by providing additional information that can be referred to throughout the Award and be retained for reference as/when needed.

UKA acknowledges that the principles of child development, and associated coaching implications need to be understood and applied by children’s coaches within their coaching programmes and sessions. In order that UKA children’s coaches have the best support to develop their knowledge and skills in this area, the following material has been produced to complement the face-to-face component of the Children’s Coach Award.

The content and structure of the resource that follows has been divided into the following sections:

1. Physical development
2. Cognitive and skill development
3. Social development
4. Emotional developmental
5. Summary

While each of these four areas of development will be examined separately, please remember that, in reality, any one aspect of child development cannot be totally divorced from another – they are interlinked. It is more helpful to think of child development holistically; about the child developing as an individual rather than in developing along four separate pathways. Put simply, if these four development pathways are thought of as cornerstones, or the foundation of subsequent development, then all four need to be ‘sound’ in order that the child develops into a healthy, well-adjusted individual. Lack of development in any one of the four may well be linked to detrimental issues in one or more of the others.

Each section will follow a similar format. Key aspects of that developmental pathway will be set out and explained. This will be accompanied by important messages for coaching practice so coaches should be able to appreciate not just what they should be doing when working with children but also the how and the why.

Please read and reflect on the material offered. Some material may be already known, understood and applied by you - if so, then you will appreciate that your current practice has been validated and reinforced. If there are other aspects that you find less well understood or applied, then please take the time to reflect on these aspects and how they might impact positively on your current coaching. Additional references have been supplied so that any topic or issue can be followed up and examined in greater detail.
SECTION 1: PHYSICAL DEVELOPMENT

If we agree that your key role is to develop children in and through athletics, then in terms of progressing children in athletics, your main aim is to support the development of athleticism. Before proceeding to examine children’s physical development it is useful to be reminded of what athleticism entails. Although there are several approaches to defining and explaining athleticism, common, identified components of athleticism are generally as follows:

- Balance
- Coordination
- Agility
- Speed
- Cardiovascular fitness
- Power
- Flexibility
- Endurance
- Reaction
- Stability

Now that we have reminded ourselves about the key components we are aiming to develop in children, let us look at how their bodies grow and develop in order to highlight key implications for our coaching practice.

The human body is highly complex. Understanding how the bodies of children between the ages of 8-12 years (covered by the Children’s Coach Award) mature and develop is of fundamental importance for you as a children’s coach. Young bodies come in all shapes and sizes and will grow and develop at different rates, at various times in their lives. Although chronological age is generally used to categorise children within sport and schooling, it is only one of four key ‘ages’ that UKA children’s coaches need to consider.

- **Chronological age** – age measured in years from date of birth
- **Biological age** – physical maturity
- **Developmental age** – cognitive, social and emotional maturity
- **Training age** – the number of years involved in formal structured training

Growth patterns and characteristics will also differ for boys and girls. Growth is the term used for quantitative increases in size, and weight (getting bigger) whereas development is used to denote a qualitative improvement in functioning (getting better).

Different training capabilities and adaption to training will vary among children and will certainly be markedly different to the capabilities and adaptations demonstrated by adults. As a consequence, coaches must be aware of where children are in their overall physical development when planning training activities and programmes so that they are developmentally appropriate. Understanding the following aspects should form a sound basis for your coaching:

- How the young body develops
- The basic structures of the body
- How these structures work together
- How the young body responds to exercise and training
Children do not grow at an even rate, with the most significant period being the ‘adolescent growth spurt’ that occurs around puberty. During this time children may grow up to 15cm over a two-year period. These periods of growth commonly start between 10 and 12 years in girls, and between 12 and 14 years in boys, although in both it may start later, or even earlier as some recent research has suggested. As a consequence, individual children with the same chronological age may be significantly advanced or delayed than peers in terms of their physical growth and development. The general pattern of growth can be simplified as:

- Rapid growth in infancy and early childhood (up to 6 years)
- Slow, steady growth in middle childhood (6-12 years)
- Rapid growth during puberty
- Gradual slowing down of growth in adolescence until the full adult height has been reached

Children’s coaches must appreciate the particular anatomical and physiological development that children will typically experience as they mature. Anatomical development refers to the structure of the body: the bones, muscles, ligaments, tendons etc. Physiological development relates to the functioning of the body in terms of its systems e.g. cardio-vascular, nervous and energy systems.

At school and in sport, children are traditionally grouped according to their chronological age. In terms of supporting their athletic development, you need to be aware how easy it is to fall into the trap of identifying the early developers as the talented and potentially more successful athletes. You need to ensure you adopt an inclusive and differentiated approach to your coaching; adapting programmes, sessions and activities so that all children can be realistically challenged and progressively improved within a developmentally appropriate learning environment. Whereas the early developer may well go on to continue participating in athletics and achieving competitive success, the late developer could also have a lifetime of fulfilling participation in athletics and achieve high level success if provided with the same encouragement and support.
Anatomical Development

Skeletal development is quite readily observed with the changes in size and proportion during childhood and adolescence such as described earlier. A skeleton is a system of bones and other material that supports and protects the body and facilitates movement by providing an anchorage for muscles. In turn, muscles fixed to the skeleton can operate joints that allow us not only to move parts of the body with a high degree of precision and control but also to move the body as a whole.

The skeleton of a child is mostly made up of a tough flexible substance called cartilage, which is softer than bone and can bend. The gristle you can feel in your ears and at the end of your nose is cartilage that doesn’t change to bone. The process by which cartilage becomes bone begins very early in life. The varying rates of bone and soft tissue growth must be considered when planning training programmes and activities. Too much stress on particular areas of the skeleton can produce a number of well known injury problems that you need to be aware of and understand. You also need to appreciate that training programmes, which might be suitable for adults, are often completely inappropriate for children, and can do long-term lasting damage to bones and soft tissue that have not yet reached maturity.

Training programmes that include the following, require careful prescription and monitoring to ensure that all the children are improving and remain clear of overuse injuries, otherwise it may have a detrimental effect on their growing, developing bodies:

- **prolonged activity** – where requirement to keep going exceeds the child’s capacity and goes beyond the limits of their individual training threshold
- **repetitive activity** – where the same action and muscle group are exercised to an extent that may result in overuse or muscle imbalance injury
- **impact activities** – particularly in running and bounding activities on hard surfaces
- **high speed** – especially when activities require high speed actions without appropriate warm-up or to be repeated without sufficient rest/recovery time
- **work one set of muscles** e.g. thigh (quadriceps) to the detriment of others e.g. hamstring – as explained in ‘repetitive activity’ above, this may result in imbalance injury

All these types of activities will be incorporated into children’s coaching programmes at one time or another. They are actually necessary for children to develop their athleticism. However, it is when such activities are presented inappropriately or when combined e.g. prolonged, repetitive, high speed, impact activities such as bounding, then the chances of injury are likely to increase. The simple principle here is that children’s coaches should be planning and coaching broad and balanced training programmes that exercise the whole body and cover a wide variety of running, jumping and throwing activities. This not only helps to produce all round athleticism in children, which includes skill development as well as physical conditioning, but also helps to minimise the chances of injury occurring by placing young, developing bodies under undue stress.
To perform a typical athletic action, groups of muscles need to work in a coordinated manner. In terms of relevance for athletics coaches, two types of muscle fibres have been identified; commonly referred to as Fast Twitch and Slow Twitch fibres. As implied by the names, Fast Twitch fibres are characterised by a high speed of contraction but a relatively low endurance capacity whereas Slow Twitch fibres have a greater endurance capacity but a relatively slow action. Traditionally, it was thought that the relative proportion of these fibres was genetically set and could not be changed. The implication of this was translated into phrases like ‘sprinters are born, not made’ and ‘you can’t turn a tortoise into a hare’.

Whereas genetic endowment is no doubt a significant factor, this does not mean that training and skill development couldn’t make children faster or improve their endurance, regardless of their particular muscle type. Developmentally appropriate programmes will help develop the nervous system and coordinate actions more efficiently, which will support the development of speed and endurance.

The Central Nervous System (CNS) is the brain and the spinal cord. The Peripheral Nervous System is the network of nerves that branch off the spinal cord and transmit signals from the CNS to all parts of the body. The actual contraction process of a muscle fibre is started when it receives a nervous impulse, which is an electrical signal carried by the nerve cells. Your muscles act when they receive signals from the CNS. The nervous system’s signal to the muscle determines the number of individual fibres that contract. The nervous system allows coordinated movements of the body and acts as a two-way system. In addition to the signals coming from the brain to the muscles, there is information going back to the brain about how fast and with what force a muscle is contracting and the position of the body and its various parts.

Although physical conditioning of children is important, children’s coaches need to be fundamentally concerned with providing the right type of environment and training to support the development of coordinated actions, sound technical movements and the application of technique to skill where and when appropriate. Focusing on the action (how the movement is performed) rather than the outcome (what happens as a consequence of the action) will be a useful strategy for the coach to adopt. Variability of practice is important e.g. children need to experience a wide variety of throwing, jumping and running actions. In any activities aimed at developing endurance, coaches need to ensure that they are not subjecting children’s young, growing bodies to prolonged exercise too early in the belief that this early specialisation is necessary for future development. Such early specialisation in endurance activities may well result in injury.

Using appropriate adapted implements and equipment, should allow a foundation upon which more athletic specific actions can be learnt - when appropriate to their individual development stage. This is particularly valuable in developing throwing skills where children can develop good, basic throwing techniques using a variety of implements including adapted equipment that are both safe and able to be used indoors.
Physiological Development

As children grow and increase their activity levels, their need for energy grows. Exercise physiology is the study of how the body functions and the changes that occur as a result of regular physical activity. When you know how the body produces the energy for muscular contractions you will be able to plan more effective training for children. In particular, you need to be very aware that a young, developing body has different characteristics from adults in terms of the way it copes with and manages demands for energy.

Children do not tolerate exercise physiologically as well as adults, and are much less aware of their real limits. Their feedback systems are not as mature as adults, so although they may feel ready for more exercise after a very short rest, you may need to intervene to stop them, or slow them down, to avoid them becoming exhausted. Because children breathe more quickly than adults, they lose water more quickly. However, as they are still learning how to respond to the effects of exercise they are unlikely to recognise the need to drink sufficient fluids. In addition, because their bodies are much smaller they are more sensitive to heat and cold.

Ensure that children are always dressed appropriately in relation to the temperature, take breaks where appropriate and instil good drinking habits as early as possible.
Muscles work like engines by burning fuel to produce movement.

They are energy converters, changing the chemical energy in the food we eat into the energy of movement. This chemical or metabolic energy of movement can be produced in different ways by three distinct energy systems that operate in our bodies and provide the energy we need to contract muscles. These energy systems operate continuously and it is the duration and intensity of the physical activity that determines which system contributes most. The three energy systems are:

- **The Aerobic System:** requiring oxygen to operate
- **The Lactate System:** the ‘linking’ energy system that is capable of operating without oxygen and produces lactate and acid
- **The Alactic System:** the stored, start-up energy system which is capable of operating without oxygen, but does not produce lactate or acid.

Although these three energy systems are distinct they actually work together continuously to provide the energy needed for movement. There is no automatic ‘switch’ inside of our bodies that suddenly flicks from one system to another. The following diagram illustrates the contribution of the three energy systems over time, assuming that the athlete is trying to perform at their optimal intensity for the duration of the activity. The word ‘optimal’, in this use, means the most intense performance that the athlete can maintain for the duration of the activity. You will see that the ‘Time arrow’ is not continuous but broken at 10 seconds and approximately 3 minutes so that the important changes in emphasis can be more clearly shown.

The aerobic-alactic split refers to how much the aerobic and alactic energy systems are emphasised in a particular activity. Long distance endurance athletes, for example, produce most of their energy aerobically and with the lactate system; while sprinters, hurdlers, jumpers and throwers depend more on the alactic system for their events.

In the early stages of athletic development (Fundamentals, Foundation and Event Group Development stages) there should be a general development of all the energy systems. As the athlete enters the Specialisation and Performance stages the development of the energy systems can shift to those emphasised in an athlete’s chosen event.
The cardio-respiratory system is responsible for getting oxygen, fuel and nutrients to the working muscles. It is also used for taking waste products away from the muscles. It consists of the lungs, heart, blood vessels and blood. Compared to adults, children need to breathe more air to get the same amount of oxygen. This means that young children must work much harder than adolescents or adults to provide the oxygen their muscles need. A child’s small heart means that less blood is pumped at every heart beat. As a consequence a child’s heart has to beat faster to meet the demands of the exercise.

When running, the younger the child, the harder they have to work, relatively, to keep up with even ‘slow’ older runners on a training run. However, young children incur less of an oxygen deficit at the beginning of exercise - i.e. they get their ‘second wind’ quicker. Since this oxygen deficit is less, they tend to recover quicker.

All the preceding information can be summarised in that well known phrase ‘children are not mini adults’. As a children’s coach your aim is to produce a developmental programme that matches the physical needs of children and challenges their growing bodies in ways that benefit them with minimum risk of injury. Knowing how children develop physically is key to coaching effectively and progressing the general and sport-specific fitness of children. If you appreciate that children are fundamentally different from adults in terms of their physical capacities then there is less chance that their growing, developing bodies will be subjected to inappropriate activities and training loads.
SECTION 2: COGNITIVE AND SKILL DEVELOPMENT

Cognition refers to the area of psychology that has to do with all aspects of thinking. How children acquire knowledge; how that knowledge is stored and how we modify that knowledge are all issues that we need to be concerned with as children’s coaches. We need to appreciate that, as with all aspects of development, one child in your group may differ significantly from another in many of the cognitive processes that are necessary to developing athleticism. How a child’s cognitive capacities change with age is a particular area of interest for children’s coaches.

We now appreciate that there is much more development of cognitive processes in the early years of life than first thought. However, there is also a huge amount of cognitive development that occurs after infancy and the pre-school years. During primary school and into adolescence, almost all aspects of cognition evidence significant development, e.g. attention, perception, memory, formulating concepts, problem-solving and reasoning, all of which have important implications for learning practical activities such as athletics.
How Children Learn

Learning and development in athletics requires children to pay attention, to observe, to remember, to understand, to set goals and to assume responsibility for their own learning. These activities are not possible without the child’s active involvement and engagement. Coaches should aim to help children become active and goal oriented learners by building on their natural desire to explore, to understand new things and to achieve and master challenges. Children should not be passive listeners for long periods of time. Encouraging participation through a guided discovery approach, group discussions and allowing children to take some control over their own learning is valuable.

Social participation, within a cooperative and collaborative environment, is a key activity through which learning occurs. Social collaboration can boost children’s achievement, provided that the kinds of interactions that are encouraged contribute to learning. Coaches can use social participation to facilitate learning by:

- allowing children to work in groups and then assuming the role of a facilitator or coordinator (rather than director) providing guidance and support to the groups
- through modelling and coaching, they can teach children how to help each other and collaborate effectively
- creating circumstances for children to interact with each other, to express their opinions and to evaluate each other’s input and performance

Children learn best when they feel that what they are learning has some relevance and meaning for them in terms of relating to their own life and development. Athletics coaches have a distinct advantage here in that running, jumping and throwing form the basis for many other activities and sports. Coaches should highlight and reinforce the importance of the skills they are trying to develop. Coaches need to explain that, even if the child chooses to develop their interests elsewhere, the skills and physical conditioning that they are developing within their athletics programme will be valuable for a whole host of other activities. It is also useful for coaches to explain the relevance of particular activities so children understand why they are doing certain drills and how these relate to the bigger picture of an actual event or overall development.

When introducing a new skill or activity, you will find that you can accelerate children’s learning if you relate what you are about to do to something similar that you know they have previously experienced. Building on past experience means that new skills and knowledge is constructed on the basis of what is already known, understood and acquired – a sound approach to children’s learning.
Children will generally learn by using strategies that they have developed and have found to be effective. They may do this by memorising key, cue words or visualising actions so if you can help them develop effective learning strategies then you will have helped them well beyond their athletics experience. In addition to helping children evolve effective learning strategies, encouraging them to monitor and assess their achievements and progress e.g. through the Athletics 365 resource, is particularly valuable. Supporting them to check their understanding, correct mistakes themselves and reflect on their development will help with their learning.

It should almost go without saying that children need a significant amount of time devoted to practice in order to learn and develop any level of expertise. Coaches need to be patient and not expect overnight gains in development – although some talented and gifted children may evidence accelerated learning. Try not to focus on too many different things at once and ensure that children have time to consolidate their skills before moving on. A useful strategy is to engage parents in what you are doing within the athletics programme so that they might be able to supplement and complement what you are doing.

All of the previous aspects build towards creating a really motivated learner – and it is self-evident that motivated children will learn best. As a coach you can enhance children’s motivation by what you say and do e.g.

- phrasing your feedback positively
- recognising and celebrating their effort, achievements and progress
- setting realistic challenges
- providing a varied and interesting range of activities

[Much of this section was based on and adapted from material to be found at http://www.ibe.unesco.org/fileadmin/user_upload/archive/publications/EducationalPracticesSeriesPdf/prac07e.pdf].

A recurrent theme throughout this resource is that children will learn best when their individual differences are take in to account. Presenting children with a developmentally appropriate athletics programme that interests, motivates and engages them at both an individual and group level is key to success. However, this is no easy task, but it all starts with you as the coach getting to know the children as individuals. You will then be able to identify and appreciate their differences, factoring these into the way you plan and coach the sessions and programme.
Children and the Processing of Information

Although there are different theoretical perspectives about cognitive development, a key framework for children’s coaches to understand is called ‘information processing’. It is based on an analogy between how a growing child would process information and how this is done by a computer. To simplify and summarise this: the child receives information through his or her senses – in relation to athletics this would be mainly through vision, hearing and kinaesthetic sense (the ‘feel’ of an action developed from practice, repetition and focus). The information is then processed, a decision made and an action executed. Obviously the key parts of this process, the ‘learning’ if you like, are stored in the memory so that decisions can be made more quickly and actions performed more efficiently on the basis of past experience. Thinking about the feedback (internal and external) obtained from an action will then feed forward to the next time the same, or a similar, activity is attempted. A basic diagram depicting this process is shown below.

The Information Processing Model
The three boxes represent what is happening in the central nervous system (CNS), which is the brain and spinal column. The three arrows at the stimulus represent the various sources of information that might be picked up e.g. see something, hear something and feel something at the same time. Through a process that has been termed ‘selective attention’, the child will focus on the most important aspects and ‘filter out’ the less relevant. This information is processed and a decision made based on past experience. This decision is then actioned via electric impulses from the CNS out to the peripheral nervous system where muscles are activated and an appropriate action produced. Once the action has been executed, feedback will be available and this information will inform subsequent actions.

Obviously, the faster and more precise these impulses are, the better we are at performing complex physical or cognitive tasks. During the maturation process, changes in the neurological system have an impact upon a child’s skill development, the control of both fine and gross motor abilities and overall physical competence. The process of myelination is an important factor here. This relates to the development of a myelin sheath around the nerve fibres, which plays a similar role as an insulation layer around electric wires, helping electrical impulses to travel efficiently. As this sheath becomes thicker through maturation and repeated stimulation, the faster and more accurately the impulses can travel. As the child matures, and as repetitive use of connections and signal pathways is made through practice, so the layers of myelin will increase. If we return to the computer analogy, it is as if a child’s processing capacity is much like one of the very first computers or internet connections achieved through an ordinary phone line, whereas an adult’s is like the new generation of computer processors or a high speed broadband internet connection. Visit http://thetalentcode.com/myelin/ for additional detail on this topic.

In summary, the key issues for children when processing information is that they:

- lack experience - so will not necessarily know the correct cue(s) to focus on or have a well developed ‘movement memory’ on which to rely
- do not have a fully developed processing system
- will be slower at processing information, arriving at a decision and executing an action
- will not necessarily be able to pick up or focus on appropriate feedback
In addition to the limitations that children will experience in terms of processing information, they will also take time and need the support and patience of their coaches to develop efficient, coordinated action. Children generally will not demonstrate well developed muscle sense or body awareness till about the age of 8 years. As with all such guidelines, there will be some variation here, with many children not developing their body awareness till later and some being quite well coordinated at a younger age. This means that coaches need to expect quite a wide variation in the coordination of children in the 8-12 years age range. One of the coach's main tasks is to help enhance the coordination of children to execute actions efficiently.

There are several key messages from this section. Ensure that you help children:

- identify and attend to what the key cues (internal or external) are for them to pick out e.g. feeling for full joint extension at elbow when throwing for distance or taking note of where a projectile lands
- see similarities between a new task/action and a similar one with which they are more familiar e.g. likening how leg drive is coordinated with arm action in a football throw-in or in a basketball shot to throwing for distance in field events
- by allowing them sufficient time to process information and space to execute actions, particularly when learning a new skill e.g. when learning to throw for distance, establishing the standing throw first, then some slow/medium paced movement into the throw before speeding up the initial movement leading into the throw
- by ensuring that your own feedback on an action is focused on the most important aspect (1 or 2 points at the most; remember the KISS Principle – Keep It Short and Simple) and is phrased positively; also that you gradually introduce the children to focus on the ‘feel’ of the movement as they progress and gain more experience
SECTION 3: SOCIAL DEVELOPMENT

As they grow and mature, children are constantly learning about their world and how to get along with others. Children will want to connect with others, which motivates them to learn and gives them confidence to try new things. Children’s social development is closely related to their emotional development. If they can control feelings, such as anger or excitement, they are more likely to be able to engage in positive play with other children and negotiate difficulties with others when they arise. Equally, children who understand the feelings of others will be better able to be sensitive to the needs of other children during play and structured learning activities.

Children of different ages, backgrounds and personalities experience different challenges in developing social skills. Some children in your athletics groups will make friends easily and others less so. Some children will be shy and others outgoing. Sometimes children have no trouble developing some social skills but do have difficulty with others. As a coach you should try to observe the children in different social situations and note how they manage e.g. when working individually and with others; when achieving success and experiencing difficulties or failure. Ask yourself if they seem different in these various settings; whether they appear to lack confidence; if they need help to join in; what seems to come easily and what they are finding more difficult. Also, you should be modelling the social behaviour that you’d like the children in your groups to adopt.

Before setting out key aspects of children’s social development and implications for coaching, it’s useful to remember that children will belong to, and be influenced by, different social groups. These key influences are generally, the child’s family, their school and their friends. These will all make different demands on children and have an impact on their development. To really understand the children they coach, coaches need to be aware of these key influences and how they may be affecting the child’s attitudes, attendance, behaviour and performance. In the next section, we will examine the reasons why children take part in sport, but one important reason is for friendship – simply to be with their friends and be accepted.
Children like to identify with, and feel that they belong to, a group. Although most formal athletics events are focused on individual effort and competition, children’s coaches should look to make the most of children’s desire to play and work with friends as well as provide opportunities for making new friends and extending their peer group.

In terms of identifying stages of social development, Erikson set out the stage from approximately six years to puberty as being characterized by the period in a child’s life where school experiences come to the fore. During this stage, children begin taking a pride in planning and completing tasks. Encouragement from parents, teachers and coaches will help to build a child’s confidence and self-esteem, so helping them to interact positively with those around them. Indeed, support from parents/carers has been shown to be the key determinant of success in all sports.

As explained earlier, it is not useful to think of a child developing within a number of distinct areas of development. These developmental areas will be interlinked and interdependent. A good example of this is the link between social development and learning. For example, talking and social interaction among children plays a key role in children’s social development and learning. Social development influences patterns of interaction, which in turn affect learning, the development of ways of thinking and social development itself.

When working with your group of young children, you need to appreciate that social interaction and collaborative activity among children can provide valuable, complementary and distinctive opportunities for learning and cognitive development. This notion may challenge and even contradict the traditional ‘tell’ approach to coaching where children talking to each other and engaging in social interaction is seen as peripheral, irrelevant or even disruptive to learning.

To help children relate to, and interact with, each other in sessions, you should be aware of friendships and the lack of friendship among the children. You should encourage group work so children have the opportunity to work with their friends but also to mix with others. You need to appreciate that they will like to talk to each other, while making them aware of the potential disruption this may cause if done in the wrong way or at the wrong time. Reassure them that they will have time to catch up with friends at any breaks you have planned – remembering that breaks are particularly appropriate for young children when participating in vigorous physical activity.

Setting up some partner or small group challenges that involve children having to discuss and set up their own activities/games, explore options and decide on best strategies could play a significant part in developing key social skills. This guided discovery approach will help children to develop skills that will be vital to their continuing participation and improvement in athletics as well as in their overall development. Activities such as a group’s furthest, combined standing long jump, using at least three different jumps within the team, would promote such discussion – but only if structured effectively and not allowed to become more of a discussion activity than a practical experience.
Children’s coaches should be acutely aware that they can play a much wider role in children’s lives and development over and above that of improving athleticism. If, through well-structured athletics coaching, they can positively influence children’s overall learning and social development, then surely the value of the sport and the benefits it can claim, is enhanced.

Much research has been undertaken in schools on the educational value of collaborative learning, the benefits of which have been clearly demonstrated. Encouraging children to pursue joint goals, explain their understanding, express different points of view and attempt to reach agreement through discussion have all been found to help learning and understanding. **Just take a minute to think about to what extent such activities figure in your coaching sessions.** Research in schools on collaborative learning across a number of educational subjects supports the principle that joint activity among children should be a central aspect of classroom life. However, actual observations in primary classrooms, suggest that children seldom have the opportunity to engage in productive social interaction. In these observations, it was found that activities in pairs or small groups were rarely prepared or organised effectively. If some trained teachers are struggling to structure learning to enhance social development then there is an important message here for coaches. The more we think about what we are really trying to achieve in our sessions and programmes, then prepare content and structure accordingly, the more likely children are to benefit fully from their early experience in athletics.

Although it may make uncomfortable reading for many coaches who are convinced of the value of competition, research on the effects of competition and rewards that are intended to promote learning and enhance motivation is actually inconclusive. Educational research has shown that cooperation without competition tended to lead to better attitudes, more positive inter-personal relationships and a more effective exchange of ideas and information. Children can interact more productively when tasks are appropriately designed, and structured to encourage the development and use of ground rules within collaborative group work. Positive interaction among children depends on how the children talk amongst themselves in their groups. In particular, it is likely to have the greatest positive effect when the talking involves the children in sharing, challenging and evaluating each other’s contributions and views.
In terms of grouping on the basis of friendship, friends working together are more likely than non-friends to engage in positive interaction where knowledge is being shared, ideas are challenged, evidence is weighed up and options are thought through. There is much more to effective grouping of children than just friendship, as friendships can sometimes have a negative impact on learning. However, as will be explained later in this section, research does suggest that raising children’s awareness of how to interact productively leads to more inclusive activity and to individual learning gains.

A child’s developmental stage, gender, temperament and the social relations between group members can affect the ways in which children engage in joint activity, so ensure you put some thought into how you group children – a topic that will be covered in more detail later. Another key aspect that is particularly relevant for athletics coaches is the situational factor of whether a competitive or co-operative environment has been created. Coaches need to take such factors into account when organising collaborative and competitive activities.

It is most useful to think of competition as having no value in itself. The old saying about ‘it’s not what you do, it’s the way that you do it – that’s what gets results’, is certainly true in terms of the role of competition in children’s athletics. A child simply participating in an activity will not guarantee that any specific benefit will be gained. This is more likely to be achieved if the activity has been carefully thought through and structured in order to maximise the chances of a particular benefit occurring. For example, if you want to make sure that children pool their combined ideas in designing and presenting their own activities/games then it would be useful to give each child within the group a particular role so that one child doesn’t simply dominate the group and the rest just follow instructions.
Grouping Children

Typically in the UK, as with most other countries, we tend to group children in school and in sport by their chronological age. However, as we pointed out in Section 1, there are actually three other key ‘ages’ in a child: developmental age, biological age and training age.

The use of chronological age as the only way of grouping children, or classifying them for competition, often does not allow children who mature later to participate at an appropriate level for their maturity. To put it simply, children’s biological clocks run at different rates so children of the same chronological age may vary widely in physical maturity. Children who are twelve years old chronologically, for example, may vary as much as four or five years in physical maturity, and differ by as much as ninety pounds in weight and fifteen inches in height. These differences will give children who mature early substantial advantages in athletics.

Children will also differ in their social, psychological and emotional maturity, which will influence their preference for the intensity of competition that is presented. Some children will prefer to take part in highly competitive athletics activities, while others will prefer less competitive and more cooperative activities. Although obvious, it’s worth reminding ourselves that children of similar physical, psychological and emotional maturity will also vary substantially in terms of their capabilities. Some will be very well coordinated for their age while others may appear quite clumsy and awkward. If children who vary widely in maturity and capability compete directly against each other in the same activity, the children who mature later and are less skilled have probably been set up to fail. If this is the outcome, they are then open to ridicule from others and may be less likely to be accepted into certain peer groups.
Apart from chronological age, other grouping strategies that can be used are:

- developmental age
- height
- friendship
- training age
- weight
- random selection
- sex
- capability

In athletics, certain activities seem to suggest or lend themselves to particular groupings, e.g. grouping by a combination of height and weight in throwing activities, but it is never quite as simple as it may seem. Traditionally, boys and girls were commonly put into separate groups for physical activities.

Please remember that during the primary school years, there is generally no physical reason to separate boys from girls for athletics activities, simply because they are male or female.

**COACHING NOTE**

To ensure that children participate at a level appropriate to their stage of development, you should provide competitive activities, sessions and programmes of varying intensities throughout their time with you as coach. There is only one ‘golden rule’ in terms of grouping children in athletics – you should group children in a way that is appropriate for them to maximise their chances of learning and developing safely, enjoyably and effectively.

There is no one ‘best way’ of grouping children as this will depend on the nature of the group, the individual children within the group, the activities being undertaken and the intended outcome(s) of the activity.

You can achieve better matching of children within your athletics programme by reducing the age range within each level and by using any combination of the strategies set out previously as you think appropriate as a ‘best fit’. Better matching can also occur when those who coordinate competitions have the flexibility to move children of widely varying maturity and capability into lower or higher levels of competition as appropriate. This method might provoke considerable controversy if winning was the primary objective, but it would be in line with the athletics programmes that really do apply and practice the ‘child first, winning second’ philosophy.
SECTION 4: EMOTIONAL DEVELOPMENT

Children’s emotional development refers to a child’s developing ability to:

- identify and understand their own feelings
- accurately read, understand and respond to the feelings of others
- manage the way they feel
- shape the way they behave
- develop empathy for others
- develop and maintain good relationships with friends, family and others

Generally, when children start school, they have become more aware of their own feelings and the feelings of others. They are able to link their thoughts and feelings and use words to describe their feelings, so they become better at changing and shaping the way they feel. Developing greater control over their emotions is very important as it means they are more likely to tolerate their own frustration better when not able to meet a challenge and are able to calm themselves down when becoming excited. Obviously, parents are the key people in supporting children’s emotional development but coaches need to be aware of how children develop emotionally; how their emotional development can impact on their athletics experience and how a good athletics coaching experience can support positive emotional development in children.

COACHING NOTE

At every opportunity, praise children for staying calm and not losing control when under pressure, such as when experiencing problems in meeting a challenge. Help children to separate their feelings from their actual behaviour, for example when another child does something unacceptable to them, they may rightly feel aggrieved and angry. By explaining that you know they are feeling angry, but that it is not acceptable to hit out/swear etc at the other child should help them appreciate this separation. Similarly when feeling like giving up in the face of a prolonged lack of success, you can explain that you understand why they might feel like giving up but that, you’re sure with a bit of help and effort, they will achieve success. Coaches can also help children to understand the difference between their own and other people’s feelings. For example, in a group task where a child is obviously feeling frustrated and ‘acting up’, you can explain that you understand why they are so frustrated but also point out that what they are doing is making the rest of the group angry and frustrated. Such strategies can also go a long way to encouraging positive behaviour.
Motivation

When asked why they participate in sport, children (up to 12 yrs) generally mention multiple reasons and identify the following specific motivations:

1. to improve their skills and learn new ones
2. to have fun
3. health/fitness
4. friends/peers
5. parents

In terms of the first four of these reasons, you as their athletics coach should be able to identify and use strategies to build on these motivations to produce sessions and programmes that are fun, active, engaging and effective. Because you cannot pick or directly control your children’s parents, you might think that this last reason is largely irrelevant for you to consider. Knowing the children’s background, understanding their parents’ reasons for encouraging participation in athletics, and any parental concerns, will be central to your role as a coach. This will help ensure that the child’s experience in athletics is as beneficial as possible. Any ‘mixed messages’ or contradictory values between coach and parents bring the potential to impact negatively on the child’s experience, progress and development.

Let’s return to the first reason identified – to improve skills and learn new ones. In order to maximise the opportunities that children have to develop their skills, you will need to understand what is involved in differentiating your programme, sessions and the activities within them. Differentiation is a common principle and strategy within education and sport that aims to maximise the learning and achievements of individual children by:

- recognising that most groups contain children with a variety of needs, interests and capabilities
- planning to meet these different needs, interests and capabilities
- providing appropriate coaching and evaluation of activities in relation to the specific needs, interests and capabilities

Traditionally, when observing a typical group coaching session in most sports, you would have observed all or most of the children doing the same activity at the same time. This could be summed up as ‘the group session’, aimed at the ‘average child’. Although many athletics coaches have developed their practice to be more inclusive and to tailor their sessions to the particular children within each group, we still see many ‘group sessions’ that show little evidence of being adapted to the specific needs, interests and capabilities of the children within the group. Without an inclusive and differentiated approach to your coaching, it is difficult to make any claims about helping children to improve their skills and learn new ones in a really effective way. As the desire to feel competent is such a strong motivating force in young children and is linked with important emotions such as feeling in control, confident and happy with yourself, then helping children to achieve and progress their athleticism needs to be a fundamental coaching aim.
In fulfilling the motivation to improve skills and learn new ones, your ability as a coach to set appropriate activities, challenges and goals for children will be of fundamental importance. These goals should focus on the child’s performance rather than, for example, the outcome of a competitive event and be differentiated in relation to children’s varying needs, interests and stage of development. As they develop, children can be involved to a greater extent in discussing and agreeing appropriate goals. Your sessions should be inclusive to ensure all children feel they are contributing positively and achieving some measure of success. Using such approaches will help maximise the chances of children achieving and motivation being enhanced.

To produce sessions that satisfy these criteria, you’ll need to ensure that you assess the children you are coaching by observing and talking to them about their behaviours and performances and noting their ‘starting point’ in order that you’ll be able to monitor, evaluate and celebrate their progress and achievements.

You can differentiate by task, which means by planning and presenting a number of different activities/tasks of varying difficulty. Children then choose or are directed to the task that matches their capabilities. For example when setting up an introductory hurdles grid activity involving running over cones on the ground. To reinforce the running nature of the event and to establish consistent pacing, the cones would be set down channels with each channel having a different distance between each cone. Children could then be directed to an appropriate channel depending on leg/stride length or could be asked to experiment with different channels to find the best fit for them. This links with the STEP approach and principles covered in the programme.

You can also differentiate by outcome, which involves setting a challenge that each child responds to in a way that challenges their individual capabilities. For example, in exploring and developing their jumping skills, each child could stand behind a line with a cone in their hand to mark their landing point. From a standing start, they could see how far they could get using different types and combinations of jumps with the outcome being to see how far they can jump, not what specific standard they can achieve or who they can beat.

Finally you can differentiate by the support you offer. For example, when setting up an activity, you may first check on the children who you feel need more help in the initial stage before moving off to support others. Another example is in terms of the feedback and instruction you offer, ensuring that you focus on what is most important for that child/group at that stage of their development, which may well differ from child to child and group to group.

Specific differentiation strategies include how you organise your sessions in terms of grouping, space, specific roles, and group interaction. How you coach the session in terms of the methods and resources you use, your response to children’s behaviours and performances and the support you provide. The actual content of the session in terms of the tasks set, pace of the session, level of challenge and practice style e.g. individual, partner/peer coaching, structured/unstructured.

Remember to make use of the STEP approach, which involves making activities easier or harder by changing Space, Time, Equipment and People as appropriate.

COACHING NOTE
A key consideration in relation to coaching children is the extent to which they are externally or internally motivated – what psychologists call extrinsic and intrinsic motivation. Extrinsic motivation refers to participating to gain some kind of external reward, whereas intrinsic motivation describes participation for the sheer fun, enjoyment or pleasure gained from the sport or activity itself.

Children like to feel competent, in control and able to solve tasks. Up until about the age of ten years, a child needs to become competent and demonstrate competence is an intrinsic motivation - they do it for their own satisfaction. At about ten years of age, children begin to develop a desire to demonstrate competence to others, particularly their friends.

Although many children will find external rewards motivating, encouraging children to be intrinsically motivated is the better option as they are then more likely to continue participating and demonstrate persistence when not winning or receiving external rewards. Such children will tend to stay in athletics longer, because the motivation is in the enjoyment and pleasure they derive from the sport. An over-reliance on external rewards can lead to children dropping out if they go through a period when they do not achieve the level of success necessary to trigger external rewards. This links with the task and ego orientation issue covered within the programme and reinforced below, where we identified that coaches should aim to produce a task oriented environment within their sessions and programmes. Also, by fostering intrinsic motivation, you are minimising the chances of children being disruptive within sessions.

Coaches will usually praise good performances, achievement, and success, but we need to remember and praise effort. When a coach praises a child for their effort, this provides information, not just a reward. The child then knows that they have achieved their goal of putting all their effort into the activity. When competing against others, the outcome of any athletic event or activity is usually not totally under the control of the child. The outcome, e.g. winning, coming fourth, failing to qualify etc will be decided by numerous factors such as who the child is competing against, environmental conditions and performance levels on the day. Effort is the one key factor over which the child has control, so if coaches continually praise children for their efforts, this reinforces that, whatever the outcome, satisfaction can be gained from the effort put into ‘doing your best’.
Effort and Ability

Young children have difficulty in differentiating between effort and ability. They find it difficult to tell the difference between a person who simply tries hard to achieve something and someone who can achieve the same goal simply because of their ability at that activity. So when young children succeed in competitive situations, they will not really be sure why they won; whether it was due to putting in more effort or because they have a greater ability.

At about 10-12 years of age, children begin to learn that some people achieve success at certain activities with very little apparent effort while others can only achieve the same or a similar level of achievement by putting in lots of hard work and effort. Begin to differentiate between effort and ability until, at around 12 years of age, effort is usually understood to be the main ingredient of achievement and success that is under the child’s control. Generally, children will come to identify effort as a key factor in achieving goals whereas ability is viewed more as a limiting aspect. Unfortunately, some coaches may make assumptions about a child’s lack of ability such as when observing a late developer performing alongside peers or when working with a child who is going through a rapid growth spurt and appears clumsy and awkward. If the coach has a good understanding of child development then there is less chance that such flawed assumptions are made.

A key difference in children that coaches should be aware of is their psychological orientation. Although children will rarely be totally one or the other of the following types; most will possess varying degrees of both:

• Ego orientated children – may not be able to recognise their capabilities as a limiting factor and may blame any lack of achievement or success on not being good enough. Such children will have no motivational issues when they are not winning or achieving, but when they are not losing or not achieving, they find it difficult to apply themselves and think their failure is because of a lack of ability. This orientation means that such children tend to be concerned with how well they do and how good their ability is in relation to others
• Task orientated children – see that effort can be a measure of achievement and success; they tend to participate in sport to enjoy and master the tasks and are only concerned about the amount of effort they exert. Children like this, who are interested in the task and put in a lot of effort, regardless of whether or not they want to win are likely to feel more satisfied and persist in sport

Focus your planning and coaching on producing a task orientation in children by creating a learning environment and motivational climate that encourages children to focus on effort rather than on comparing themselves with others. How practice and training sessions are conducted has a significant influence on whether a child will adopt an ego or task achievement orientation. When you are coaching, ensuring that words such as “effort”, “trying”, “improvement” and “progress” are used will help to create a more positive learning climate when accompanied by praise and reinforcement for children demonstrating these key aspects.
To sum up, an extract from a table in Coaching Children and Young Performers, identifies the key points. This table summarises how children perceive or develop competence, independence and effort/ability as well as highlighting some key action points for coaches.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Competence – being good at a sport</th>
<th>Independence – doing things for themselves</th>
<th>Perceptions of Effort and Ability</th>
<th>Action Points for Coaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young children</td>
<td>Try to see how they can master skills for themselves.</td>
<td>Like to try things out and practise on their own even if they are not successful.</td>
<td>Have difficulty seeing the difference between effort and ability.</td>
<td>Coaches should: provide varied, less physically demanding practices; encourage children to put as much effort in as they want.</td>
</tr>
<tr>
<td>7-10 years</td>
<td>Quickly tire and move on if they are not successful.</td>
<td>Can tire easily of monotonous tasks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-adolescents</td>
<td>Often form friendships due to common competencies.</td>
<td>Become increasingly reliant on the coach, especially when new techniques are being learnt.</td>
<td>Begin to realise that some try harder than others but fail to equate this with superior ability.</td>
<td>Coaches should: begin to see the differences in ability and discreetly match groups with equal ability; make practices varied; reward effort.</td>
</tr>
<tr>
<td>10-12 years</td>
<td>Become more concerned with being better than their peers or friends.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Table 1 (p13) of Coaching Children and Young Performers.
Emotional and Behavioural Issues

One key issue that coaches continually face is the challenging behaviour that some children exhibit in sessions. Young children are still developing control over their emotions and eventually this will result in much greater emotional stability as a mature adult. However, while they are developing this control, it is likely that, from time-to-time, even the most well behaved child may exhibit an emotional outburst during a session that their coach will need to manage. As this is only a brief, supplementary resource to accompany the Children’s Coach Award, we cannot address this topic in any great depth. However, if dealing with challenging behaviour is an issue for you or of particular interest, a useful resource entitled Positive Behaviour Management in Sport has been produced by sports coach UK to accompany a three-hour workshop of the same name. Also as part of the Coaching Assistant workshop you will have covered some tasks relating to this topic. You can find this information on uCoach under the Coaching Assistant section: Coaching Assistant Manual - pages 53 to 55.

To put it simply, we can look at this topic from the aspects of what might be called ‘prevention’ and ‘cure’. Prevention covers those steps that coaches can take to minimise the chances of disruptive behaviour occurring and the cure aspect addresses what coaches can do when faced with incidents of disruptive or challenging behaviour. Obviously, a session that is well planned and prepared on the basis of knowing the children within the group should have addressed many factors that would be covered within the prevention category. Planning active, progressive sessions will go a long way towards minimising the chances of disruptive behaviour occurring within your sessions by providing:

- efficient transitions from one activity to the next
- very little queuing
- appropriately differentiated activities and strategies to account for the various needs, interests, capabilities and developmental stages of the children in the group

If coaches appreciate that many incidents of children’s bad behaviour are actually a result of ineffective engagement; perhaps when activities set are too difficult, too easy or there is a lack of structure and purpose in sessions, then they will look to themselves and their own planning and coaching first, rather than simply blame the children, or their home life.

However, even with sound planning and preparation, some children may become disruptive within sessions and you will need to take steps to manage this behaviour so that it does not impact too negatively on the child him/herself, others in the group or you as the coach.

A useful summary of ‘tips for positive behaviour management’ are provided in the sports coach UK resource and workshop previously cited.

- Give clear instructions, so participants know what to do
- Ensure tasks provide the correct amount of difficulty, ie not too hard or lacking challenge
- Keep activities moving forward at an appropriate pace
- Make activities imaginative and realistic
- Add variety
- Make sure you plan, particularly transitions
- Ensure participants are aware of what is expected of them
- Pay particular attention to these things at certain times (e.g. at the end of the week, the end of a long day, stressful times)
Experienced children’s coaches will understand that some minor disruption is quite normal within sessions and that some of this behaviour will be down to children simply being excited or keen to chat with others. Very often, adults and children see things differently. It is really useful for coaches to be aware of the explanations that young participants give for challenging behaviour. What follows is a useful summary of these children’s explanations from Positive Behaviour Management in Sport.

- Boredom
- Being picked on
- Rudeness
- Shouting
- Not listening
- Not noticing good work
- Unfairly blaming young participant
- Being too lenient or too harsh
- Not setting realistic or relevant challenges

On looking down this list, you will no doubt conclude that, with the right planning and coaching, all these aspects are mostly under your control as the coach. Boredom can be addressed by planning and presenting fun and engaging activities. Being picked on can be a perception or a reality that you can certainly address by adopting a more positive approach to your coaching and ensuring there is no bullying allowed within groups. As a role model for children, you should always be polite and reinforce good manners within sessions and only shout when you really do need to be heard, such as when there is a potential safety issue.

In general, coaches could improve their listening skills and this is particularly true when working with children as you will only really learn what you need to know when you listen to what they say and observe how they perform and behave. Make sure you have full information before ascribing any blame, and even then focus on the behaviour rather than the child e.g. “your shouting out and talking means that others can’t hear what I’m trying to tell them” rather than “stop that, you’re very naughty”. Making sure you are consistent in ‘drawing the line’ between what is acceptable and what is not in your sessions. Developing and reinforcing ground rules with children should help with this. The final bullet point on this list reinforces your ability to set appropriate goals and differentiate activities in relation to the specific needs of the children in the group.

In summary, model and reinforce the behaviour you want the children to adopt, stay calm when confronted with disruptive or challenging behaviour, ensure your language is appropriate and don’t get sidetracked into discussing peripheral issues or behaviours – focus on the core issue.
Producing fun, active, engaging sessions that involve appropriate group interaction is the key to satisfying children’s reasons and motivations for participating in athletics and by this stage in your coaching development, you should have the relevant knowledge, skills and experience to achieve this aim. Please remember that FUN is a peculiarly individual notion – what’s fun for one child may not be fun for another. In order to address the health and fitness motivation, and to combat the sedentary lifestyles that more children lead at present, you should be optimising the activity levels of your sessions and developing the key components of athleticism as appropriate to the children’s developmental stage. Effective differentiation strategies will go a long way to producing sessions and activities that motivate children by challenging them at their own levels. Coaches should engage with parents whenever possible in order to ensure they understand what the programme and sessions are all about and they can reinforce key messages at home.

Remember that children are still developing control over their emotions and may be prone to uncontrollable, emotional outbursts at times. They are also still learning to differentiate between effort and ability. Ensure you reinforce and praise effort just as much, if not more at times, as you praise good performances.

The way you plan and prepare for sessions should help minimise the chances of disruptive behaviour occurring, but if such behaviour does arise within sessions, ensure you follow the simple guidelines set out.
Using this supplementary resource, in addition to the face-to-face workshop programme, should help you arrive at a better knowledge how children develop:

- Physically
- Cognitively and in relation to movement skills
- Socially
- Emotionally

Please remember that, although we have divided this resource into sections devoted to these various developmental pathways, it is neither practical nor useful to think of children developing along distinctive and separate paths. Through reading this resource, you should have concluded that there is much interlinking and interdependence among these pathways e.g. between physical and skill development; between cognitive and skill development and between social and emotional development.

However, as with all coach education and development, it is not really what you know that is important, rather what you do with what you know. Having all this information about children’s development is only really of value if you apply the principles we have set out in your coaching programmes, sessions and activities. When you do, the outcomes should be evident in terms of greater satisfaction for you as a coach and from the children you are coaching; more enjoyable sessions that engage children; more children participating for longer and more children going on to improve their performance and fulfill their potential.


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