



Project report:

The identification of good practice principles to inform player development and coaching in European youth football

A literature review and expert interviews in Belgium, England, France, Germany, Italy, the Netherlands, and Spain in the performance pathway

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6 May 2014

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Executive Summary

Background

Football is widely regarded as the ‘world game’ with massive media profile and interest, millions of viewers and spectators, and millions of participants globally and across Europe.

Central to the continuing success of football is the identification and development of young players capable of competing and performing at the highest level.

Though there is a vast academic and practitioner literature which attempts to identify the factors which underpin and enable effective youth development, there has been no systematic, integrated approach which draws on the best of both academic and practitioner thinking.

The research

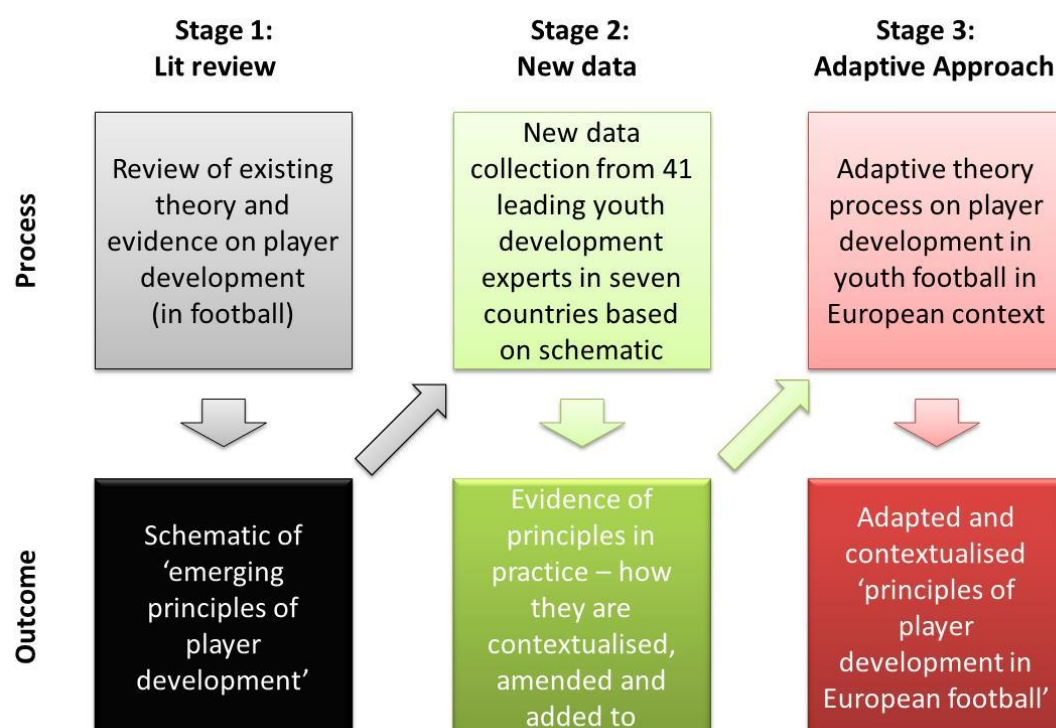
The purpose of the research was to identify the good practice principles informing player development and coaching in European youth football in the performance pathway.

Principles are understood to be fundamental truths, propositions or statements that provide the basis for a system of belief, chain of reasoning, and ultimately action.

Thus, to identify a principle of player development is to identify a substantive truth, proposition or statement to inform and guide decision making amongst system architects and coaches in the area of player development in football.

The research combined existing theory and evidence to produce a schematic of ‘emerging principles of player development’, with new data collected from **41 leading youth development experts in Belgium, England, France, Germany, Italy, the Netherlands and Spain**, to produce an adapted and contextualised schematic of ‘principles of player development in European football’.

Process and outcome map for the research

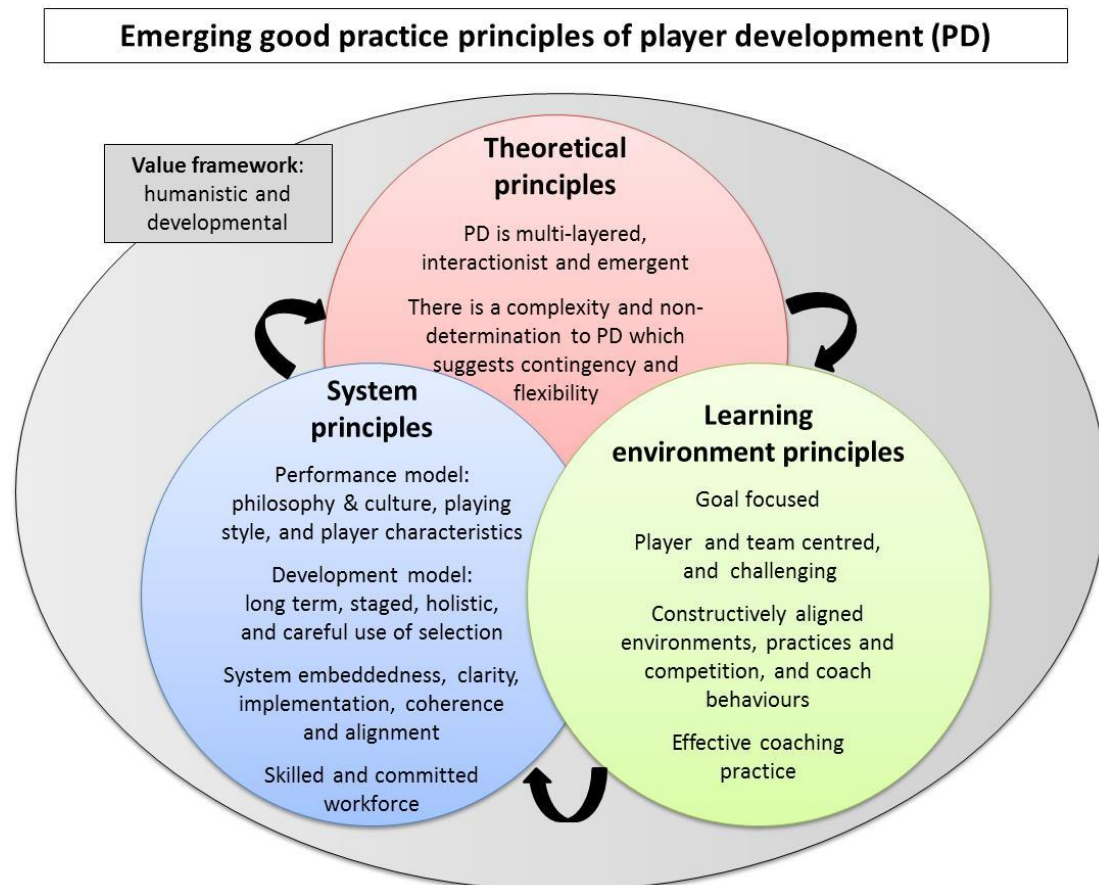


The literature review

An extensive literature search and review was undertaken including c250 references to identify the ‘emerging principles of player development’.

These are the research-informed ideas suggested by the academic literature which are argued to underpin effective youth development.

We argue that the emerging principles of youth development are best conceptualised as having the following high level and lower level components:



The **theoretical principles** are concerned with the processes underpinning human development identified in developmental science and the player development literature and establish the broad parameters for player development and player development systems.

They suggest that player development is multi-layered, interactionist and emergent, which means that player development is highly heterogeneous and individualised, and that player development systems need to be flexible, pragmatic, long-term, patient and suggest they are only partially subject to the control of system architects and coaches.

The **system principles** are concerned with identifying the main structural components of effective player development systems, though they also impact on learning environments.

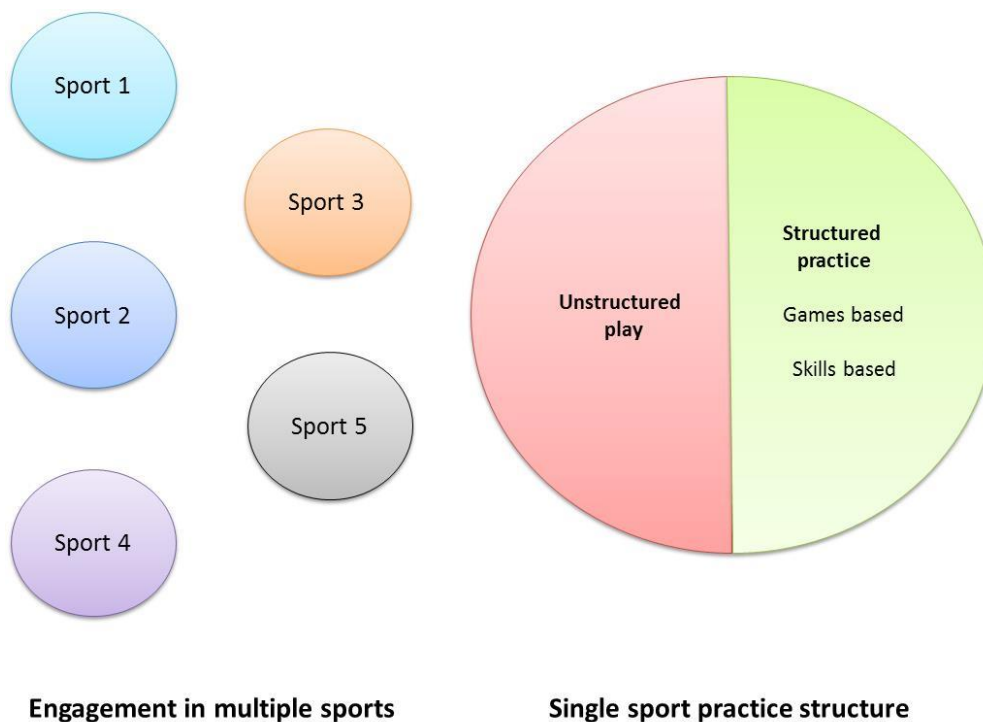
The literature suggests that effective player development systems have a clear view on what constitutes successful outputs and outcomes from the system (or what we have called the performance model). In particular, this is concerned with the identification of a clear philosophy and culture, including ideas about effective playing styles and player characteristics.

Effective systems also have a clear idea about how these success factors can be brought about or achieved (or what we have called the development model). This includes taking a long-term, staged approach, recognising developmental differences between younger and older players, and attending to their physical, psychological, social/lifestyle, movement/technical and tactical (PPSTT) characteristics. Effective systems also make careful use of selection methodologies to counter the implicit gamble in any selection approach.

System principles also recognise that player development environments are spatially and socially embedded and that effective environments are planned, resourced, and fully understood and adhered to by all relevant stakeholders – federations, leagues, clubs, academy directors, coaches, players, parents and others. Finally, effective player development is underpinned and indeed brought to life by a skilled and committed workforce, most notably, coaches.

Learning environment principles suggest that effective learning environments are linked to the performance and development models through appropriate goal setting and planning. They attend to both individual development needs as well as the team's. Development goals are used to shape practice environments which – depending on the individual player, team and their age-stage – and may include the sampling of different sports, unstructured play, and structured practice which can have both technical (skills) or tactical (games) orientations. The careful use of competition is also very important.

Approaches to player practice



Finally, coaches use appropriate behaviours, for example, moderating the use of instruction and generally *constructively align* their sessions and approaches to the goals and tasks at hand, the individuals involved and the coaching context.

The above principles are explicitly associated with a humanistic development-orientated value framework (as opposed to an instrumental and performance-orientated approach often seen in the professional game).

The expert interviews

The schematic of ‘emerging principles of player development’ was used as the basis of semi-structured interviews with 41 of Europe’s leading youth development experts in seven countries.

A minimum of four interviews were conducted in each country with some countries involving many more, for example, eight interviews in Italy and ten in Spain¹.

What was clear from the research – at the total sample level, putting to one side for a moment individual country, club and respondent differences – was the broad expert group support of the schematic of ‘emerging principles of player development’. The research unequivocally endorses the emerging schematic.

All of the principles identified in the literature review were evident in the practices of the country and club experts. The latter support *inter alia* the identification of a performance model, and a development model with long-term age-stage differentiated components. They recognised the importance of a skilled and committed workforce, individualising coaching, and using an appropriate blend of practice activities and coaching behaviours to macro, meso and micro level goals.

What was interesting, however, was how these principles were applied in the different country and club contexts. The performance model looked very different in the Netherlands and Spain, for example, yet their development models had many similarities (see section 4). Though the importance of embeddedness was recognised in all systems the extent to which this was realised varied greatly between countries, with Germany, the Netherlands and Spain apparently leading the way.

The summary table on page v (next page) attempts to capture some of the nuance in the different applications of the same principles across the seven European countries.

¹ An interesting feature of the research was how much these interviews could capture or exhaust the details of each country’s system. We suggest that in countries where there was a clearly defined and shared culture, philosophy and approach e.g. the Netherlands and Spain there is a higher level of confidence. Where systems were more pragmatic or emergent e.g. England, Germany and Italy there is less confidence.

	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Theoretical principles							
Player development is multi-layered interactionist and emergent. This means that player development is highly individualised, non-linear and unpredictable. There are significant difficulties detecting talented players. Programme developments and coaches need to be highly flexible, adaptable and realistic about what they can control regarding player development. General agreement.							
System principles							
Effective player development systems have a clear model of success which covers:	Evident	Emerging	Recent but evident	Strongly evident	Evident	Evident	Evident
Philosophy and culture	Pragmatic	Pragmatic	Game-based and playing principles	Collective vision and clear plan	Pragmatic	Individual responsibility	Playing principles and respect
Playing style (identity)	Skilful	High energy, resilient	Mental strength	Clear, courageous	Attractive, pragmatic	Creative, individual	Silk and steel
Player characteristics	Many commonalities against PPSTT						
Effective player development systems have a clear model of effective player development which includes:	Evident	Emerging	Recent but evident	Strongly evident	Evident	Evident	Evident
Adopting a long-term approach	Common to all systems						
Differentiating programmes according to development age	Broad stages	Broad stages	Fine-grain stages	Fine-grain stages	Broad stages	Fine-grain stages	Focus on playing principles
Attending to physical, psychological, social, technical and tactical (PPSTT) developments	PPSTT approach	PPSTT approach	Games based approach	PPSTT approach	PPSTT approach	Games based approach	Games based approach
Making appropriate use of selection – using a multidimensional approach – and being patient with those selected	Aligned to peak height velocity (PHV)	Early and patient	Sampling and later selection	Sampling and later selection	Early selection confirmed later	Early and patient	Early and patient
Player development systems are clear, implemented, coherent and aligned	Evident	Emerging with barriers	Unclear	Strongly evident	Evident	Strongly evident	Strongly evident
Player development systems are supported by a skilled and committed workforce	Common to all systems though with differences in coach development and education structures and in employment models						
Learning environment principles							
Ensure learning environments have clear goals situated within the above the theoretical and systemic principles but being relevant to the learner and context	Semi-formal	Formal	Semi-formal	Semi-formal	Informal	Formal	Informal
Using learner centred and team centred approaches (not coach centred)	Evident	Evident	Evident	Strongly evident	Slightly more coach centred	Strongly evident	Slightly more coach centred
Setting up challenging learning environments	Common to all systems and linked to the above						
Using appropriate practice structures including engagement in other sports, unstructured play, games based and skills based approaches as appropriate to the learning goal, task and context	Mixed approach to suit goals, task and players A sampling approach was more favoured in France and Germany and thought unnecessary in Spain Structured game based development favoured in all countries						
Using appropriate competition to support development	Important	Emerging	Unclear	Important	Very important	Important	Very important
Use aligned coaching behaviours minimising coach interference and maximising player learning	Constructively aligned approach with more coach centred approaches in some countries (see above)						

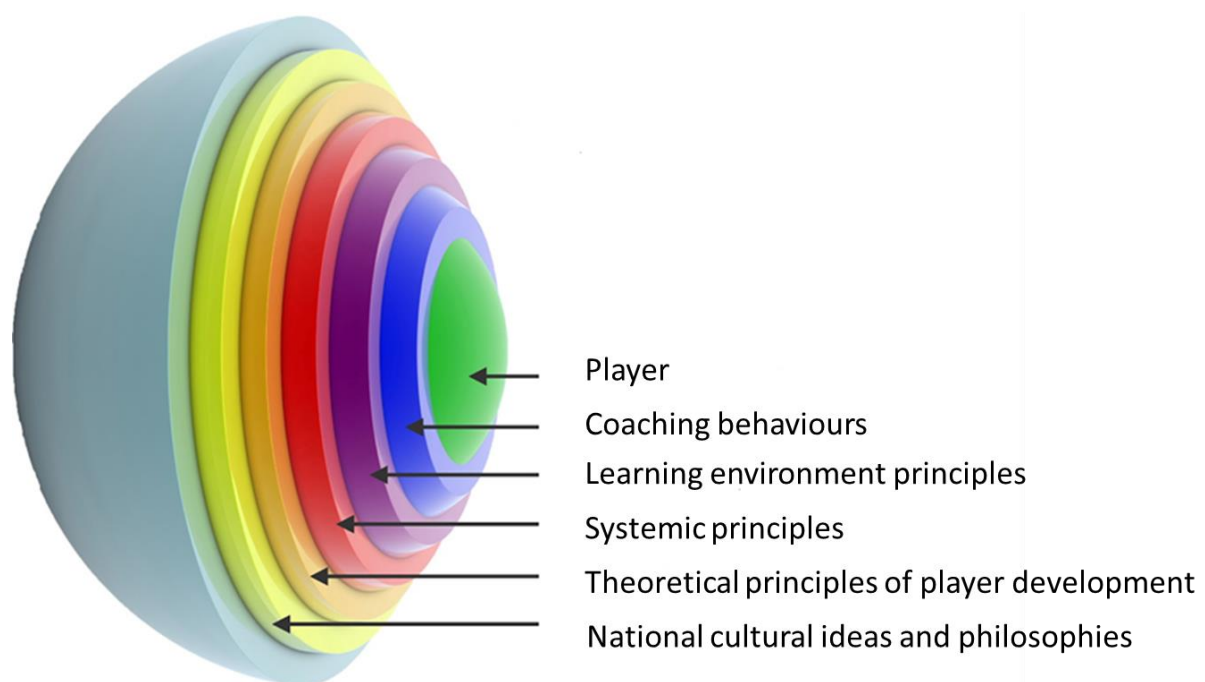
An emerging argument on player development systems

Though we are satisfied that the research has shown the expert group's agreement with, and validation, of the schematic of principles of player development (in Europe), and we have shown how these same principles have been applied in different ways in different countries, we want to extend our argument into something more tentative which may have very important implications.

Our contention is that player development systems are to a very important extent culturally defined, enabled and constrained. This suggests that each country has limited scope to shape player development systems and that any change initiative is bound within certain degrees of freedom, at least within the short to medium term. To take the host country of our institution, England, there is only so much we believe that can be done to reshape important elements of the player development system, for example, playing style, player characteristics and the individuals and institutions that support it because of historical, social and cultural conditions.

Though research evidence has been presented to suggest elite sport performance and development systems are increasingly converging (M. Green & Houlihan, 2005), we suggest that though this may be the case in terms of broad macro features (for example, academy structures, coaching programmes and agreement – as we have seen – with the high level principles in the document), historical, social and cultural forces lead to considerable divergence in the way in which these systems are operationalised at the individual country and club level. This is captured in the embedded laminated approach outlined in the figure below:

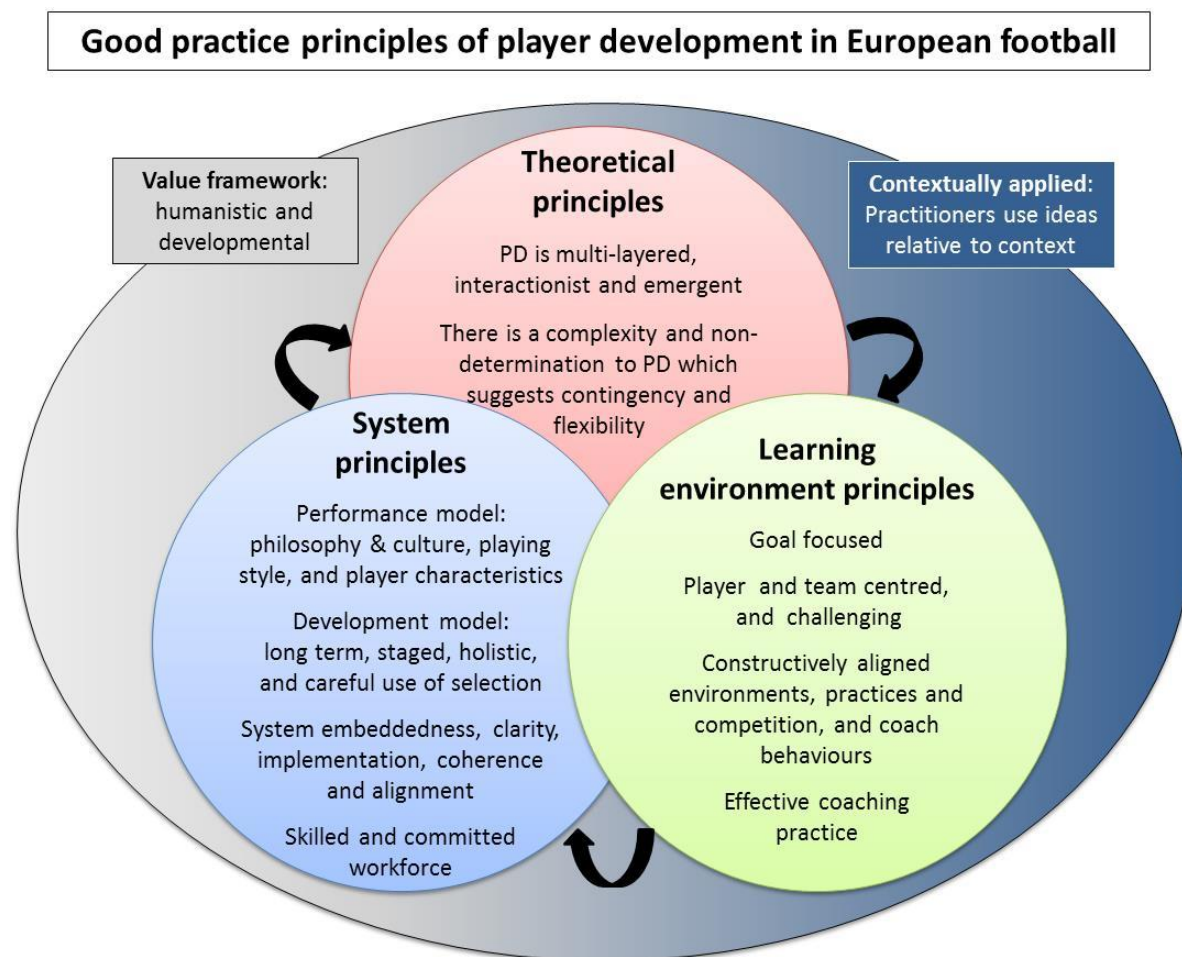
Laminated player development systems



An important implication of this is that 'good practice' principles and approaches from research and from other successful countries cannot be implemented without considerable thought and qualification about how they will work and fit in with the host country.

Revised schematic of principles of player development in European football

Based on the literature review and expert group fieldwork we offer the revised and validated schematic with the key addition being the cultural context and application:



Implications

Good practice principles provide a framework and checklist of considerations for the design, implementation and evaluation of player development systems.

These principles are there as guides and need to be applied to the context under consideration i.e. the conditions and constraints evident in any country, club, coaching group and session etc.

Practitioners should try to avoid uncritically applying what appear to be good practice ideas from other successful country and club systems. An idea which works in one context may be distracting or even detrimental in another.

Next steps

This was a large and complex piece of work and despite the length of the final report a great deal more information could be extracted from the data and more work done firming and elaborating the key concepts. There is also considerable potential for follow-up research including more detail comparative case studies of contrasting country systems.

1. Introduction

1.1 Football and player development

Football is widely regarded as the 'world game' with massive media profile and interest, millions of viewers and spectators, and millions of participants globally and across Europe² (Kunz, 2007).

A 2007 FIFA report suggests that there are around 60 million children, young people and adults playing football in Europe, and about 60,000 have a professional contract (about 0.1 of the total playing population)(Kunz, 2007).

Children and young peoples' love of the game, together with ability, hard work and luck, can raise hopes of a professional career. Parents and family encourage and support.

The professional clubs are constantly searching for, or looking to develop, the latest footballing talent. UEFA and European football federations support the clubs in this goal whilst establishing their own initiatives. A range of other stakeholders – community clubs, schools, colleges and commercial academies further support the process.

A key question is how does this happen? What are the ingredients and processes involved in the development of footballing talent? How do the 60 million participants distil into the 60,000 with professional contracts? The research is situated in this space.

1.2 The research

The report provides details of a project investigating the principles of good practice with the aim to inform player development and coaching in youth football in the performance pathway through a literature review and case studies in seven European countries.

The project builds on pilot work undertaken by Leeds Metropolitan University for the English Football Association (The FA) exploring player and coach characteristics and competencies to inform youth football development from 5 to 21 years in the performance pathway (North, Morgan, & Rongen, 2012).

The aim of the current project was to extend the pilot work by undertaking three main tasks:

1. Further refining and testing the principles of good practice underpinning youth football player development in the performance pathway identified in the FA report.
2. Extending the age-stage holistic physical, psychological, social/lifestyle, technical and tactical (PPSTT) information identified in the FA report.
3. Undertaking more detailed comparative work on the philosophies, systems and approaches across the major European football nations.

Though all these elements were included in the application to UEFA particular emphasis was given -at least in the application title - to extending the age-stage holistic physical, psychological, social/lifestyle, technical and tactical (PPSTT) information.

In retrospect this was too narrow a lens to do justice to the results in the contexts studied. The project reveals that there are many interesting issues to be discussed at the point of principle and approach before entering into the detail of age-stage and holistic approaches (though, of course, the latter are an important part of it).

As a result we decided to change the title of the project to reflect this broader perspective and we believe the work has benefitted from it.

² <http://www.transfermarkt.co.uk/en/default/zuschauerstatistik/basics.html>

1.3 The report

The research team favour a theoretically informed approach to research (e.g. Layder, 1998; Sayer, 1984) and this is evident in the structure of the report.

After the methodological preliminaries, section 3 presents the results of a literature review in the form of schematic of emerging principles of player development. These are the theoretical, empirical and practice based ideas identified in the research literature as underpinning effective player development systems. There is a growing level of consensus in the research literature around these principles – though some areas of disagreement remain.

Though with any consensus much depends on the level at which consensus is established (i.e. broad details or specifics), a key issue, in our view, concerns what might be called a 'one model' or 'many models' view of effective practice. A dominant mode of thinking in contemporary sport science is towards a one model approach. This is not the time to examine in detail the reasons for and implications of this approach – suffice to say we do not agree with it. We support a research approach which suggests that sport science can identify many different models of good practice. Furthermore, we argue that their effectiveness and success will depend on how the system architects and/or coaches match these ideas to their goals, tasks and a host of contextual variables, such as the stakeholders involved, environmental conditions, etc.

This does two things: (1) it releases the pressure on researchers and practitioners to identify and possess knowledge of what is right or correct (in a sense of one absolute approach or truth) and replaces it with the notion of useful ideas to inform practice. We are less concerned with the standard metrics of validity and reliability than with what information might help practitioners (2) it increases the responsibility on researchers to be clear and honest about their knowledge and how it may apply, and on practitioners to develop the expertise (knowledge assimilation and application processes) to make this knowledge work for them in their contexts.

In section 4, the schematic of principles of player development are then used to situate the data collected from the expert interviewees. The results show unequivocally that the ideas and practices of the expert interviewees support the principles identified. However, the results also extend and contextualise these principles in specific countries.

In section 5, we attempt to make sense of the similarities and differences between countries by undertaking some preliminary comparative analysis. As just noted, it is useful to identify good practice ideas but it is how they are applied – relative to the contextual conditions in the country or club – that makes the difference between effective and ineffective practice.

In section 6 – we present some overall conclusions, recommendations for practice, and recommendations for further extending the research programme.

1.4 The research team

The project was developed, managed, analysed and written up by the lead author (North) in conjunction with colleagues at Leeds Metropolitan University in the UK (Lara-Bercial, Morgan and Rongen).

Team members Lara-Bercial, Morgan and Rongen undertook case study visits to Spain, Belgium and England (both Morgan) and the Netherlands respectively.

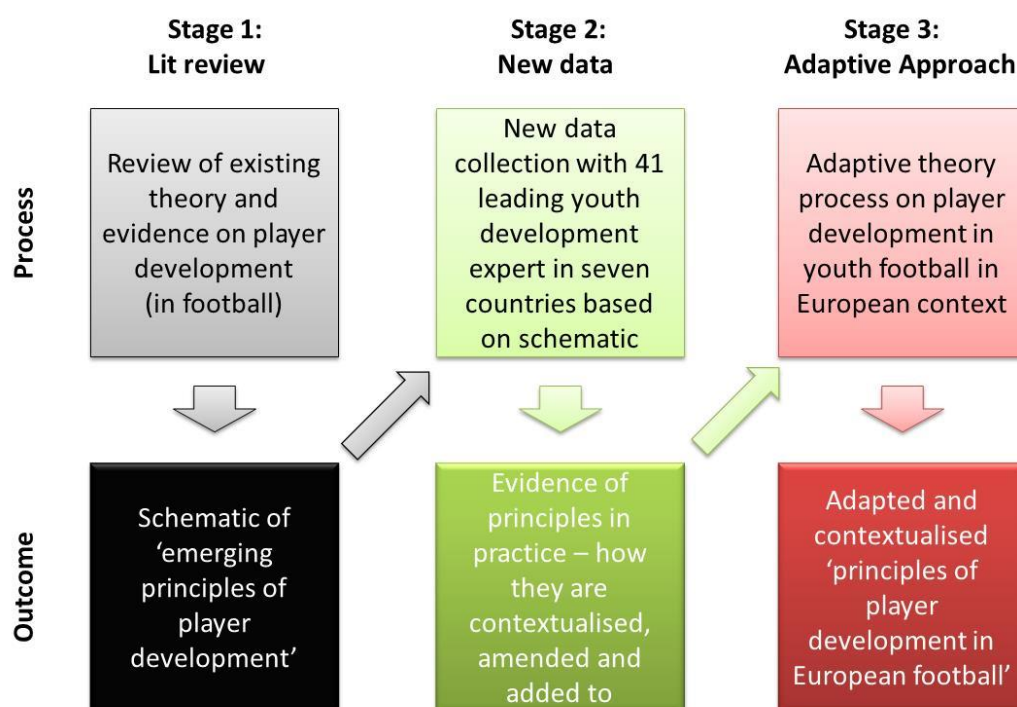
The research was supported by colleagues in England (Sargison), France (Broche and Sadys) and Germany (Nentwig) – who undertook case studies in Italy, France and Germany respectively.

2. Approach

The project was based on a two stage approach:

- Expanded literature search and review in the area of player development with particular regard to football
- Expert interviews in seven European countries - meetings/interviews with two key football federation staff and two expert/experienced youth development coaches in each of Belgium, England, France, Germany, Italy, the Netherlands and Spain.

Process and outcome map for the research



2.1 Literature search and review

Thus, to identify a principle of player development is to identify a substantive truth, proposition or statement to inform and guide decision making amongst system architects and coaches in the area of player development in football.

The literature search and review builds on work already undertaken for the English Football Association (North, Morgan, & Rongen, 2012a, 2012b). The review was extended to incorporate the findings of review articles which have considered a systems approach to player development and coaching (e.g. Martindale, Collins, & Daubney, 2005; Pankhurst & Collins, 2013).

A new search was undertaken using the EBSCO platform which includes databases such Academic Search Complete, Sport Discuss etc., around terms such as 'participant, performer and player development'. Specific searches were also undertaken for football.

The review process was theoretically guided (Pawson, 2006a, 2006b) with identified literature used to elaborate and build on specific concepts. Thus, the search strategy was often more akin to the 'snowball approach' – pursuing references in articles which appeared to be useful to conceptual elaboration – than a systematic quantitatively driven review approach.

The literature review was used to build a schematic of 'emerging principles of player development' which was then used to inform the data collection, data analysis and also to provide structure to the presentation of this new evidence in section 5.

Given the limited resources and time associated with the current study the review is not exhaustive but we believe it provides a representative flavour of the research and its implications for the principles of good practice in regards to player development.

2.2 Expert interviews in seven European countries

A major part of the research consisted of interviews with youth development experts in Belgium, England, France, Germany, Italy, the Netherlands and Spain.

Sample

The plan was to undertake four interviews in each of the countries – two national federation experts and two well-regarded youth development coaches in each – resulting in 28 interviews in total (this was extended by UEFA from six countries through inclusion of Belgium thus the interviews increased from 24 to 28 in total). However, eventually a total of 41 experts were interviewed (for more details on the sample see page 6). All the participants were experienced youth development experts with most having 20 years of experience or more. Many of the names are regarded as world leading experts in youth development both at national federation level as well as with clubs who regularly compete in the Champions League.

The sample were men (reflecting the roots of the project in the men's game).

Method

An introductory letter was developed using UEFA logos, translated into the native language by the country contacts/interviewers, and sent to the participants. Interviews were arranged and conducted face-to-face by the country contacts/interviewers.

A discussion guide was developed based on the theoretical ideas (principles) emerging from the previous FA research and the emerging literature review. Where necessary this was translated into the native language. Some interviews were conducted in English (Belgium, England, some in Italy) but the French, German, Dutch and Spanish interviews were conducted in the native language.

The interviews were recorded using a digital audio wma/mp3 recording device. Interviews lasted from 40 minutes to well over 2 hours. The expert interviews were conducted from December 2013 to March 2014.

The interviews were summarised and where necessary translated and transcribed back to English – both collectively to present a whole country picture and individually to identify differences within countries e.g. at club level. Each of the country summaries and transcripts were then imported into the qualitative data analysis package Nvivo and thematically analysed.

The new primary data was used to confirm and extend the theoretical model (principles) developed in the previous FA research and in the literature review. This had two forms (1) the application and contextualisation of emerging principles in the different country and club contexts (see sections 4&5) and the development of a theoretically and empirically grounded schematic of 'principles of player development in European football' (see section 6).

Table 2.1: Expert interviews

Country	Job Title	Organisation
Belgium	National age group Head Coach and Director of Coach Education	KBVB
Belgium	Personal Advisor to Sports Director	KBVB
Belgium	Technical Director of Academy	Belgium Pro League club (Played in Champions League within last 1 year)
Belgium	1 st Team Physical Coach & KBVB Coach Educator	Belgium Pro League club (Played in Champions League within last 2 years)
Belgium	Academy Co-ordinator (13-19 year olds)	Belgium Pro League club (Played in Champions League within last 2 years)
England	Director of Elite Development	The FA
England	Head of Coaching	Premier League club (Played in Champions League within last 1 year)
England	1 st Team Coach (formerly U21 Coach)	Premier League club (Played in Champions League within last 3 years)
England	Academy Manager	Premier League club (Played in Champions League within last 3 years)
France	Head Coach. Former coach of the National Training Centre; Former National age group coach	Ligue 2 club
France	Director of Training	Ligue 1 club (Played in Champions League within last 1 year)
France	Director of Training	Championnat National club
France	Director Youth Football	TBC
Germany	Sporting Director Talent Development	DFB
Germany	Leadership role in youth development	Football agency
Germany	Director of Youth Football	Bundesliga club (Played in Champions League 6 times in last 10 years)
Germany	Director of Youth Football	Bundesliga club (Europa League)
Germany	Director of Youth Football	1st League club (Normally Bundesliga club)
Italy	Director of Coaching	FIGC
Italy	Manager of International Coach Education	FIGC
Italy	Assistant Academy Manager	Serie A club
Italy	Technical Co-ordinator – U6 to U12	Serie A club
Italy	Academy Manager	Serie A club (Played in Champions League within last 1 year)
Italy	Technical Co-ordinator	Serie A club (Played in Champions League within last 1 year)
Italy	Academy Manager	Serie A club (Played in Champions League within last 1 year)
Italy	Technical Co-ordinator	Serie A club (Played in Champions League within last 1 year)
The Netherlands	Retired; former National age group Coach and Assistant Manager to National Senior Squad	Previously KNVB
The Netherlands	Head of Education	KNVB
The Netherlands	National age group Coach	KNVB and previously Dutch Eredivisie club
The Netherlands	Age-group Head Coach	Dutch Eredivisie club (Played in Champions League within last 1 year)
The Netherlands	Head of Youth Academy	Dutch Eredivisie club (Played in Champions League within last 2 years)
Spain	Director of Youth National Teams & Director of Coaching School	RFEF
Spain	National age-group Head Coach	RFEF
Spain	National age-group Head Coach	RFEF
Spain	Youth National Team Strength & Conditioning Coordinator	RFEF
Spain	Academy Director	Spanish La Liga BBVA club (Played in Champions League within last 2 years)
Spain	Academy Director of Coaching Methodology	Spanish La Liga BBVA club (Played in Champions League within last 2 years)
Spain	Academy Deputy Director	Spanish La Liga BBVA club (Played in Champions League within last 2 years)
Spain	Academy Director	Spanish La Liga BBVA club (Played in Champions League within last 3 years)
Spain	Academy Director of Coaching Methodology	Spanish La Liga BBVA club (Played in Champions League within last 3 years)
Spain	Academy Technical Development Coach	Spanish La Liga BBVA club (Played in Champions League within last 3 years)

3. Literature Review

3.1 Introduction

The purpose of this section is to identify and provide an overview of the latest research informed thinking on player development and coaching.

Where possible the ideas are contextualised to player development in football.

In particular the section attempts to establish the basis for a number of important player development *principles*.

Principles are understood to be fundamental truths, propositions or statements that provide the basis for a system of belief, chain of reasoning, and ultimately action (paraphrased from Oxford English Dictionary - accessed 10/02/14).

Thus, to identify a principle of player development is to identify a substantive truth, proposition or statement to inform and guide decision making amongst system architects and coaches in the area of player development in football.

3.1.1 Values in research and practice

An important issue, however, concerns *how* we move from a substantive truth and proposition to informing and guiding practice because this is not as straightforward as is often assumed. A common model in sports science research is to identify an issue or problem, gather data, write up the results and then make practical recommendations. In this model the research and transfer process is seen as straightforward and uncritical. Unfortunately, this approach masks a range of important judgements (values/norms) with those judgements to a significant degree producing very different results, conclusions and recommendations.

Values often influence the choices of researchers in regards to how they conduct research and what they believe they can establish. Furthermore, values often also influence how findings are interpreted and therefore different researchers might interpret the same findings in a different way leading to divergent results and recommendations. Finally, the values and indeed approach of researchers may be very different to that of the practitioner – often with the result of reinforcing a research-practice divide.

Unfortunately, these value frameworks and related decision making are very often implicit and unchallenged in research and practice. Both researchers and practitioners may be unaware that they have adopted a particular value framework and a particular set of beliefs and assumptions that are associated with it.

If the central purpose of the study is to offer a summary of research informed principles for player development and coaching in football we need to say something about value structures in football (where the principles may be implemented), about the value structure underpinning our principles, and how we believe these principles should be transferred and applied.

Some readers may not agree with these judgements but we have foregrounded them so they are clear.

3.1.2 Value structures in professional football and player development research

There is a tension between developmental and performance objectives in professional football which shapes player development values, environments and practices. Ultimately, professional clubs wish to win competitions, earn revenues and entertain spectators. For this they need high quality players. In the player development pathways the best players will be encouraged and the less successful players discarded. Overseas scouting systems may compete with home grown player development which compounds this effect.

The pyramidal structure of player development means that only a very small proportion of youngsters who enter the player development pathway will be offered a professional contract (most likely in their mid to late teens). Consequently, a significant majority of youngsters will invest considerable time from perhaps 5 years of age onwards without equivalent success. There are a great many youngsters, in other words, who spend

many hours playing and learning to play football who aspire success at the highest level but will never achieve this and will be a 'waste product' of the player development system.

Though there is an increasing recognition within European professional football (as we shall highlight) of the need to adopt a more developmentally orientated, individualised, holistic perspective which sees young players as more than commodities to be utilised or discarded these tensions remain. This will impact on the values and practices of youth development experts and coaches, as well as on players and parents.

These values and practices will very often be different to those implicit in the research literature (and choices may or not be of their own making rather a product of their social context and forces). Put crudely, professional football is generally more instrumentally performance orientated whereas the research literature is generally more humanistic and developmentally orientated (e.g. Côté & Lidor, 2013a) – though there are exceptions both ways. *The reader needs to be aware of these differences in perspective.*

3.1.3 The value structures underpinning this research

Our view, and the values that guide this research, is that (professional) player development structures should prepare players for elite competition but that at the same time these systems have a duty of care to all players including to those who will not succeed in the longer term (cf. Taylor & Bruner, 2012). This means establishing environments which encourage the development of skills that will not only benefit their footballing careers but also benefit their development outside football such as in school, college, work and general life. Additionally it means providing players with safe and enjoyable environments and giving them the time and space for their skills to develop.

We are inclined to side with research which suggests that development environments which foster these wider skills, and provide time and space for development, also benefit those who go on to have a professional career (e.g. Côté, Baker, & Abernethy, 2007; Côté, Erickson, & Abernethy, 2013). However we may disagree about some of their specific recommendations and whether they are practical in the majority of sporting contexts.

3.1.4 The research to practice link

To some extent the issue of values in research and practice is mitigated by our approach to research-practice links. Our view is informed by ideas emerging from the philosophy of social science (e.g. Bhaskar, 1998 [1978], 2008 [1975]) and the evidence informed policy and practice literature (e.g. Nutley, Walter, & Davies, 2007). This suggests there is a critical and messy connection between research and practice.

There often are problems translating research into something that practitioners can use. Most social research is ignored by practitioners because it does not meet a number of important wants and needs - relevance, convenience, language, politics etc.

The study is concerned with providing research findings from the existing literature and from new empirical research with top youth development experts. In other words, the research potentially provides (new) knowledge (that is based on the practices and values of youth development experts) which can be used by player development system architects and youth development coaches in their roles.

We view knowledge as transfactual (i.e. as possibilities rather than certainties), fallible and revisable and always subject to empirical checking. Moreover, we think that knowledge becomes useful – not in published papers (though that helps us) – but in practice and this requires that practitioners are able to *appropriately apply* the knowledge given the latter's goals, tasks, and contexts. In this sense knowledge is an enabler to practitioners rather than a rigid prescription, evaluation or measurement mechanism. *The knowledge is a guide not a strait-jacket* and the practitioner does the applying and determines what is useful. Rather than dictating principles, postulates, laws at sport administrators and coaches - we offer 'considerations' to inform rather than dictate practice.

To facilitate this process, researchers should undertake translation exercises. We do not see reports like this being used by many coaches. There are better ways of presenting content and more appropriate delivery methods. We also believe that coaches should be educated to think about research in relation to their

practice. What is research and how does it relate to practice? What is practice and how does it relate to research?

Within studies related to football, this 'depth reflective' model of research to practice links is hinted at by, for example, Larsen, Alfermann, Henriksen, & Christensen (2013).

3.1.5 Overview of literature review

The literature review is organised into three main principles with associated sub principles.

These are:

- Theoretical
- Systemic
- Learning environment.

The theoretical principles attempt to capture the latest thinking on human development processes. There is something close to an academic consensus emerging in this area but lay, media and sporting ideas about development are still dangerously informed by older ideas. These older ideas often permeate into practice.

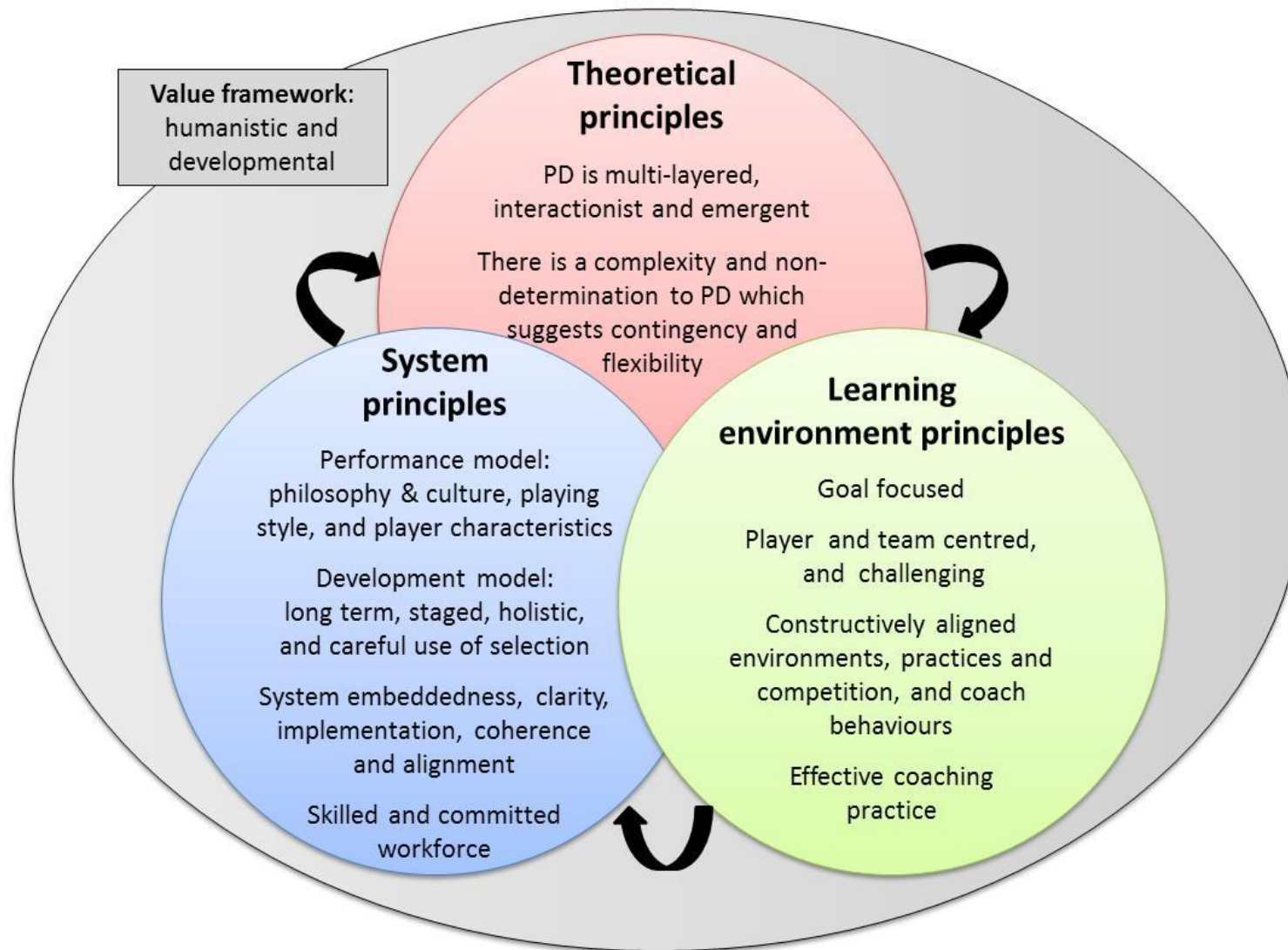
The systemic principles attempt to identify the good practice markers for the design and implementation of player development systems. This includes having a clear idea about what should be achieved (the performance model), the systems elements that should be in place to inform development (the development model), and how the system should align and integrate.

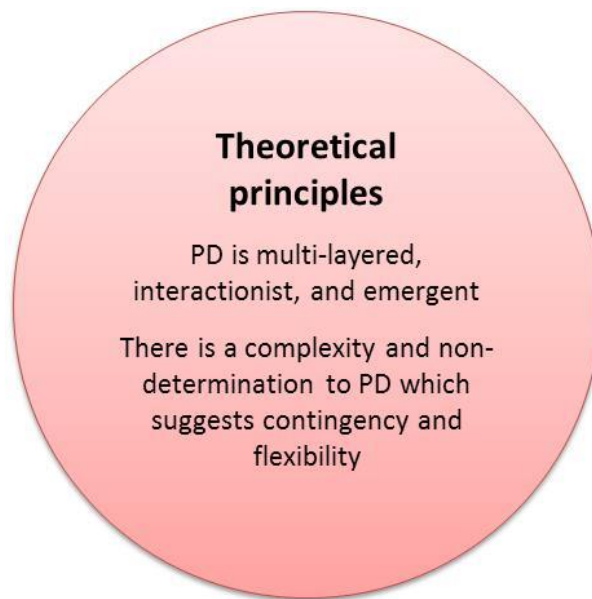
The learning environment principles attempt to capture good practice in programme and session design. What kind of learning environments, what kind of practices, and what kind of coaching behaviours contribute to good or 'best' practice.

This is the approach we find most useful for organising the principles emerging from the research literature, though we recognise there will be others (e.g. Martindale et al., 2005; Pankhurst & Collins, 2013) and that it is far from finalised. We think conceptualisation (including re-conceptualisation) is a normal part of the social scientific process with new research exploring new ways to present old and new information to help inform practice.

These themes and sub-themes – at various stages of development – have provided a theoretical basis for the questioning framework used in the study and provide a basis to present the new data in section 4.

Emerging good practice principles of player development (PD)





3.2 Theoretical principles

Participant and performer development in sport is conditioned by the same processes which impact on wider human development yet the performer development systems literature only occasionally or implicitly makes reference to theory and evidence from the human development literature (e.g. Henriksen, Stambulova, & Roessler, 2010a; Martindale et al., 2005).

The lack of explicit attention to this literature is a significant problem because how researchers both explicitly or implicitly think about and conceptualise human development has very important implications for the development of research approaches and findings that naturally, logically and morally emerge from it. For example, and put crudely, if one were to subscribe to the genetic determinist view of human development there would, in theory, be very little need for sport coaching because genes alone determine sports development potential and performance.

In the following, some of the main theoretical positions on human development will be introduced along with suggestions of what implications they might have for sports participant and performer development. First however, it is important to raise an emerging concern about research and writing practice (i.e. the practice of researchers and writers) which impacts on how ideas and concepts are presented. Of the three main positions which inform thinking around human development - genetically determined/centred development, environmentally determined/centred development, and an interactionist position between the two – virtually nobody in contemporary human development research supports the first two positions and almost all support an interactionist position (Dupré, 2003; Lewontin, 2000; Noble, 2008; Ridley, 2011; Rutter, 2006; Sigelman & Rider, 2012).

However, within the interactionist position there is a broad continuum of possibilities with some supporting more genetically centred positions and some supporting more environmentally centred positions. Lewontin (2000) argues that genetic deterministic views have generally held sway in the public consciousness and biological sciences. In a sporting context this position is supported by Singer and Janelle (1999). The problem – both in human development research and where mentioned in sport development research – is that those supporting more extreme positions on the continuum generally over-interpret data to support their perspective (what Sternberg (1996) refers to as confirmation bias). Moreover, alternative and competing positions are often misleadingly depicted as offering a different position to that what the original authors intended (Ridley, 2011; Singer & Janelle, 1999).

This is the classic ‘straw man’ or ‘Aunt Sally’ mode of argumentation³ and goes something like this: Researcher 1 adopts position X. Researcher 2 disregards certain key points of X and instead presents the superficially similar position Y. Position Y is a distorted version of X, for example, a misrepresentation of the opponent's position, quoting words out of context, or an overly simplified version. Researcher 2 attacks position Y, followed by concluding that X is false/incorrect/flawed. In human development research and writing, genetically orientated research has tended to treat environmentally orientated writers as if they support an environmental only position. For example, Steven Pinker's genetically orientated critique of environmental positions in *The Blank Slate* (Pinker, 2002) is often described in this way (e.g. Dupré, 2003). Environmentally orientated writers have tended to do exactly the same in the opposite direction.

From a practitioner perspective James (2007) argues that an individual's personal biography and life choices distort beliefs about genetic or environmental positions. For example, working mothers who pass young children into childcare maybe more likely to believe in a genetic orientation (‘they will grow and develop naturally’). Stay at home mothers may be more likely to believe in an environmental orientation. The wealthy argue that the poor are naturally lazy and feckless, the poor that they are subject to unfavourable social economic conditions.

As researchers and practitioners we have to be highly alert to these problems when reading and interpreting existing research and integrating ideas into practice since the position one adopts either explicitly and/or implicitly – as the next sub-section describes - has very important implications.

3.2.1 Three theoretical positions on human development and their implications

To recap there are three main theoretical positions on human development:

- (1) genetically determined/centred development
- (2) environmentally determined/centred development
- (3) an interactionist position between the two.

As we have noted 1 & 2 should be viewed less as serious scientific accounts of human development than as thinking tools to explore the broad continuum of 3. Positions 1 and 2 have a long history, and to a significant extent endure within public consciousness, supported by questionable scientific and media practice (Dupré, 2003; Noble, 2008).

Genetically orientated positions

The genetically determined position is most commonly associated with Francis Galton's work *Hereditary Genius* (Galton, 1979 [1896]). The importance of genetics within human development has been restated in recent work (e.g. Pinker, 2002). Genes also feature prominently in development models which have influenced sport (e.g. Gagné, 2013). In sport-specifically, the important role of genetics has also been given prominence (Epstein, 2013; Singer & Janelle, 1999).

Genetic or as it sometimes called biological determinism emphasises the influence of genes and biological processes as a predetermined potentially predictable plan for maturation and human development. That is, genes determine or significantly condition human development beyond or outside of environmental influence (Sigelman & Rider, 2012).

This approach has serious implications for the way we think about and act in society and sports development. Most notorious is the connection to eugenics and human genetic engineering. If genes are central to development then isolating ‘bad’ genes to remove negative influences and encouraging ‘good’ genes to encourage positive influences appears the logical next step. Genetic manipulation has been discussed in a sport context⁴.

Perhaps more relevant to the mainstream of sport activity is the idea that since genes determine future performance there is a limited role for individual agency (goals, motivation, ambition, determination) and environmental influences such as teaching and coaching (Tallis, 2011). The ‘naturally gifted’ athlete would

³ http://en.wikipedia.org/wiki/Straw_man

⁴ <http://www.bbc.co.uk/news/magazine-25687002>

succeed in their chosen sport regardless of the effort put in and resources made available to them. For example, pundits often make comments such as 'Messi is a natural talent' implying that with these natural gifts Lionel Messi's performance success was inevitable.

These ideas provide the intellectual justification for talent identification schemes – i.e. there are (genetically) talented youngsters 'out there' it is simply just a case of finding them. They also suggest that the coach has a more limited role identifying talent and then accompanying the athlete on his/her path to glory rather than any strongly defined developmental remit. There is no motivation or responsibility, only genes. Success is inevitable - so why bother too much with the coaching or indeed the whole player development environment beyond selection?

Environmentally orientated positions

The environmentally determined position is most commonly associated with John Locke's *An Essay Concerning Human Understanding* (Locke, 1997 [1690]) which introduced the concept of humans as a *tabula rasa* or blank slate. The importance of the environment to human development has been central, for example, to behaviourism (e.g. Skinner, 1957), social perspectives on learning (e.g. Bandura, 1977) and in popular science (James, 2007). The *theory of deliberate practice* often associated with the 10,000 hours rule (e.g. Ericsson, Krampe, & Tesch-Römer, 1993) also adopts a highly environmental position and has been influential, for example, in the English Premier League's Elite Player Performance Plan (Premier League, 2011).

The environmentally oriented position not surprisingly emphasises the importance of the environment as a context, enabler and constraint on development. This suggests the importance of parents, peers, teachers, coaches etc. as well as the broader institutional and macro-social environment in learning and development. Under this theory the role of natural genetic endowments in development are minimised, and perhaps even to a degree the impact of individual agency (Tallis, 2011). Experience and social and environmental influences are seen as most important (Sigelman & Rider, 2012). Thus, educationalists – parents/teachers/coaches – have a significant role setting up environments which facilitate development.

Interactionist positions

As noted above interactionist positions are almost unequivocally the mainstream position in philosophy (Bhaskar, 2012), biology (Lewontin, 2000; Noble, 2008; Ridley, 2011), psychology, and developmental science (Bronfenbrenner & Morris, 2006; Gagné, 2013; Gottlieb, Wehlsten, & Lickliter, 2006; Sigelman & Rider, 2012) though there are differences in models and in the importance of genetic contributions. Not only do genes and the environment contribute to human development they do so in a particular way. From the moment of conception genes and environment work together epigenetically and emergently (Carey, 2012; Gottlieb et al., 2006).

As Sigelman and Rider suggest:

“human development is an incredibly complex process that grows out of *transactions between* a changing person and a changing world and out of dynamic relationships among biological, psychological, and social influences. No contributor to development – a gene, a temperament, a parent, a culture – acts alone and is unaffected by other influences on development” (Sigelman & Rider, 2012, p. 2 italics added)

In sport, research has increasingly conceptualised player development as a multi-layered complex emergent process involving the dynamic and non-linear interaction of multiple variables – genetic-environmental; physical, psychological, social; luck etc. (Bloom, 1985; Button, 2011; Helsen, Hodges, Winckel, & Starkes, 2000; Phillips, Davids, Renshaw, & Portus, 2010; Simonton, 1999; Singer & Janelle, 1999; Vaeyens, Lenoir, Williams, & Philippaerts, 2008). Review work by Baker and Horton (2004) identifies a range of influences on performer development including genetics, time devoted to training and practice, psychological enablers, and access to social resources such as coaching and support from the family.

Researchers have speculated about genetic influences on sporting performance. For example, genetics have been hypothesised to impact on physical characteristics, personality, intelligence, adaptation to practice which

can all be conducive to sport performance development (Singer & Janelle, 1999). However, these researchers concede that it is the interaction between genes and environment that is crucial to success.

There are a number of important implications of a multi-layered interactionist emergent approach to player development. First, the multiple and interacting components and processes mean that human development is highly heterogeneous and individualised. The number of variables involved and the interaction between them in player development suggest that it is non-linear and unpredictable (Vaeyens et al., 2008).

Second, and related, there are increasing concerns about the practices of early talent identification and selection (e.g. Côté & Lidor, 2013b; Régnier, Salmela, & Russell, 1993; Vaeyens et al., 2008). Genetics certainly play a role in development (Singer & Janelle, 1999) – but it remains highly contentious whether early genetic markers (or their apparent physical manifestations) transfer to exceptional performance in adulthood (Vaeyens et al., 2008). As we shall see, early talent identification and selection remains a mainstream activity in European football though this is likely to be driven less by theoretical ideas on human development than by resources, pragmatism and politics. Once selection decisions have been made – for whatever the reason - a key issue appears to be keeping youngsters in the system long enough to reach their potential.

Third, there is a limit to what system architects, coaches and players can realistically hope to control. The model suggests that participant and performer development will necessarily be subject to a range of influences and forces. This means stakeholders have to accept that their interventions will only be successful under certain indeterminate conditions. Consequently systems have to be flexible, adaptable and above all patient (Martindale et al., 2005). Coaches need to recognise that their role is important whilst repositioning themselves from ‘controllers’ to ‘facilitators/guiders/influencers’ working with the resources available to them and doing the best they can. Whilst from one point of view it could be argued this eases the expectations and pressures on coaches ‘to get it right’, it will remain to be the case that certain coaching strategies and approaches that can be used to influence and guide performer development will be better than others and this places new kinds of pressures on coaches.

KEY POINTS

- **There is a need for researchers and practitioners to reflect on how they think about and conceptualise human development as these ideas will have important implications for the interpretation and application of research ideas and findings.**
- **Three theoretical positions on human development are proposed: genetically determined/centred development; environmentally determined/centred development; an interactionist position between the two.**
- **The genetically centred positions argue that human development is biologically predetermined and solely driven by genes**
- **The environmentally centred position argues that human development is shaped by experiences and social and environmental influences.**
- **However, almost everybody supports the interactionist position, finding themselves somewhere on the continuum between predominantly genetic centred positions and predominantly environmental centred positions.**
- **From this perspective human development is interactionist, multi-layered and emergent.**
- **Accepting this position implies the need for flexibility, adaptability patience, a long-term vision and allowance for heterogeneity within participant development systems.**



3.3 System principles

As noted above, systemic principles attempt to identify the good practice markers for the design and implementation of player development systems. This includes having a clear idea about what should be achieved (the performance model), the system elements that should be in place to inform development (the development model), and how the system should be embedded and integrated in the social environment.

3.3.1 Performance model

There is increasing recognition in business, sports administration, sport performance, and now in player development about the value of having a clear view of what constitutes *success*, which then acts as a guide to all other system components.

This is exemplified by the 'design led' approach and features built into Apple products which have made it one of the most valuable businesses in the world (Lashinsky, 2012). In sports administration, and notably in sport coaching, there has been an increasing use of 'framework' approaches which set-out the characteristics of world leading systems (ICCE, ASOIF, & LMU, 2013). Recent successes in British cycling at the Olympic and Tour de France have been attributed to having a clear model of success (Denyer, 2013). Martindale et al. (2005) have recommended researching performance trends in sport to understand "what may be most usefully developed now" (p.363). Those interested in sport coaching and its connection to player development have identified the importance of clear macro-level goals (Abraham & Collins, 2011).

From a player development perspective we have identified three main elements of the performance model:

- Philosophy and culture
- Playing style
- Player characteristics.

Philosophy and culture

Increasingly research has highlighted the importance of an identifiable, coherent and shared philosophy and culture within the player development environments (Henriksen, 2010; Henriksen et al., 2010a; Henriksen, Stambulova, & Roessler, 2010b; Larsen et al., 2013). In terms of practice, the work of Dave Brailsford and colleagues in British Cycling and Team Sky suggests that it is possible to identify and implement a positive shared culture which establishes the context for more specific system components, be they in a performance

or development context (Denyer, 2013). For example, in British Cycling's performance environment the following markers have been identified: clarity of goals, create a programme, plan backwards, focus on process, focus on the basics, practice winning, aggregate marginal gains, maximize the latest technologies, conduct the orchestra, support the support team, charter a team, build a strong CORE (commitment + ownership + responsibility = excellence), control the chimp (unhelpful psychological behaviours), manage the 'triangle of change', and stick to your principles (Denyer, 2013).

The importance of culture to development objectives has been identified in other research. For example, Larsen and colleagues (2013) highlight how culture - transmitted through interactions and artefacts - in a Danish football club provides a seedbed for a number of desirable development outcomes. These could be individual (e.g. accountability, concentration, cooperation, hard-work, humility, involvement, passion, pride, professionalism, readiness and respect) while these could also be collective (e.g. cooperation, openness, sharing, belonging and feeling 'part of a family').

Cultural dimensions may also provide a site to emphasise a number of player development principles highlighted as important in the participant and performer development literature. Examples include emphasising development over winning (mastery over performance (Roberts, 2001)), an appropriate motivational climate (Ommundsen, Roberts, Lemyre, & Treasure, 2003), a holistic approach balancing sport with, for example, school, and meeting players' basic psychological needs such as a need for autonomy, competence and relatedness (e.g. Taylor & Bruner, 2012).

Programme developers and coaches clearly have a highly important role influencing the culture of the development context (Taylor & Bruner, 2012).

Example: task/mastery environments

Increasingly research has supported the idea that development environments that emphasise particular goal orientations are more likely to lead to development success (i.e. a task/mastery orientation over an ego/performance orientation) (Ames, 1992; Ames & Archer, 1988; Roberts, 2001).

Within a task-involving climate the focus is on learning and skill development, and success is defined as individual improvement and skill mastery, regardless of how others perform. An ego-involved climate, however, by focusing on outperforming others (both teammates and opponents), reinforces normative references of success and failure.

Generally, a task-involving (or mastery) motivational climate has been implied to have a beneficial impact on the athlete, resulting in more adaptive behaviours and cognitive and emotional responses. In contrast, an ego-involving (or performance) oriented climate has been associated with negative sport experiences (for a review see Duda & Balaguer, 2007).

More specifically, within (youth) sport settings a task/mastery climate has been linked to reducing anxiety levels over the course of a season (Smith, Smoll, & Cumming, 2007); athletes being more confident in their ability to use psychological skills, being more satisfied with their playing level and match results (Balaguer, Duda, & Crespo, 1999) as well as their coach (Cumming, Smoll, Smith, & Grossbard, 2007); higher levels of enjoyment (Cumming et al., 2007); positive personal development (MacDonald, Côté, Eys, & Deakin, 2011); and higher levels of engagement, effort, vitality and potentially protecting the athlete from burnout (Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012).

Specifically, within youth football a task-involving/mastery climate has been associated with several beneficial outcomes, such as sportspersonship (Miller, Roberts, & Ommundsen, 2004; Ommundsen et al., 2003); feelings of vitality (i.e., feeling energetic and alive) (Ommundsen, Lemyre, Abrahamsen, & Roberts, 2013), pro-social behaviour (Kavussanu & Spray, 2006), higher levels of effort in competition and higher levels of enjoyment both in training and competition (van de Pol, Kavussanu, & Ring, 2012). Additionally, Kavussanu et al. (2011) found that elite youth footballers compared to non-elites more often showed a task orientation along with a parental environment that can be characterised as mastery oriented. These findings suggest that (within football) a mastery orientation might facilitate achieving a high level within the sport.

Playing style

There is an increasing recognition of the need to understand future trends in team performance and playing style to establish important performance markers to situate development systems (Martindale et al., 2005). A significant amount of research has examined different aspects of playing style in football. This research generally attempts to apply existing theoretical approaches - e.g. network analysis, motion analysis, situational efficiency analysis, dynamical systems - to provide new insights into playing style effectiveness (Garganta, 2009).

This literature rarely offers conclusions in terms of what playing styles as a whole are most effective but may comment on particular characteristics of winning teams e.g. goals are scored through accurate passing (Redwood-Brown, 2008). A further example of this is the finding that Spain's success in the 2010 World Cup involved high levels of short passing (Cotta, Mora, Merelo-Molina, & Merelo, 2011)! Others provide theoretically justified team level performance analysis methodologies (Szczepanski, 2008).

There is also a great deal of the analysis of playing styles, philosophies and systems undertaken by specialist consultants and journalists through books, magazines and websites.

For example, Prozone undertook analysis of passing 'heat maps' at 2010 World Cup:

<http://www.prozonesports.com/news-article-world-cup-2010-analysis.html>
<http://www.prozonesports.com/news-article-world-cup-2010-analysis.html>

FIFA and UEFA produce excellent technical reviews – for example, the 2010 World Cup review is summarised here:

<http://www.zonamarking.net/2010/09/03/fifa-2010-technical-report-summary/>

Journalists such as Jonathan Wilson provide an interesting perspective:

<http://www.guardian.co.uk/profile/jonathanwilson>

Most of this evidence and commentary concludes that although there are particular trends towards passing and possession, and high levels of technical skills amongst players, no one playing style is particularly dominant in terms of results. Yes, there is Spain (2008, 2010 and 2012) and Bayern Munich (2013), but there is also Greece (2004), Inter Milan (2010) and Chelsea (2012). One particularly interesting study by Lago (2007) suggests that in the 2006 World Cup, team performance explained results in the group games – but not in the knockout stages – where success appeared to be based on other factors such as luck!

Ultimately, there appear to be too many variables, too many degrees of freedom in football, to suggest one playing style that guarantees success. What is clear is that particular player characteristics (discussed below) employed in the most effective and efficient manner relative to the opposition, increases the chances of competitive success (sounds obvious, we know!).

Player characteristics

Research has identified a range of desirable player characteristics which enable a high level of performance and to a considerable extent also facilitate development. Increasingly these characteristics are seen as multi-dimensional – physical, psychological, social/lifestyle, technical and tactical (what we have called PPSTT characteristics) - rather than just being based on physical or technical characteristics.

The literature here is vast and growing. Table 3.1 provides some indicative references for each of the PPSTT characteristics. The headline results of this research are captured in Table 3.2. This sub-section should be viewed as complimentary to the later sub-section on holistic development. This sub-section attempts to describe the finished article (the 'ultimate' player playing at the elite level); the later section goes into more detail about their development. This could be viewed as the difference between outcome and process.

Table 3.1: Selected references supporting PPSTT characteristics

Characteristic	Selected References
Physical/physiological	There is a substantial literature on physical and physiological characteristics of elite footballers (and is probably worthy of a review in its own right) (e.g. Bloomfield, Polman, & O'Donoghue, 2007; Bradley et al., 2009; Di Salvo et al., 2007; Gissis et al., 2006; Hoff, 2005; P. Lago et al., 2009; Mujika, Santisteban, Impellizzeri, & Castagna, 2009; Reilly, Bangsbo, & Franks, 2000; Stølen, Chamari, Castagna, & Wisløff, 2006; Vaeyens et al., 2006; Witvrouw, Danneels, Asselman, D'Have, & Cambier, 2003).
Psychological	There is an increasing attention in the research literature to psychological characteristic of elite footballers (Holt & Dunn, 2004; Toering, Elferink-Gemser, Jordet, & Visscher, 2009; Unknown, Under review; Ward, Hodges, & Williams, 2007), <u>and especially</u> elite sportsmen and women in general (Barker-Ruchti, Barker, Rynne, & Lee, 2012; Button, 2011; Durand-Bush & Salmela, 2002; Ericsson et al., 1993; Finn & McKenna, 2010; Gould, Dieffenbach, & Moffett, 2002; Hodges & Baker, 2011; Holt & Dunn, 2004; Jackson, 1996; Jonker, Elferink-Gemser, & Visscher, 2010; Kreiner-Phillips & Orlick, 1993; Lens & Rand, 2000; MacNamara & Collins, 2012; Mills, Butt, Maynard, & Harwood, 2012; Orlick, 2007; Orlick & Partington, 1988; Sagar, Busch, & Jowett, 2010; Van Yperen, 2009; Ward, Hodges, Starkes, & Williams, 2007).
Social	There is an increasing attention to social characteristics of elite footballers (Holt & Dunn, 2004), and elite sportsmen and women more generally (Baker, Horton, Robertson-Wilson, & Wall, 2003; Bloom, 1985; Carlson, 1988; Wylleman & Lavallee, 2004)
Technical	As far as we can identify, there has been limited academic investigation of the technical characteristics of elite footballers. When technical characteristics are identified it is usually as a test component in a talent identification programme in football (e.g. Hoare & Warr, 2000; Vaeyens et al., 2006), or other team sports (e.g. Elferink-Gemser, Visscher, Lemmink, & Mulder, 2004), or as part of a broader analysis of successful playing styles (Redwood-Brown, 2008)
Tactical	There is also an increasing research examination of the tactical characteristics of football excellence (Kannekens, Elferink-Gemser, & Visscher, 2011), and sport in general (Duarte et al., 2012; Elferink-Gemser et al., 2004; Gréhaigne, Godbout, & Bouthier, 2001; Richards, Collins, & Mascarenhas, 2012). For example, decision making (del Campo, Villora, Garcia Lopez, & Mitchell, 2011)

It is important to see these characteristics as interrelated and emergent in football performance at the difference stages of its development. For example, Benounis et al. (2013) highlight how physical components such as agility and speed impact on passing performance. Furthermore, there is no pretence that any elite player will share all these characteristics (a kind of football 'superman'). Researchers have suggested that weaknesses in some areas are compensated by strengths in other areas (Vaeyens et al., 2008). For example, high levels of technical proficiency and decision making may compensate for a lack of speed.

KEY POINTS

- A player/participant development system needs to be designed with a clear idea of what is to be achieved in mind – this is referred to as the performance model.
- This performance model constitutes three main elements: (i) philosophy and culture, (ii) playing style and (iii) player characteristics.
- The philosophy and culture of player/participant environments should be identifiable, coherent and shared.
- There are many different (applications) of playing styles within football that can result in success, not just one. It comes down to employing certain player characteristics in the most efficient and effective way in relation to the opposition. However, certain trade-marks can be identified in each of the countries.
- A wide range of multidimensional – physical, psychological, social/lifestyle, technical and tactical (PPSTT)– player characteristics have been highlighted as desirable in terms of representing the ideal ‘finished article’ (i.e. elite player).

Table 3.2: Player characteristics at the elite level

ELITE	Physical/ Physiological	Psychological	Social/lifestyle	Movement/technical	Tactical
What the elite level game is like:	<ul style="list-style-type: none"> Has a high level of physical intensity but also intermittent very high levels of physical intensity – sprints, jumps, physical contact, and sudden direction shifts At the same time the game expects high levels of physical fitness and endurance – players typically run in excess of 10 km in a game 	<ul style="list-style-type: none"> Is psychologically intense, highly pressurised and competitive during practice, competition, and outside the game This requires a number of highly developed psychological characteristics both in learning and development and performing at the highest levels 	<ul style="list-style-type: none"> Involves high levels of personal scrutiny of performance and conduct of players from the media, public, etc. Players are judged as members of a community, a club, a team, dressing room and are expected to contribute to their image and abide by their rules There are high levels of expectation around player conduct and lifestyle management 	<ul style="list-style-type: none"> Though players have varying movement/technical profiles at the elite level – depending on their strengths, position, etc. – there is a consensus growing around particular technical characteristics and competencies Without exception, the research revealed the need for highly movement literate/technically skilled players 	<ul style="list-style-type: none"> There is no one performance model for elite level football – with teams winning international trophies using a variety of approaches and formations However, the game currently appears to be moving towards a possession or counter-attacking based approach with the ball played through the thirds in phase, and/or moved quickly and accurately in counter-attack This requires players to have excellent game understanding and to be able to make quick and effective decisions
Elite players will typically have <u>high levels</u> of the following characteristics and competencies:	<ul style="list-style-type: none"> <u>Speed/explosive speed</u> <u>Strength</u> <u>Power</u> <u>Hypertrophy</u> <u>Aerobic fitness/endurance</u> <u>Muscular endurance</u> <u>Flexibility</u> 	<p>Psychological characteristics that benefit the individual</p> <ul style="list-style-type: none"> <u>Ambition</u> - a desire to become a great player <u>Motivation</u> - especially intrinsic motivation, love of the game <u>Effort and commitment</u> - engagement, investment, work ethic, determination to succeed <u>Awareness</u> - high level of awareness of self in all contexts; realistic performance evaluation; strengths and weaknesses and acts accordingly <u>Attentiveness and focus</u> <u>Vision</u> - knowing what it takes to succeed, goal setting; planning, effective and appropriate imagery use <u>Discipline</u> - dedication, taking responsibility, sacrifice, self-control, concentration, distraction control, delaying gratification <u>Resilience</u> - mental toughness, perseverance, anxiety control, coping strategies (with and under pressure), responding to setbacks appropriately <u>Character</u> - attitude, identity, ability to understand and position the self and influence social environment 	<p>Social characteristics that benefit the individual</p> <ul style="list-style-type: none"> <u>Supportive parents</u> (informational, emotional and practical) <u>Supportive important others</u> - partner, friends, team-mates, coaches, club officials, broader social connections <u>Access/exposure to player development resources</u> - facilities, coaching <p>Social characteristics that benefit the club/team</p> <ul style="list-style-type: none"> <u>Team spirit and cohesion</u> <u>Team work</u> <u>Collective responsibility</u> <u>Community understanding and integration</u> <p>Lifestyle characteristics and competencies</p> <ul style="list-style-type: none"> <u>Appropriate education</u> <u>Appropriate social choices</u> <u>Nutrition</u> <u>Hydration</u> <u>Rest and recovery</u> <u>Managing finances effectively and responsibly</u> 	<p>Fundamentals of movement</p> <ul style="list-style-type: none"> <u>Agility</u> <u>Balance</u> <u>Coordination</u> <p>Fundamental movement skills</p> <ul style="list-style-type: none"> <u>Stability</u> <u>Object control</u> <u>Locomotion skills</u> - mobility <p>Fundamental sport skills and sport-specific skills</p> <ul style="list-style-type: none"> <u>Ball control</u> - receiving and controlling the ball as and when it arrives with an assured, varied and secure touch, using all parts of the body; keeping possession of the ball while running, turning, stopping <u>Ball mastery and manipulation</u> – tricks, ability to spin, float and drive the ball <u>Running with ball/dribbling</u> <u>Passing/crossing</u> – releasing the ball accurately and instantly over a variety of distances using both feet on any surface; receiving and exchanging passes with others whilst moving at optimum speeds; one touch passing <u>Heading</u> <u>Shooting and finishing</u> 	<ul style="list-style-type: none"> <u>Game understanding</u> - for example, understanding the professional game such as the different requirements for playing in the Champions League, Premier League and Championship <u>Strategy</u> <u>Game intelligence/reading the game/game sense</u> e.g. movement off the ball <u>Team/unit understanding and organisation</u> <u>Recognising opportunities to attack</u> - disrupting stable systems <u>Recognising defensive threats</u> <u>Game control and manipulation</u> - players who can influence the tempo and shape of the game <u>Positioning</u> <u>Knowing about ball actions</u> <u>Knowing about others' actions</u> <u>Acting in change situations</u> <u>Decision-making</u> <u>Creativity</u> <u>Risk management</u>

ELITE	Physical/ Physiological	Psychological	Social/lifestyle	Movement/technical	Tactical
Elite players will typically have <u>high levels</u> of the following characteristics and competencies (cont.):		<ul style="list-style-type: none"> • <u>Knowledge, understanding, and appropriate attribution</u> • <u>Confidence</u> - self-belief, self-reinforcement (measured, not arrogant) • <u>Competitiveness</u> - intensity of performance, a desire to win • <u>Desire to learn/improve</u> - identify and work on weaknesses; receptive to knowledge; growth mind-set • <u>Effective learning</u> - listens, observes, discusses, thinks, understands concepts and ideas quickly, reflects • <u>Seeking out learning/practice opportunities</u> • <u>Evaluating performance and imagery</u> problem focused, aware of, seeks feedback on, strengths and weaknesses; uses imagery to construct performances • <u>Self-regulation</u> • <u>Enjoyment and 'flow'</u> (enjoyment does not appear to be a necessary part of performance though it does appear to mediate motivation and commitment) • <u>Consistency</u> (staying there) <p>Psychological characteristics that benefit the team (and by default the individual)</p> <ul style="list-style-type: none"> • <u>Leadership</u> • <u>Awareness of others</u> - empathy • <u>Caring</u> • <u>Humility</u> • <u>Responsibility</u> • <u>Solidarity</u> • <u>Respect</u> • <u>Communication</u> • <u>Social skills</u> <p>Psychological characteristics related specifically to the sport e.g. knowledge of the sport, game understanding, and decision making are overviewed in the 'tactical' column.</p>		<ul style="list-style-type: none"> • <u>Challenging and intercepting</u> – changing feet and body position quickly whilst retaining balance • <u>Awareness and control</u> – operating in congested areas with speed and precision • <u>Position specific skills</u> 	

3.3.2 Development model

The performance model provides a framework for what the development system is aiming towards, but how might this development be structured and organised?

There is a growing research literature which provides theoretical and empirical evidence to inform the structure of development systems. A review of the literature suggests a number of key principles. These principles inform both system-level design and learning environment design.

For the purpose of organising the model of emerging principles of player development they are included as system principles but they should not be seen as mutually exclusive to theoretical and learning environment principles.

Development systems should:

- Adopt a long-term approach
- Within a long-term approach recognise developmental difference between age and stage
- Recognise that development is holistic incorporating aspects of PPSTT
- And, finally, given the longer-term nature of development, the systems should be inclusive (i.e. system architects, managers and coaches should not lose their nerve and give into early selection approaches – though this of course is subject to available resources).

Long-term approach

One of the most consistent results from research examining the development of talent and expert performance relates to the length of time involved (Baker, Cobley, & Fraser-Thomas, 2009; Bloom, 1985; North, 2012a; Simon & Chase, 1973). Though estimates of the length of the development process from novice to elite vary, many researchers quote the figure of 10,000 hours, or 10 years (Ericsson et al., 1993).

In sport, a connection has been established between the number of practice hours and expertise (e.g. Baker, Côté, & Abernethy, 2003a, 2003b; Baker, Côté, & Deakin, 2005; Gould et al., 2002; Helsen et al., 2000; Helsen, Starkes, & Hodges, 1998; Hodges & Starkes, 1996; Larsen et al., 2013; Mischel, 1973; Starkes, Deakin, Allard, Hodges, & Hayes, 1996).

The number of hours accumulated varies considerably by study and sport. For example, in Helsen et al. (1998), international soccer players had accumulated 4587 practice hours after 10 years, and 6328 practice hours after 13 years. International hockey players had accumulated 8541 practice hours after 10 years, and 10,237 practice hours after 13 years.

One implication of this result, when combined with the evidence on the peak performance age of players (in football, typically thought to be around mid to late 20s; for other sports see Schulz and Curnow (1988)), is that to achieve the requisite practice hours individuals have to engage relatively early in physical development and sport. This might be from 4-5 years old upwards.

There is considerable debate, however, about what form this engagement should take varying from early single sport specialisation (Ericsson et al., 1993) to early diversification and sampling of different sports with later investment (at 12 years) and specialisation (at 16-17 years) (Côté et al., 2007). An 'early engagement' hypothesis has also recently been advanced in a football context (P. R. Ford et al., 2012; P. R. Ford, Ward, Hodges, & Williams, 2009).

Decisions about how to proceed within this debate have implications for age-stage thinking (next section) and are picked up in more detail in Section 3.4.3 on practice structure.

Age-staged approach

Age-stage approaches are based on the idea that individuals at different stages (often loosely associated with chronological age but not determined by it) develop particular characteristics or are exposed to environments which provide the foundation – or enable them to be ready – for engagement in particular types of activities.

For example, entry into sport, training, competition etc. This is based on the emergent development processes outlined in section 3.2 on theoretical principles. Age-stage models postulate that particular environments and activities are more conducive to positive development based on the stage of development of the individual player.

Age-staged approaches have a considerable history in physiology, psychology, and education and have also featured strongly in the context of player development and coaching. Moreover, age-stage development has been a central feature of research into physical and neurological development (Scammon, 1930), cognitive development (Piaget, 1952), and movement development (Gallahue, Ozmun, & Goodway, 2012).

For example, Gallahue, Ozmun, and Goodway's (2012) life-span model of motor development suggests there are four broad stages of movement development: reflexive movement (from birth to one year old), rudimentary movement (one to two years old), fundamental movement (two to seven years old), and specialised movement (seven to adulthood). Thus from a movement development perspective there is a notable transition age between seven and upwards.

In sport a number of age-stage models have been proposed including the Long-term Athlete Development (LTAD) model (Balyi & Hamilton, 2004; Stafford, 2005) and the Developmental Model of Sports Participation (DMSP) (Côté, 1999; Côté et al., 2007). A further overview of non-sport and sport age-stage development models is provided on the next page (Table 3.3). A collective analysis of these models suggest a number of key age groups – 5-7 years, 8-11 years, 12-14 years, 15-18 years – and key transition points around 4-5 years, 7-8 years, 11-12 years, 14-15 years, and 18-19 years.

The research provides a number of recommendations for how development environments should vary between age groups. For example, youngsters up to 7 years of age should focus on fun, the development of fundamental movement skills, social engagement and connection skills through games, friendly coaching etc. From 7-8 years onwards the refinement of fundamental skills and more sport-specific skills can be introduced. Disagreements exist between academics about how age-stage approaches should be prescribed and coordinated; for example, between Balyi (Balyi & Hamilton, 2004), Côté (Côté et al., 2007) and Ford and colleagues (P. R. Ford et al., 2009).

Age-stage approaches – some complexities

There is a considerable amount of research and commentary analysing the use of age-stage thinking both descriptively and retrospectively, and as a means of thinking about player development prescriptively.

From a descriptive and retrospective perspective research has pointed toward a tendency in sport to ignore age-stage thinking particularly in younger age-groups where children are often exposed to variants of the adult game, adult practice structure and adult coaching. Partington et al. (2013) describe professional soccer as a 'living and ecologically sensitive' site for age-stage approaches. Citing research by Fraser-Thomas et al. (2008a) they suggest that "a mismatch between children's developmental needs and coaching behaviours leads to more dropout, injuries and shorter careers than when children are trained by a competent age appropriate coach" (p.403).

A key aspect of age-stage thinking is transition points – by definition, this is when something novel and significant happens (for example, change, progression or drop-out). A number of researchers have commented on the difficulties for players transitioning between age-stages and this confers responsibility on coaches and others to ensure that the former are equipped for what lies ahead (e.g. MacNamara, 2011) including in football (Larsen et al., 2013). Recommendations for negotiating transitions are provided by Alfermann and Stambulova (2007) and include the importance of information provision and communication between stakeholders (i.e., coaches, managers, elite athletes).

Table 3.3 – Age-stage models and common transition points

	Physical development	Cognitive development	Movement Development	Educational Key Stage	Participant-performer development		Commonly identified transition points relevant to player development	
	Lloyd and Oliver (2012)	Piaget (1952)	Gallahue, Ozmun, and Goodway (2012)	Educational key stages in the UK based on Hadow Report (1931)	Balyi & Hamilton (2004) Stafford (2005)	Côté, Baker, & Abernethy (2007)		
25	Decline in growth rate	Formal operational	Specialised movement	Tertiary education	Training to win	Performance sport		
24								
23								
22								
21								
20								
19								
18								
17	Adolescent growth			KS5	Training to compete	Investment years	17-18 years	
16				KS4				
15				KS3	Training to train	Specialisation years	14-15 years	
14								
13								
12								
11	Steady growth			Concrete operational	KS2	Learning to train	Sampling years	11-12 years
10								
9								
8								
7		Pre-operational	Fundamental movement	KS1	Fundamentals	7-8 years		
6								
5	Rapid growth	Pre-operational	Fundamental movement	KS1	Active start	Entry into sport	4-5 years	
4								
3		Sensorimotor	Rudimentary movement	KS0				
2							Reflexive movement	
1								
0								

Age/stage models, both in and out of sport, have been subject to criticism notably concerning the dynamic, complex and non-linear nature of human development suggesting that individual players may be very different to their chronological age profile (e.g. Bailey et al., 2010; P. Ford et al., 2011; McMorris, 1999).

This criticism, however, has generally been anticipated by Balyi and Côté etc. They suggest using other markers e.g. relative age, development age, and skeletal age etc. to provide a means for coaches to individualise development programmes, environments and activities (see sub-section on player centred coaching). However, some doubt the coaches' ability to apply this information appropriately (P. Ford et al., 2011). Other researchers have suggested the use of developmental or learning phases disconnected from chronological age. For example, Bloom and colleagues (1985) suggest a sequential development process – 'early, middle, late' that is disconnected from chronological markers.

It is important to note that there have been other criticisms of these models. For example, Balyi and Hamilton (2004) have been criticised for basing their development model largely on physiological principles which

remain unsubstantiated (Bailey et al., 2010; P. Ford et al., 2011). The search is on for a developmental model which integrates different disciplinary perspectives and has robust research backing. The next section considers the development of players in a holistic sense.

Ultimately, age-stage information is just that, information - it is not a rigid programme - coaches should use the information when they think it is useful to an individual's development.

Holistic

This study has already identified the multi-dimensional character of elite players and their development. Though researchers – driven by their disciplinary instincts – remain largely focused on the development of particular characteristics e.g. physiology (Lloyd & Oliver, 2012) and psychology (MacNamara & Collins, 2012), more recent models are increasingly working with notions of holistic development (e.g. García Bengoechea, 2002; Haskins, Jolly, & Lara-Bercial, 2011; North, 2009).

As was noted in the section on the theoretical principles, human development is unequivocally multi-layered and multidisciplinary. If coaches are enabling and supporting these development processes they need both disciplinary and multidisciplinary concepts and ideas to work with.

However, more than this, coaches need to think about their players as human beings – as individuals with their own histories, personalities, ideas, preferences, strengths and weaknesses. There are a range of theories which suggest that if the coach focuses more on these human qualities then there is a great chance of successful development and sporting performance (see, for example, Jones, Armour, & Potrac, 2004).

This sub-section will briefly present some research on specific aspects (layers) of player development, notably physiology and psychology, before moving on to more holistic development models.

Research - Physiology

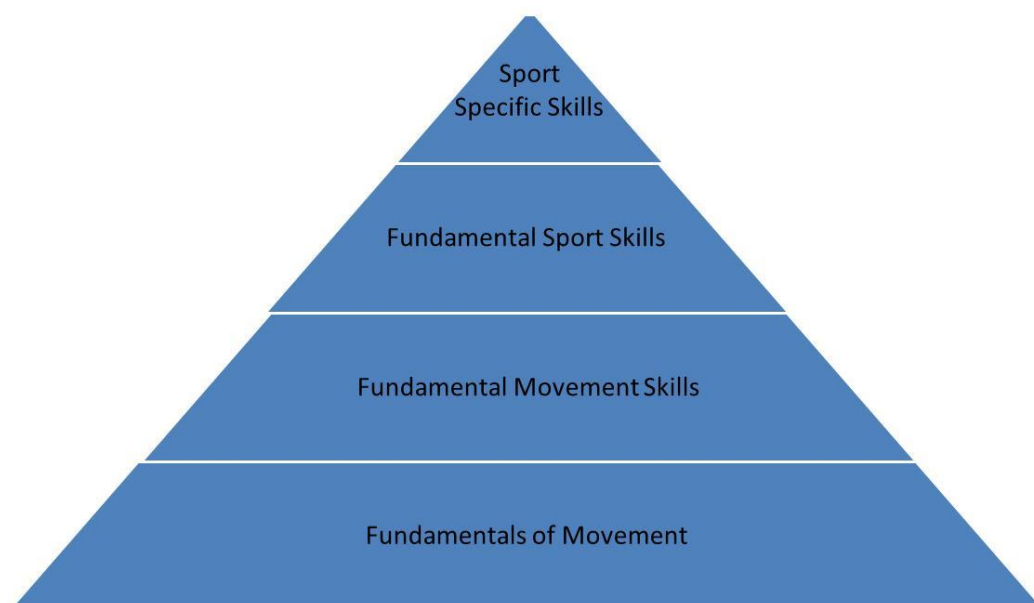
There are a number of old and emergent models of physiological development with varying degrees of evidential backing and peer review (e.g. Bompa, 1995; Lloyd & Oliver, 2012) (excluding here the work of Balyi and Hamilton (2004)). These models basically focus on the development of specific physiological characteristics – emphasising ordering and staging.

For example, Lloyd and Oliver (2012) propose a model for long-term athletic development which focuses on agility, mobility, power, speed, strength, endurance, hypertrophy, fundamental movement skills and sport-specific skills and suggest the chronological ages or age periods at which they should be a focus for development.

They suggest that strength work should be integrated into age appropriate programmes from very early childhood, whereas work on hypertrophy can start from 12 years. Furthermore, like Balyi and Hamilton (2004), Lloyd and Oliver (2012) propose the early development of fundamental movement skills up to the age of 7-8 years (and, indeed, beyond into adulthood), with a gradual increase in the development of sport-specific skills from 8-9 onwards. This work has been backed up by recent work in rugby league and gymnastics in the UK (North, 2011, 2012b). Lastly, Lloyd and Oliver (2012) suggest physical development programmes should be undertaken in conjunction with a trained strength and conditioning coach.

A key set of concepts here relates to the ‘fundamentals continuum’:

Fundamentals Continuum



Permission: Kevin Till

Skills	Description	Football Example	Priority Development Age
Sport-specific Skills	Specialised sport-specific skills. Combination of fundamental and movement skills to create skills specific to the sport	Dribbling the ball at pace, beating a defender and crossing the ball	8-11 years
Fundamental Sport Skills	Fundamental movements skills applied to the sport	Receiving the ball, dribbling, passing, shooting etc.	5-7 years
Fundamental Movement Skills	These combine the fundamentals of movement to develop more complex actions. These are split into three areas - stability, object control and locomotion skills.	Not football specific. Examples include: stability - one foot balance; object control - receive, pass/kick; locomotion - run/jump.	5-7 years
Fundamentals of Movement	The introduction and development of agility, balance and co-ordination (ABCs of movement). They are the building blocks for the development of future more complex skills.	Not football specific.	5-7 years

Thanks to Kevin Till for comments on this table.

The fundamentals continuum suggests the staged development of movement characteristics with more complex skills building on previous movement development work. Yet, it is important to note that all these skills can be developed at any time – age/stage guidance suggests the prioritisation, but not exclusive development, of particular skills at particular ages.

Research - Psychology

In their review of the factors facilitating expert performance, Baker and Horton (2004) highlighted the importance of psychological characteristics which focus and facilitate development.

Áine MacNamara and colleagues (in particular) have stressed the importance of psychological characteristics of developing performers (MacNamara, 2011; MacNamara, Button, & Collins, 2010a, 2010b; MacNamara & Collins, 2012). More specifically, the following 'psychological characteristics of developing excellence' (PCDEs) have been identified by MacNamara et al. (2010a): commitment, competitiveness, coping under pressure, game awareness, goal setting, imagery, importance of working on weaknesses, motivation, quality practice, realistic performance evaluations, self-belief, social skills and vision of what it takes to succeed.

Interestingly, MacNamara et al. (e.g. 2010b) suggest "the differential deployment of PCDEs relative to the individual's age, focus, stage of development/level of maturation, and performance domain" (p. 93). For example, there appears to be a shift in responsibility from 'others' (e.g. parents, teachers, coaches) promoting and reinforcing PCDEs in the early years toward self-initiated and autonomous behaviours in the later years. Essentially, the differential deployment of PCDEs can be understood from a self-regulation perspective. Self-regulated learners have the skills to self-monitor their progress, manage their emotions, focus on self-improvement, and seek help and support from others when necessary. Conversely, performers without these skills do not take personal responsibility for their own development, but instead rely on others and attribute failures to maladaptive reasons. Both these standpoints find interesting partial resonance in the ideas of Dweck's 'growth mindset', which emphasises the importance of success being based on hard work, learning and training (Dweck, 2006). This provides interesting insight to guide coaches' planning, strategies and action with players in different age groups.

Developing psychological characteristics in players to navigate the development journey and to succeed at the highest level introduces another strand of literature. For example, Mallet (2005) describes using self-determination theory (Deci & Ryan, 1985) to develop motivational characteristics in elite track and field athletes. Similarly, Thelwell, Greenlees, and Weston (2006) used a qualified sports psychologist to deliver a psychological skills training programme to elite footballers.

Research – Social Development

There is a considerable body of research which has explored the social dimensions of participation and performer development. These consider the influence of issues such as coach-athlete relationships (Poczwadowski, Barott, & Henschen, 2002), team dynamics, clubs, parents and family (Côté, 1999; Fraser-Thomas, Strachan, & Jeffre-Tosoni, 2013), friends (M. W. Bruner, Eys, & Turnnidge, 2013; Wylleman & Lavalley, 2004), school (Bailey et al., 2010) etc.. While recent work in Denmark emphasises taking a systems approach (Henriksen, 2010; Henriksen et al., 2010a, 2010b; Larsen et al., 2013).

Research - alternative approaches to holistic development

Research situated originally in developmental psychology and positive youth development has proposed a set of developmental characteristics/outcomes – the 5Cs: competence, confidence, connection, character, and caring/compassion. These characteristics, if targeted and developed, would provide considerable benefit to individuals, groups and societies (e.g. Lerner et al., 2005). Some researchers have suggested that youth sport programmes should be used to develop these 5C outcomes in sporting participants (Fraser-Thomas, Côté, & Deakin, 2005).

The 5Cs are becoming increasingly well known in sport and coaching in the US, Canada and the UK. The relevance of the 5Cs would appear to be in drawing coaches' attention to a wide range of development characteristics/outcomes for young players and performers related to, but conceptually different from, the physical, psychological, social, technical and tactical characteristics identified earlier. In other words, it is another conceptual approach for thinking about holistic development.

There is certainly overlap between the characteristics identified through the 5Cs and those proposed by the wider research literature notably on the psychological aspects of player development as desirable e.g. respect,

humility and so on. The 5Cs information could be useful to coaches to explore this kind of thinking as long as it does not get confused with more disciplinary-focused holistic approaches.

Selection and inclusivity

There is a fundamental tension at the heart of player development systems which is often rather ignored or decontextualized by academic treatments. The tension is this: there are limited resources for player development, necessitating some kind of selection of players, but the associated selection processes are something of a gamble. This is especially the case given what we have already said about the unpredictability and long-term nature of player development, and the problems with early talent identification and selection approaches introduced in the theoretical principles section.

Players who are not selected, for example, for a club development centre or academy are unlikely to be selected later (Csikszentmihalyi & Robinson, 1986; Starkes et al., 1996). Thus, they miss the opportunity to play the sport professionally if they later turned out to be a good player (this is analogous with a Type 1 error in statistics – incorrectly rejecting a true hypothesis). Those selected will have a much better chance of success – because of all the additional investment and coaching – but they may not have been the ideal candidates in the first place (this is analogous with a Type 2 error – incorrectly accepting a false hypothesis).

The player development ‘gamble’ is intensified by the fact that player development systems naturally streamline from many players at lower age groups to few players in first team squads. Thus, sitting alongside selection is a natural funnelling process which appears to compound Type 2 errors, making them appear much worse (a point missed by many critiques of selection approaches).

There are two possible responses to this problem which are not necessarily mutually exclusive (rather more a matter of extent): (1) improving player selection strategies and (2) withholding selection for as long as possible.

Player selection strategies

Early player selection strategies have something of a bad name in the academic research literature. There are a number of reasons for this. Most research has tested and evaluated simplistic one-dimensional approaches; for example, physiological predictors of future success. Researchers have been critical about coaches’ application of selection approaches in terms of the use of particular methodologies and the age at which they have been applied. The following provides more detail.

We have already conceptualised elite player and player development characteristics holistically: physical, psychological, social/lifestyle, technical and tactical (PPSTT). Player selection strategies have historically focused on physical and performance (technical and tactical) characteristics and markers. Early anthropometric and physiological markers and tests have been proposed (e.g. Falk, Lidor, Lander, & Lang, 2004; Reilly, Bangsbo, et al., 2000), as a means of predicting later performance success, but their efficacy has been questioned by others (Lidor, Côté, & Hackfort, 2009).

Technical and tactical markers and tests have been proposed (Falk et al., 2004) and then similarly questioned. Discrete performance variables may be helpful, it is argued, in signposting potential talented athletes during development, but they should not fool coaches into believing that they can distinguish or predict future performance (Abbott, Button, Pepping, & Collins, 2005). More recently, psychological and social characteristics have also been proposed and then questioned (Anshel & Lidor, 2012). The point here is that all of these tests have generally been used in ‘isolation’ and do not reflect the holistic nature of player development, as well as the fact that early characteristics might not predict future success due to the non-linear and unpredictable nature of human development.

The academic mainstream is increasingly moving toward a multi-layered, multi-disciplinary approach to selection strategies based on a range of PPSTT factors (e.g. Reilly, Williams, Nevill, & Franks, 2000; Vandendriessche et al., 2012). This multi-layered approach was dominant in the practice descriptions of 15 Premier League and Football League coaches in a recent study by North, Morgan and Rongen (2012a). The coaches talked about a lack of precision in selection practice, and instead applying a ‘balance of probabilities’ and/or ‘gut instinct’ when making selection decisions.

Though coaches may have good intentions with regard to their talent identification and selection strategies, it appears that systematic biases are in evidence. A relatively consistent finding in research on football is that of *relative age effects* – the overrepresentation of age-group/squad/team members with birthdates early in the selection year (i.e. the first quarter) (Helsen et al., 2012; Helsen et al., 2000; Helsen et al., 1998; Helsen, van Winckel, & Williams, 2005; Vaeyens et al., 2008).

The relative age effect (RAE) reveals a number of beliefs, preferences and actions amongst sport coaches which have been challenged for their developmental qualities. For example, a preference for short-term competitive success over player development, and selection based on biological and physical markers (Vandendriessche et al., 2012). This is not surprising because youth teams with relatively older age group players appear to have more success (Augste & Lames, 2011). Recent research by Carling et al. (2012) suggests that RAE might not just be based on selection of physical characteristics but also based on other development influences early in the selection year – cognitive development, more practice etc.. Coaches' behaviours in relation to relative age effects have been a target for European football federations (e.g. FA Learning, 2010). However, despite a decade of research, federation and club activity, Helsen et al. (2012) suggest that relative age effects still exist in professional football. For example, Carling et al. (2012) suggest that selection practices have not changed over a ten year period in one French club.

Delaying selection

To avoid the problems associated with early selection using either single or multiple markers a number of researchers have advocated maintaining developmental pathways until as late as possible, including past sexual maturation (Abbott et al., 2005; Abbott, Collins, Martindale, & Sowerby, 2002; Côté et al., 2007; Martindale et al., 2005).

'Snapshot' tests of early performance and physical capacities, it is argued, have not proved to be reliable indicators of later expertise and success (Cobley, Schorer, & Baker, 2012). Early performance and physical markers underestimate potential (Button, 2011). Many performers have made it to the top of their chosen domain despite not showing promise as a junior (Schneider, 1993). Early talent identification is seen as investing scarce resources on a 'gamble' (MacNamara & Collins, 2012), and undermining players' lifelong engagement in sport (Côté, Lidor, & Hackfort, 2009).

These problems have prompted some researchers (Abbott et al., 2005) to suggest that the focus should shift from 'selection' to 'development' – with identification/selection withheld at the very earliest until the age of 12, but perhaps even well beyond this. Indeed, many footballers are not picked up for the first team until 22-23 years, and may not reach peak performance until 25-26 years. A developmental, inclusive-orientated approach has been supported empirically in football in Denmark (Larsen et al., 2013).

A concern with this approach is that it rather side-steps issues related to the quality of learning environments, associated resourcing issues and politics between clubs. Though Côté et al. (2007) suggest that selection should be minimised until the end of the 'sampling years' (c.12 years of age), there is evidence to suggest that coach-led sport-specific practice should start from around 8 years at the latest to meet player wants and readiness (North, 2013a; North et al., 2012a), and to provide the sport-specific practice required for elite development. In the English system there was a general concern about the quality of community coaching in younger age groups, thus a selection approach was used to introduce players into an academy structure at 8 years of age (North et al., 2012a). Whether the reader agrees with the need to begin to specialise at 8 years of age or not, there is also a political dimension here, as clubs seek to register talent (at the very least) to prevent other clubs from gaining access to it.

We believe there are some interesting questions to be asked concerning development, selection and inclusivity. We agree that development pathways should be as broad as possible for as long as possible, but argue that some kind of specialisation and access to higher quality resources is important at an early stage for the country to remain competitive internationally. The question is, at what age and in what environment? Should selection start at 5 years, 8 years, 12 years or later? Are resources best allocated to the community or the professional club academy? In an English context we have argued for substantially improved community resources for 8-11 year olds, with more paid coaches and better coach education, and the removal of the academy system for this age group (North et al., 2012a). The first academy selection decisions should then

start around 11-12 years of age (in England *de facto* decisions are actually made from around 5 years of age for 'development centres').

We argue here that at around 11-12 years of age we can think of selection approaches as more about identifying a pool of individuals who researchers and practitioners believe have the potential to succeed, and in whom the significant development resources available can be invested, rather than guaranteeing first team success. These models must be judged on these terms rather than as cast iron predictors of success.

This 'potential', with the associated investment, will become to an important degree a self-fulfilling prophecy (as we have suggested very few/virtually no players now emerge from outside of the established talent pathways). Questions will always remain about those who fall outside of the initial talent selection net, but with limited resources and the need to provide high quality sporting experiences what choices do academies/clubs have?

Incidentally, it might well be the case that limited investment in young player development in some countries (for example, in England (C. Green, 2009)) reflects a conscious or unconscious recognition on the part of club owners concerning the difficulties with early talent selection strategies – 'we invest this much, we get this much back'. Any investment might also be simply a defensive strategy – 'we don't want to risk 'talent' going elsewhere in case it comes back to haunt us'. Investment in youth development is clearly vital but there has to be more thought about how it is undertaken.

KEY POINTS

- A player/participant development system does not only need a clear framework of what the systems is aiming towards, it also needs a framework of how this development will be structured and organised – this is referred to as the development model
- Development systems should:
 - (i) Adopt a long-term approach and recognise that player/participant development requires investing in a substantial amount of hours of practice from a relative early age. The way in which this practice is structured can vary greatly.
 - (ii) Within this long-term approach recognise developmental differences between age and stage, and hence adopt (and adapt) approaches to fit the developmental needs of the players/participants involved.
 - (iii) recognise that development is holistic, meaning that player/participant development needs to incorporate aspects of PPSTT and think about players as human beings.
 - (iv) should be inclusive and not focused on early selection. It is acknowledged that resources for player/participant development are limited but that selection processes are something of a gamble. Two potential responses are highlighted: (i) improving player selection strategies and (ii) withholding selection for as long as possible.

3.3.3 System embeddedness, clarity, implementation, coherence and alignment

Embeddedness

The embeddedness of player development systems is not new to the sports sciences (e.g. Carlson, 1988) though it is certainly an emerging area of research (Abbott et al., 2005; Henriksen, 2010; Henriksen et al., 2010a, 2010b; Larsen et al., 2013). In this study we distinguish between two types of embeddedness; spatial embeddedness, and social embeddedness and significant others.

Spatial embeddedness

Player development environments are always located somewhere spatially.

There is an increasing body of research suggesting that some localities appear more conducive to performer development than others. A review by MacDonald and Baker (2013) suggests that towns and cities with particular population sizes – medium-sized cities ranging 1,000 to 500,000 in population – are more likely to produce high performers because of more access to facilities, a critical mass of players, and access to coaching. Interestingly, research in the US suggests that slightly larger cities – between 500,000 and 1 million inhabitants – are associated with producing more successful soccer players (Côté, Macdonald, Baker, & Abernethy, 2006).

Larsen et al. (2013) note the considerable advantages accruing to one major Danish club by virtue of its spatial location - large population, many smaller 'feeder clubs', with limited and no competition for players from other elite clubs for a radius of 40 km. These factors could feed into decision making about the location of player development environments. Interestingly, Larsen et al. (2013) noted a lack of importance of high quality facilities in their study of Danish youth football, suggesting other factors were more important to development.

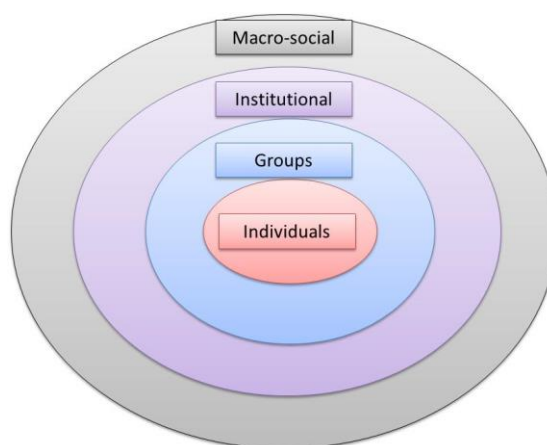
Social embeddedness and significant others

Sport and player development does not exist in a social vacuum. There are many individuals, groups and institutions who work together as part of the player development endeavour. A great deal of sport science research tends to focus on atomised elements of the sporting phenomenon, as now discussed: Player development, for example, might be reduced to physical components (e.g. Lloyd & Oliver, 2012) or psychological components (e.g. Hagger & Chatzisarantis, 2007; MacNamara, 2011). These are individual (or sub-individual) reductions rather than conceptualising player development as systemic and social.

There have been recent calls, for example, by Larsen, Henriksen and colleagues to not just focus on micro-level 1:1 interactions but to also recognise the importance of the overall organisational context and environment in player development (Henriksen et al., 2010a, 2010b; Larsen et al., 2013). The role of parents, peers, school and immediate social support are clearly very important to sport development (M. W. Bruner et al., 2013; Fraser-Thomas et al., 2013). There are also very important roles for coaches, assistants, and managers in supporting the overall goals of the sporting context and helping players develop important characteristics and competencies (Henriksen, 2010).

This social embeddedness of player development and coaching is captured in Figure 3.1.

Figure 3.1: Embedded system of player development and coaching



KEY POINTS

- Participant development systems are embedded, both spatially as well as socio-culturally.
- In spatial terms, certain types of locations seem more fruitful grounds for successful participant development (i.e., those that provide access to facilities, quality coaching, a sufficiently large talent pool, and limited competition in terms of other systems trying to access the same talents).
- Furthermore, player development takes place within a social context and the need to take a more systemic approach is highlighted, taking into consideration other stakeholder and organisational context.

System clarity, implementation, coherence and alignment

Within an embedded system it appears important to develop clarity about the roles and responsibilities of key elements – philosophy and culture, playing style, player characteristics, and development approaches – amongst the key stakeholders (Larsen et al., 2013; Woodman & Hardy, 2001).

This includes, for example, gaining clarity concerning roles and responsibilities between development and performance environments and ensuring that pathways and transitions are smooth (Relvas, Littlewood, Nesti, Gilbourne, & Richardson, 2010). System architects might have some contradictory ideas about roles, responsibilities, connections, and clarity between environments. For example, research by Relvas et al. (2010) reported a number of questionable practices in the positioning of youth development and first team environments in one club, such that transitions were made more difficult.

Research on effective player development is increasingly recognising the importance not just of the underpinning ideas but also how these ideas are resourced, implemented and monitored. The weakness of the English system has at least been attributed to a lack of prioritisation and investment in youth development (C. Green, 2009).

Success is not just about having an idea about how performer development will work (performance, development and systems models) but also having clarity and the appropriate resources. Furthermore, stakeholders in the system also need to ‘buy-in’ to these ideas and then align their behaviours (Martindale et al., 2005). They need to bring the principles to life through their decision making and action. This constitutes the embedding of a successful philosophy and culture into the player development environment.

KEY POINTS

- For participant development systems to be successful they need to have a clear philosophy and culture, playing style, player characteristics and clear ideas about how participants should be developed. These elements then need to be aligned and coherently implemented with all stakeholders being on the same page, to successfully embed them within the participant development system.

3.3.4 Skilled and committed workforce

The important role played by sport coaches, strength and conditioning coaches, sport psychologists, and other parts of the sporting workforce in player development are now widely recognised (Bloom, 1985).

Effective sport coaches, for example, have been argued to create environments which are conducive to the psycho-social well-being of players and teams which have a range of player development benefits (Taylor & Bruner, 2012). At the same time, ineffective or poor coaching may have a detrimental impact on player development; including stress, burnout, drop-out and lasting psychological issues (Alexander, Stafford, & Lewis, 2011; Arnold, 1997; Dodge & Robertson, 2004; Donegan, 1995; Lyle, 2002).

The above has two implications; first, that a workforce is required to support player development and, second, that it needs to be effective, and this effectiveness needs to be supported, developed and monitored. There is a considerable literature discussing coach development and education (for a review see Cushion et al., 2010), some of which has been directly related to football (Cushion, 2013).

KEY POINTS

- **For a participant development system to be successful it needs a skilled and committed workforce.**
- **The make-up of this workforce varies amongst different countries with different proportions of volunteer, part-time and full-time positions.**
- **Investment into the education of the workforce through formal, non-formal and informal avenues is paramount.**

3.4 Learning environment principles



In reshaping the principles identified in the previous FA study (North et al., 2012a, 2012b) for the current document, and through further engagement with the research literature, the 'learning principles section' emerged as a distinct entity.

After some measured reflection we recognised the similarities of this section with work developed by colleagues at Leeds Metropolitan University on *constructive alignment* (Muir, Morgan, & Abraham, 2011; Muir, Morgan, Abraham, & Morley, 2011) and emerging through Muir's currently unpublished 'reflective practice framework'.

Muir adapted Biggs's (2003) notion of constructive alignment in adult learning to a sports education context. Biggs's idea is simply that learning environments are about achieving particular long, medium and short term goals or learning outcomes and these goals act as key reference points from which coaches can plan, deliver and reflect on learning environments and sessions. A key concept is using the most appropriate practice activities and coaching behaviours to achieve these goals. Thus, there is not one model of practice or coach behaviours but many approaches to achieve the goal depending on the task, the individuals involved (players, coaches etc.), and the environment.

What is described below therefore is deliberately designed to be a goal orientated but flexible range of considerations for system architects and coaches to consider when they develop and deliver their programmes and sessions.

3.4.1 Learning environments are goal focused

In previous sections we hinted at the goal orientation within player development environments. Successful learning environments are likely to have a clear philosophy and culture, with a clear idea about the final endpoint on the journey of development (performance model), and how this development should occur (development model).

The development model suggests that learning environments are usefully thought of as long-term, age-staged and holistic. That is, there is commitment to learning and development, there is differentiation in learning environments between different age groups and system architects and coaches should think of learning environments attending to physical, psychological, social/lifestyle, technical and tactical components.

These ideas provide the framework for more specific explicit or implicit curricula which guide programmes and session plans. For example, information on desirable age-stage holistic PPSTT characteristics and competencies is provided by North et al. (2012b) and summarised in Table A1 in the appendix.

Goal setting and planning provide the mechanism to integrate longer term macro level goals, information and activities into seasonal and sessional programmes (Abraham & Collins, 2011). Effective goal setting and planning have an established relationship with effective coaching practice (e.g. Gallimore & Tharp, 2004).

The dynamic and contextual nature of player development and coaching means that coaches will have to be flexible and adaptive to take account of incidents and events in the coaching context as they happen. Coaches should not rigidly or blindly follow the plan but consider what is happening in front of them (Cushion, 2010). Being flexible and adaptable to changing conditions are also a hallmark of effective coaching (Saury & Durand, 1998).

KEY POINTS

- **Given the long-term, age-staged, and holistic nature of player/participant development, learning environments enabling this development need to be goal focused. Setting and planning towards long, medium and short term goals offers a way of structuring and setting up of programmes, and of reflecting on learning environments and sessions.**

3.4.2 Player and team centred and challenging

Player centred learning environments

We have already noted the highly individualised nature of human development (see section on theoretical principles). One implication of this is that development programmes and learning environments should also be individualised to meet differing and emergent player needs (Martindale et al., 2005). Although there are a range of theories that provide insight into player learning and development and pedagogical processes, the theories with the widest contemporary support generally place the learner at the heart of the learning and development process (Cassidy, Jones, & Potrac, 2004; Cushion, 2010; Kidman & Lombardo, 2010).

Older theories of learning - notably behaviourist and information processing theories - generally support a view of development where the player is passive and the learning designer/educator is central, highly directive, instructive and prescriptive (Cassidy et al., 2004; Kidman & Lombardo, 2010) transmitting knowledge in a unidirectional way.

Learning theorists such as Vygotsky place considerable emphasis on learner centeredness and individualisation: “the fundamental prerequisite of pedagogies inevitably demands an element of individualisation, that is, conscious and rigorous determination of individualised goals” (Vygotsky, 1997, p. 324). In this approach there is no assumption that the coach has all the knowledge and controls the coaching process. Players are seen to have essential insights into their own learning and development (Jones & Standage, 2006). This means that there is active collaboration between coach and player with the coach investing significant time to develop and nurture relationships. The coach helps the player to identify development issues and provide guidance and support to address them.

The relationship is generally seen as being facilitative - encouraging and supporting rather than dictating and forcing (Cushion, 2010). Learner-centeredness and individualisation have important implications for goal setting, monitoring and review – though there is a high level of flexibility and responsiveness. “Effective coaches are able to focus on the needs of individual athletes; and behaviour should be shaped around individual athletes’ progress and responses, and also the context at any given moment” (Cushion, 2010, p. 56)

Being learner/player centred, however, is not seen as the straightforward implementation of one model of coaching (Cushion, 2010). Just as directive approaches alone have the potential to disempower players and

impact on their decision-making, problem solving and creative skills (Cassidy et al., 2004; Potrac & Cassidy, 2006), entirely non-directive approaches, where development goes unchecked, may lead to an immature or incorrect knowledge and understanding and neglect of key skills (Cushion, 2010). The coach needs to respond to the particular needs and wants of individual players (Smith & Smoll, 2007), the task and the environment.

Martindale et al. (2005) see individualisation as important for youngsters seeking to navigate tricky transition periods when they may excel and/or drop-out of sport. Coaches can help to provide players with the most appropriate psychological skills and social support to negotiate difficult periods.

The nature of learning environments has been the subject of research notably in an English football context. It has been suggested that the traditional educational model has favoured a coach controlled rather than a player centred/coach facilitated model of practice. As Cushion, Ford and Williams (2012, p. 4) suggest “In soccer, there remains an underlying authoritarian character in the sub-culture and this has a pervasive and influential effect on coaching and coach behaviour”. This suggests that in the US and UK at least (where the research was conducted) there has been an emphasis on the use of ‘traditional’ highly directive, prescriptive/instructive and autocratic coaching behaviour (e.g. Cushion et al., 2012).

Self-determination

Highly related to notions of learner centeredness are notions of self-determination which have had considerable currency in sports research (e.g. Hagger & Chatzisarantis, 2007).

Deci and Ryan’s self-determination theory (e.g. Deci & Ryan, 2012) suggest that optimal development occurs in situations where a number of basic psychological needs are satisfied. These are: *autonomy* i.e. individuals have agency, choice and/or control over their environment, *competence* i.e. feel effective as part of their interactions in the environment, and *relatedness* i.e. feeling connected to others. The theory has received a high level of empirical and peer backing (Vallerand, Pelletier, & Koestner, 2008).

An implication of the theory is that sport coaches and institutions can most appropriately support player development through establishing environments where players have choice and choice initiation, feel they can contribute, and are understood and supported.

Team centred learning environments

Since football is a team sport, with performance success ultimately depending on the team as a collective, it is appropriate to recognise and understand the team aspects of development as well as those that are individually based.

Though as we have just noted contemporary learning theory tends to emphasis individual development – our experiences as practicing football coaches suggest that, in England at least, much more emphasis has been placed by coaches on age-group, squad or team development than on the individual (North et al., 2012a). Research in one club context in Denmark research by Larsen et al. (2013) agreed with the research rather than our practice experiences. Coaches, they suggested, found it much easier and were much more inclined to focus on individual development thus potentially neglecting team aspects. But it is clear that the wider philosophical, cultural and mindset context described earlier provide an important context for team development. “The culture (i.e., hard work, family feeling, cooperation and openness) in the environment supplements and regulates important functions for the team” (Larsen et al., 2013).

In research currently being undertaken by the lead author in performance kayak slalom, coaches use explicit team related development strategies where paddlers are expected to support but also challenge each other to improve.

Learning environments are challenging

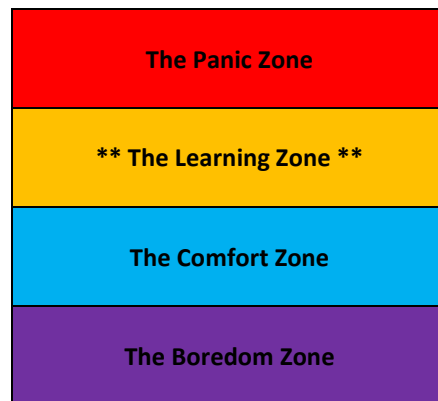
Though, as noted above, there are many different theories of learning to inform player development and wider pedagogical processes, one theory, Vygotsky’s (1986) ‘Zone of Proximal Development’ (ZPD), has received significant attention in the player development and sport coaching literature (e.g. Cassidy et al., 2004; Cushion, 2010).

The theory suggests that optimal learning occurs in the space between the player's current knowledge and skills (where they feel competent and comfortable) and what is deemed a developmentally appropriate next step. The coach diagnoses the learner's understanding and skill level and estimates the support needed. The coach is said to 'scaffold' the players learning by designing activities to increase the players understanding of a particular concept or skill. Scaffolding enables the player to solve problems, carry out a task, or achieve a goal which would be beyond an unassisted effort.

The level of support is contingent on the learner's progress - more progress less support, less progress more support. The coach looks to ensure progress while reducing the level of support, thus gradually withdrawing control over the task and transferring control to the learner.

The coach's behaviour focuses on controlling those elements beyond the athlete's capacity, thus allowing the athlete to complete those that were within their capabilities. In this sense scaffolding implies simplifying the learner's role rather than the task (Daniels, 2001). Proximal role models and training groups can have an important role to play in this regard - supporting and challenging group members (Henriksen, 2010)

Players learn most effectively when they are in the learning zone:



Permission: Sergio Lara-Bercial

The learning zone: the task and/or the set up fall just above the comfort zone thus stretching the learner's current capacity and maximising learning.

The panic zone: the task and/or the set up are too far away from the learner's current level of ability. As anxiety and eventually panic set in, learning will decrease. Being in the Panic Zone can also jeopardise future engagement with similar tasks due to negative associations.

The coach aims keep learners in the learning zone as often as possible and for as long as possible, thus facilitating learning.

KEY POINTS

- In the main, there is a strong emphasis on individualised programmes which meet the needs of players and teams at different stages of development
- Achieving an appropriate balance between player and team development is a very complex process which requires constant reflection, analysis and planning on the part of the coaches and programme directors
- Practice and competition need to be consistently set at the right level of challenge to maximise development

3.4.3 Practice structure, competition and coaching behaviours

Within the wider developmental context described above one of the most charged discussions within the research literature, and within player development practice, concerns practice structure, and if, when and how this varies according to development goals and contextual considerations.

Put simply, to maximise development what are the most effective methods of structuring practice, how should the coach manage practice, and how does it vary?

The research literature has emphasised different approaches. There is no simple way to conceptualise this, however, the following are useful analytic binaries:

- Specialisation versus sampling
- Structured practice versus unstructured play
- Skill- versus game- based practice

Competition is clearly also important to the developmental context, as are the strategies and behaviours that coaches use to manage and deliver both practice and competition.

Specialisation versus sampling

Discussions about early specialisation, or the sampling of different sports as a means to expert performance development, remain a live debate in sport science (e.g. Côté et al., 2007; P. R. Ford et al., 2012; P. R. Ford et al., 2009). This issue is clearly of relevance to football since many youngsters enter formal programmes from 5 years and onwards (P. R. Ford et al., 2012; North et al., 2012a), which is associated with both successes as well as high levels of burn-out, drop-out and wastage from the system (C. Green, 2009).

Though most researchers agree that sport specialisation should increasingly occur from 12 years onwards, and is essential from 16 years onwards, there are disagreements about what should happen in younger age groups (e.g. 6-12 years).

Arguments for *early specialisation* suggest that young player engagement in sport-specific practice predicts the development of football expertise. This is reinforced by a range of empirical evidence. For example, in a study of UK players sport-specific practice was the only differentiating variable in relation to anticipation and decision making abilities (Roca, Williams, & Ford, 2012). Petlichkoff (1993, 1996) contends that children who drift from sport to sport in an attempt to find a satisfying and rewarding experience waste an enormous amount of time and resources.

Arguments for *sampling* suggest that experiencing many different sports in the development pathway is also consistent with expertise development, but that it may provide additional PPSTT benefits and leads to lower levels of burn-out and drop-out (Côté et al., 2007; Côté, Erickson, et al., 2013). Advocates of sampling agree that expert performance can occur through specialisation, but argue (from a humanistic, holistic perspective) that specialisation is too risky when sampling can also provide these benefits but does not lead to negative effects.

Though sampling has been reported in football player development environments (Larsen et al., 2013) the majority of research suggests earlier focused specialisation is prevalent in football in England and other parts of the world. (P. R. Ford et al., 2012; P. R. Ford et al., 2009; Ward, Hodges, Williams, & Starkes, 2004). In a more recent development P.R. Ford et al. (2009) argue for a third developmental pathway referred to as *early engagement* with low levels of diversification in younger age groups but higher levels of sport-specific play as well as practice as a suggested predictor of elite performance success.

As we noted at the outset we are philosophically inclined towards a sampling approach but suggest it needs to answer the following questions in a football context to be practical:

- Can a multi-skills and/or play-orientated introduction to football compensate for lack of engagement in other sports (from a movement development perspective, if not from a psycho-social perspective)?
- What sampled sports provide the best transfer to football? The expertise literature suggests there is limited or no domain transfer (Allard & Starkes, 1991; Schmidt, 1983). Yet, the sampling literature

recognises the importance of transfer between physically and cognitively similar activities (e.g. Côté et al., 2007).

- Is sampling practical in the socio-economic environments where youth football is generally played? What is the alternative sports provision in the locality? Do parents/guardians have the interest/means/time to enable access to multiple sports for their children?
- How do we address issues of competition and closure between professional football clubs that attempt – with the lure of fame and fortune – to secure young players from the ages of 5 onwards into the club context? The risks to the club of losing ‘talent’ are seen to be greater than the benefits that emerge from a more open and fluid approach.
- How do we convince coaches that sampling is important enough for them to change their behaviours and recommendations to parents?

Ultimately the discussion of specialisation and sampling appears as much, if not more, steered by social and political factors than by arguments about optimal child development (cf. C. Green, 2009). There is a ‘bright eyed’ naivety about the sampling proposal, with most agreeing that it is good idea in principle but with concerns about how achievable it is in practice.

Structured practice versus unstructured play

Within the context of debates concerning specialisation and sampling are equally important debates about the nature of practice environments. Should practice be formalised and structured for the purpose of skill development and performance improvement, for example, by a coach? Or should they be informal and unstructured with the participants making their own rules and expressing their individuality but with skill development still potentially resulting from them?

The debate on the relative merits of structured practice and unstructured play has been championed by Jean Côté and colleagues. As the next section shows in more detail, there are different types of structured practice environments (which range from the traditional skills/drills model to more tactical game-orientated approaches). This section simply contrasts broad notions of structured practice with an unstructured play-based approach (drawing specifically on the work of Côté and colleagues).

Côté and colleagues contrast *deliberate practice* (borrowing from Ericsson et al. (1993)) with *deliberate play*. Deliberate practice is seen as “highly structured ... requires effort, generates no immediate rewards, and is motivated by the goal of improving performance rather than its inherent enjoyment”, and is normally organised by an adult coach (Côté, Erickson, et al., 2013, p. 10). Deliberate play is seen as “physical activities that are intrinsically motivating, provide immediate gratification, and are specifically designed to maximise enjoyment. Deliberate play activities, such as street hockey or backyard soccer, are regulated by rules adapted from standardized sport rules and set up and monitored by the children or an adult involved in the activity” (Côté, Erickson, et al., 2013, p. 10).

Côté and colleagues argue that the mainstream and exclusive reliance on structured practice and the under-utilisation of unstructured play-like activities is detrimental to children and young people’s development in sport (Côté, Erickson, et al., 2013). Structured practice activities are associated with the specialisation approach which is focused primarily on ‘rationalised’, organised and efficient skill and performance development. This is seen to be useful for certain purposes, such as working on specific technique. However, structured practice is seen to miss out on important developmental advantages provided by playful child-led activities. For example, play-like activities are seen to provide more opportunities for youngsters to develop tactical intelligence and creativity (Greco, Memmert, & Morales, 2010; Memmert, Baker, & Bertsch, 2010). Play activities are also important in developing important psycho-social skills, such as emotional development, responsibility and self-reliance, adaptability and cooperation (Côté, Erickson, et al., 2013; Lester & Russell, 2008).

Though Côté and colleagues’ work could initially be seen as an attempt to restate the importance of play-like activities in children and young people’s sporting development (often questioning the importance and impact of other practice approaches) their more recent work has recommended a mixture of approaches, with different types of structured practice and unstructured play all contributing (Côté, Erickson, et al., 2013). This more mixed approach is supported by other research (Memmert et al., 2010; North, 2012a).

Finally, Côté and colleagues' work appears to take the view that children and young people's play is almost unconditionally beneficial and self-regulating (e.g. Côté, Erickson, et al., 2013). Though we support enthusiastically the value of playful activities in children's development in sport there, are also problems. For example, as practitioners we have experienced un- and semi-supervised unstructured play in younger age group football that have a number of negative consequences.

Skill-based versus game-based practice

Within the context of more structured coach-led practice environments the research suggests a range of options are open to coaches and players. A contrast is typically made between 'traditional' skills/drills approaches (focusing on technique development) and more game based approaches (focusing on tactical development – though with contextualised technique also being developed as a by-product) (Muir, Morgan, & Abraham, 2011). The difference between these approaches is also described in other ways; for example, 'training form' and 'playing form' (Cushion et al., 2012; P. R. Ford, Yates, & Williams, 2010).

The specific content, structure and rationale for the *skills/drills approach* are generally not well articulated in recent academic treatments, and the approach tends to be treated somewhat pejoratively (as the bogeyman that needs to be chased away by newer better game-based approaches). We suspect that the use of these ideas and practices have been given theoretical and practical justification by existing educational approaches (e.g. Bloom's Taxonomy) and from older contributions from the motor skills learning literature. Ericsson's theory of Deliberate Practice (Ericsson et al., 1993) is also often associated with a skills/drills approach (Côté, Erickson, et al., 2013). However, regardless of the specifics, the skills/drills approach is generally conceptualised as focused repetitive practice of technical tasks (for example, passing, dribbling, heading unchallenged) and done in isolation from other components of the game. It is argued to lead to the acquisition of specific technical skills at the expense of perceptual-cognitive skills, such as anticipation and decision-making (P. R. Ford et al., 2010).

There are a variety of *game based approaches* to practice structure, with many citing Bunker and Thorpe's Teaching Games for Understanding (TGfU) approach (Bunker & Thorpe, 1982) as an important mobilising contribution. These include the Tactical Games Approach (Griffin, Oslin, & Mitchell, 1997), Play-Practice (Lauder, 2001) and Game Sense (Light, 2004) amongst others. The game-based approach has also often been associated with ideas emerging from the skill acquisition literature on the benefits of random, variable and distributed practice (when compared to blocked, constant and massed practice typical of the skills/drills approach) and more recently a constraints-based (dynamic systems) approach (Williams & Hodges, 2004).

Game-based approaches replicate game-related conditions (i.e. small sided games, conditioned games and phase of play activities) and are more tactically focused. Though there are different ways of thinking about game-based approaches the following stages are useful: modified game play exaggerates a tactical issue encountered within the game, the development of tactical awareness/decision making within the game context, and the development of technical skills within the tactical context (Griffin et al., 1997).

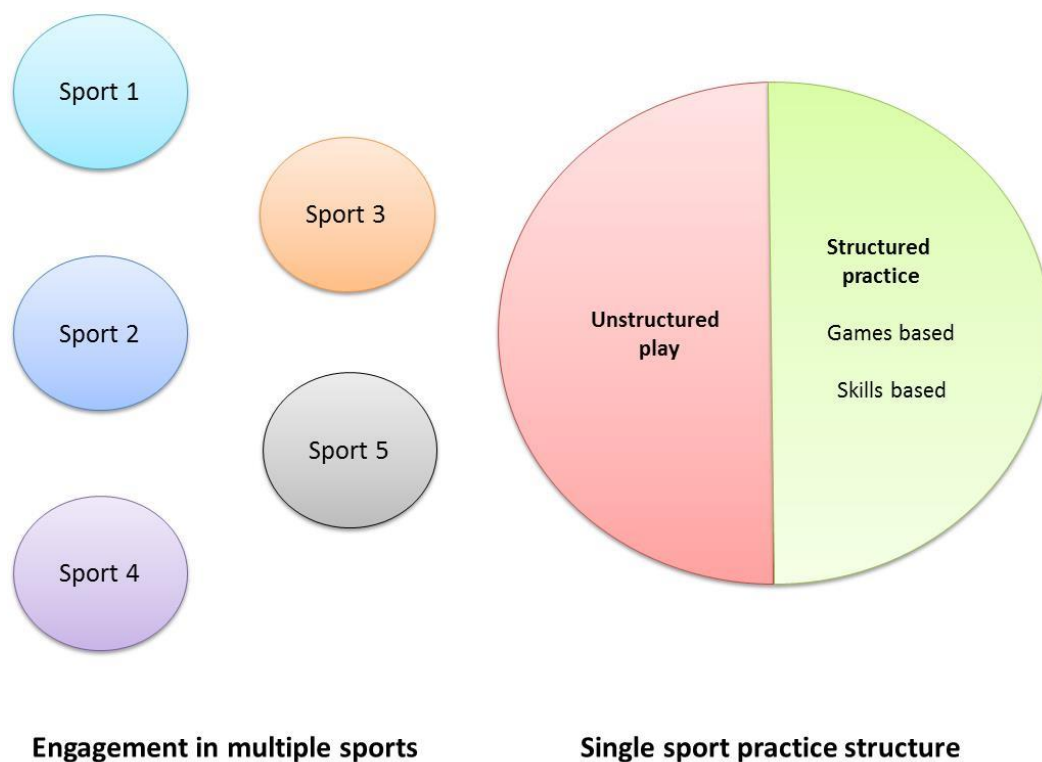
Central to this approach is the development of game understanding (perhaps around specific principles or constructs), problem solving and decision making within an authentic or slightly moderated playing environment. Thus the game, its rules, and the player involvement and reactions are central to this approach (Muir, Morgan, & Abraham, 2011). This approach puts significant pressure on coaches to design games to meet an individual or team development need. The coach sets up the activity and then typically uses questioning and problem solving techniques to elicit players' tactical and technical understanding and execution.

Research within a football context – notably in England – has made the following observations about skills- and game-based approaches. The first is that game-based approaches appear very important perhaps central for player development in football (Cushion et al., 2012) because they lead to the effective development of the perceptual-cognitive and technical skills (P. R. Ford et al., 2010) which are central to expert performance in football. The second is that there is still an over-reliance on skill-based models of practice in player development compared to game-based approaches (Cushion et al., 2012). For example, recent research has highlighted the more frequent use of skill based practice structure in UK football; 53% training form to 47% playing form (Partington & Cushion, 2013) and 65% training form to 35% playing form (P. R. Ford et al., 2010).

Others, however, have recognised that skill- and game-based practice structures are not mutually exclusive and can be used together for different objectives within the coaches' tool-box (Côté, Erickson, et al., 2013; Light, 2006; Muir, Morgan, & Abraham, 2011). Indeed, though there has been historical rivalry between models and approaches, a number of more recent commentaries are now stressing the importance of a more blended approach to reflect the wide range of goals in player development environments as well as context (e.g. Côté, Erickson, et al., 2013; Muir, Morgan, & Abraham, 2011).

We find this more pragmatic approach very sensible. From a coaching perspective, these approaches should be seen as a range of options open to the coach working with players, each with their own rationale, benefits and disadvantages. National systems and particular coaches will have their preferences, but finding the right approach for the task, player(s), and context under consideration appears to be the key.

Figure 3.2: Diagrammatic summary of different practice approaches



Competition

Though competition is often seen as the finishing point for development, the theatre where the knowledge and skills developed in practice are executed as a performance, the act of engaging in competition itself is highly developmental.

At the performance level, elite footballers often talk about gaining experience of playing in the big matches (both as an individual and a team - especially if they lose) as a means of developing the expertise for later performance success. In lower level age groups, football competition might be seen as a more rarefied extension of the games-based development approach to practice highlighted above. Coaches might de-emphasise winning in games, but suggest a particular developmental priority or focus. At even younger age groups, and at the beginner phase, competition is still seen as an important developmental feature if it is appropriately managed because it is motivating and engaging (Côté, Hancock, Turnnidge, & Vierimaa, 2013).

Key here are the constructively aligned or developmentally appropriate aspects of competition. Very often competition is used inappropriately in the player development system, with an over-emphasis on winning, linked to inappropriate behaviours from coaches, parents and others (Côté, Hancock, et al., 2013), with the risk of long-term physical and psychological damage, burn-out and drop-out (Fraser-Thomas et al., 2008a; Fraser-Thomas, Côté, & Deakin, 2008b). Interestingly, those born late in the selection year can also suffer badly from competition experiences (Musch & Grondin, 2001).

Competition is a very important part of the learning environment (and an individual and teams' developmental experiences) and has to be appropriately managed within the embedded system context – players, parents and coaches. This means pragmatism and flexibility are necessary in the set-up of competition to reflect individual and team development needs and the social context. There could be flexibility in selection year, in team rosters between and in games to prevent one-sided games, and the appropriate behavioural standards from coaches and parents (Côté, Hancock, et al., 2013; Musch & Grondin, 2001).

Coaching strategies and behaviours

Though we will expand our views on coaching practice and process more clearly in the next section, it is worthwhile noting research which informs coaching strategies and behaviours in the practice context. The motor learning and skills acquisition research has in particular focused on instruction as a learning tool in player development (e.g. Gabbett & Masters, 2011). This is important because it is such a commonly used coach behaviour in football (Cushion & Jones, 2001).

This body of work challenges the use of explicit instruction and feedback with acquired skills more likely to breakdown under competitive stress such as a game situation. Greater success is achieved, it is argued, by encouraging implicit learning, through guided discovery and the use of cues, metaphors and analogies (J. S. Bruner, 1961).

KEY POINTS

- **A degree of early specialisation was acknowledged by all countries although with different gradations.**
- **The importance of developing a wide range of motor skills is recognised, yet all countries approach this in different ways: from promoting engagement in different sports and free play to the provision of well-rounded training within the football environment.**
- **A games-based approach which focuses on the development of understanding of game principles is favoured in most countries.**
- **Technical work is important, yet a belief in the value of contextualising techniques into game situations and principles is prevalent.**
- **Competition is seen as a key developmental driver and coaching tool. Key factors remain: possibility of players 'playing up'; need for the best teams/players to play each other regularly to foster growth; learning to compete; competition as a talent ID tool; strong need to bridge the gap between the junior and senior game.**

3.4.4 Effective coaching practice

Many of the principles and ideas overviewed in the previous sections could be argued to find their focus in the most immediate component of the player development system – the relationship and activities between player/players and coach through coaching practice and process.

Thus, coaches (working with players and others) need to consider *what* they want to achieve (the performance model), *how* they are going to achieve it (the development model and establishment of appropriate learning environments), and *why* they think particular strategies will work for *who* and in what situations (*where*)

(North, 2013b). The point of this final section of the literature review is to bring some conclusion to these principles and ideas in the coaching context.

Throughout the introduction and the literature review section we have emphasised a contingent and flexible model of player development and coaching. The multi-layered multi-disciplinary and relational qualities of player development and coaching mean that there is not one defined model of player development and coaching (Muir, Morgan, & Abraham, 2011; North, 2013b). There are things that players and coaches want to achieve (their long-, medium- and short-term goals) and there are a range of approaches and methods to achieve them, with some being more appropriate to the goal, task and context than others. This process of *constructively aligning* practice environments and coaching strategies to meet these wants and needs is not easy, and might be seen as the hallmark of coaching expertise.

We have described research, not as establishing a rigid instruction manual to be blindly followed, but as ideas of good practice for coaches to learn, understand and apply to meet their players' wants and needs. These include ideas on how the game should be played, selecting players for development, setting up development programmes, relationship building with players, optimising development through play and practice, and choosing an appropriate pedagogical approach. It is the coaches working with the players and other stakeholders who will determine which of these research ideas are useful in their contexts, and to their goals and tasks.

The next section explores how youth development experts and coaches have constructed their player development systems, environments, and coaching practice. It will use the theoretical principles identified above as an organising framework and analytical tool to dissect this practice, whilst noting the particular strategies and choices that coaches have made to fit their context. As we shall, see there is broad agreement with much of the above in the seven European countries – *what is different is how these ideas are applied*.

KEY POINTS

- **Effective coaching involves the careful design of activities and practices that target specific objectives for development. In order to achieve this alignment, clarity about mid- and long-term goals is fundamental.**
- **Effective coaches do not get in the way of learning, they facilitate it.**
- **The role of the 'game as teacher' is emphasised.**
- **Exposure to a variety of activities, principles and systems is paramount.**
- **Effective practice, while carefully planned and designed, is flexible and responsive to changes in the environment and to the needs of players and teams.**

4. Expert interviews in seven European countries

4.1 Introduction

This section uses the principles introduced in section 3 as a frame to present the data from the expert interviews in seven European countries.

It presents a picture of the extent to which player development systems within the seven European nations have adopted and worked with the principles outlined. It also shows how principles have been modified to fit particular contexts.

It is important to note that though we use labels such as ‘Belgian expert’, ‘German expert’ or ‘within the Dutch system’, our data does not fully capture and exhaust the details of any particular country system. Though we hope the data represents some aspect of each country’s player development system we need to recognise that on the basis of four to ten interviews in each country there will be much we have missed and there will be data that is not representative of the overall system. Our job here is to confirm the emerging principles of player development systems rather than to undertake a rigorous comparative analysis (though this is considered further in section 5).

To begin this section we present some evidence on the experts’ creation and use of knowledge because this establishes the context for the applied sections.

4.1.1 Creating and sharing knowledge

This section identifies how the expert practitioners think about knowledge within their environments – how knowledge is developed, what forms it takes, and how it is shared. It provides valuable contextual information for the presentation of the results in the next sections as well as providing insight into research-practice links.

Reproducing and creating knowledge

The evidence suggested that a great deal of football knowledge was reproduced and transformed through football (i.e. from tradition, custom and practice, and moderated by on-going experiences, interactions and reflection within and on the game), with relatively less outside influence including from academic sources (though there was perhaps more higher education engagement than we expected).

On being asked where footballing knowledge emerged from the most common response by some margin was through the years of experiences and reflections of national technical leads, academy directors and head coaches – notably regarding playing style, player characteristics and development approaches. Knowledge was situated in the mental models and distributed cognitions of the football workforce in their contexts. Specific mechanisms included small elite project meetings and groups (for example, between technical leads and national level coach educators in the federations, and between academy directors and head coaches in clubs), through wider group meetings and discussions, and through coaching communities of practice.

To a lesser degree the experts mentioned drawing on coaching expertise and ideas from other sports, for example, rugby union. There was also a diffusion of academic knowledge into football environments through sports science staff in the academies such as sport psychologists, nutritionists etc. One Italian academy manager had integrated his sports science and pedagogy training into his academy programme. There were examples of academic influence on football thinking and practice notably in Belgium, France, England, Italy, the Netherlands and Spain. In Belgium, the KBVB had worked with the University of Leuven on research around preferred team numbers (e.g. 7v7 or 8v8) relative to technical and tactical aspirations. In England, a Premier League club referenced work that they had engaged in with Liverpool John Moore’s University on player practice effectiveness. In France, one of the experts had drawn on research work on game-based practice developed by Jean-Francis Grehaigne and colleagues (e.g. Grehaigne, Bouthier, & David, 1997). In Italy, one club had been working closely with the University of Bergamo around psychology and pedagogy in youth development. In the Netherlands, the experts had engaged with the child development and developmental psychology research literature. In Spain, there was a strong link between coaches and academics with many academy and methodology directors being graduates of five year sport science degrees.

Updating knowledge

There was recognition that thinking had to be regularly updated through a process of continuous improvement (or 'flowing concepts' as it was referred to in the German system). Some clubs, for example, had implemented more sophisticated knowledge generation and challenge structures: one Italian club's 'Lab' brought together a range of specialists – technical directors, head coaches, performance analysts, sport psychologists etc. – to evaluate and revise the club's player development practices. There were formal systems and capacity for performance analysis which was fed into national and club programmes including coach education.

At the same time it was recognised that there were many forces of conservatism within the player development workforce community. In Italy, for example, the dominant approach was still suggested to be one of 'what was good for me then will also be good for you now', but this was being challenged by an approach which argued 'today's child is not the same as yesterday's child....what worked then may not work now...' and '....you can't approach kids in the way the coach approached you....the world is changing'.

Capturing thinking

Though there appeared to be a general aversion to formality and written documents amongst almost all the experts in all the seven countries, there were noticeably different levels of formality between systems.

Some systems, for example, in Belgium, England, Germany and the Netherlands had relatively higher levels of formality with published documents, databases etc. For example, in England there was a range of published documents available for coaches including 'The Future Game' and its equivalent for grass roots youth coaches. In Germany, there was a skills and drills database to capture the latest thinking and it was also used as a means of learning environment assessment. In the Netherlands, there was a range of documents (including the KNVB 'youth play' strategy) and books ('football theory' and the 'football learning process').

A document was published by the Belgian KBVB (in 2006) that was made freely available to all coaches and clubs within the country. The focus of this book was on communicating the national playing style, vision, and philosophy, the details of which had been generated during a pivotal meeting held between the KBVB and key professional club staff 7 years previous (see further information on this within the 'Sharing Knowledge' section, below).

Though countries such as France, Italy and Spain still had documentation – for example, the Italian federation had produced a list of characteristics/descriptors for U7s to U12s (and at the time of the study were working on those for older age groups (U13s to U17)) – there were lower levels of formality and written documents in these systems which appeared to reflect a particular approach.

An impression from the data in these latter countries is one of 'just enough' formality and documentation to promote some shared understanding and agreement, but not too much as to restrict practice, adaptability, flexibility and innovation. "The idea is to formalise these common principles without stereotyping the game" (French expert).

In the Dutch system there were strong cultural ideas about how the game should be played which permeated the national structures and clubs through ongoing interactions between technical leads and coaches (partly via formal coach education programmes) but it was thought inappropriate and perhaps detrimental to write this information down. Moreover, there was a clear understanding that the way the game should be played always depends on the players and context available.

The Italian system had experimented with a more formalised written approach 'under its previous system' but had rejected this approach. There was a sense that formalisation could not capture the sport and its development and that the act of writing footballing ideas was restrictive of practice and its ability to adapt and evolve. The Italian federation was very strong in its assertion that it did not want to produce clubs that played exactly the same way, or coaches who coached the same way. They wanted to encourage unique, open-minded, educated and flexible coaches ("...modern Italian club coach is a flexible coach") who can go with their feel/instinct to adapt their approach to meet development and competitive conditions. They wanted coaches who could individualise coaching rather than look at prescriptive lists for guidance. The basis of this approach was improving coaches' knowledge through coach education and communities of practice.

Different systems appeared to prioritise the formal capture of different types of information, for example, the Dutch were reluctant to document playing style which was seen as 'part of the cultural system' whereas this was captured as playing principles in the Spanish system. The Dutch, like the English FA, had documented player-characteristics but this was seen as unnecessary in the Spanish system.

Only a few countries had established age-stage holistic player characteristic profiles and coaching guidance (England, Germany and the Netherlands). The rationale for doing so was to promote a greater level of shared understanding amongst colleagues (coaches, scouts, support staff, etc.) and to create a common language to facilitate more effective communication. In Italy and Spain this was seen as imposing too much on the role of the coach and the individualised programmes he developed with players. Within the Spanish system there were formalised and documented game, skill/drill progressions around the established playing principles.

Sharing knowledge

National federations mostly relied on coach education, coach licencing/membership schemes with web resources (e.g. video clips) and magazines, coach developers working with club academy directors and coaches, and meetings of communities of practice to share information and thinking (for example, in England and Italy) with and amongst coaches.

In the Spanish national system there was a very strong culture of cooperation and sharing of ideas – to form a tight, highly integrated, community of practice. The Spanish national team structure (like the English) work together and become assistant coaches to each other at the various tournaments so there is always a high level of shared understanding about practice and potential players. All the coaches work in a shared open-plan office with regular opportunities to breakfast together with leading experts and coaches Ginés Meléndez and Vicente del Bosque to speak about football and about the players.

A somewhat unique scenario existed in Belgium; this entailed a deliberately organised and seemingly quite historical meeting ("the brain storming session") between the federation and the clubs in August 1999. The focus of this event was to collaboratively forge a new direction for Belgian football, with the perception held at that time that Belgian football was lacking in a youth development vision and short of talented, skilful players. Hence, the open sharing of ideas and beliefs (between federation and professional club staff) that occurred within this meeting culminated in something that represented a step change for the nation ("we said 'we want to define a philosophy; we will choose one way, we will discuss it, and we will go for it'").

Many of the national federations put in place guidelines, for example, to suggest pitch and team size in younger age groups e.g. in Belgium, England and Italy. These are outlined shortly.

A number of clubs also provided their own coach education opportunities, documentation (e.g. codes of conduct and expectations), and opportunities for coaches to meet and talk. There was a strong sense within some clubs that informal meeting and word-of-mouth was the best way of sharing ideas.

Framework approaches

Whatever the means of information exchange – formal documents, coach education, word of mouth – it was clear that the ideas promoted were there to inform and guide thinking rather than dictate it. For example, in the German system the federation offers formal guidance on playing style, player characteristics and development approaches but these do not bind any particular club or coach.

There was no agreed playing style amongst the clubs and academies in both Italy and England. There was a feeling within both the federations that it is better that the clubs adopt their own styles of play (and adopt their own preferred systems of play) to help young players fit into the various styles of play used by the national teams, depending on the manager that is in charge at that time. If the players were flexible around their game understanding, there was a feeling that they will have a better chance of succeeding at different clubs and in national teams that may bring in different coaches with different approaches. An academy manager of an English Premier League club also expressed this view, with the importance of being able to adapt to the often subtle but occasionally extreme differences in styles advocated by first team managers considered crucial to youth players' capacity to fit in with the managers' preferences. Hence, flexibility within the developmental approach was seen to be key.

Following the pivotal Belgian meeting in 1999, a shared vision on style of play emerged that generally seems to be adhered to within the federation and across the professional clubs. However, there was an acknowledgement from both federation and club staff that subtle variations on this original style were apparent across the country, with the clubs exploring their own ways and the national teams adapting to international trends.

In the Spanish system the federation offered a very clear philosophy and ideas concerning, amongst other things, playing style, principles of development, and specific drills and games but these ideas were not imposed on the clubs. However, the clubs were very aware of the federation's suggested approach – which, similar to Belgium, was seen as a product of many years of collaborative thought between the federation and clubs – with high levels of shared understanding and buy-in.

Within the Dutch system there were ideas of the 'Dutch style of play' but this was seen as a guide discussed mainly through coach education as a 'starting point' and not something that every club and coach would necessarily subscribe to. The notion of framework thinking was common across the seven countries.

4.2 Player development is multi-layered, interactionist and emergent

The inclusion of the theoretical underpinnings of human development in the schemata of principles underpinning player development emerged as a late but important feature of the literature review and was not included in the questioning framework for the expert group.

However, there was considerable evidence to suggest that the experts were working implicitly to a multi-layered, interactionist and emergent view of player development – though there were some interesting perspectives on this issue.

The experts were universal in recognising the individualised nature of player development. For example, on being asked to define the characteristics of an elite player considerable emphasis was placed on individual variability (see section 4.5.1).

For the most part – in their narratives at least – the experts agreed with adopting a long-term developmental and inclusive approach which gave players a chance to flourish and mature within the system.

An interesting perspective and approach was offered in the Spanish system where it was argued that ‘naturals’ – i.e. those with a genetic predisposition for elite performance – could be identified around 8 years of age but that they needed time to flourish and mature. For example, with regard to competition temperament – “if you can’t take the pressure early on then you are not made for this” (Spanish expert).

The need for flexibility in system design and coaching was also recognised by the expert group. This extended to all aspects of the player development system – playing style, player characteristics, practice methodology, coaching behaviours etc.

However, flexibility was particularly important with regard to player development and associated learning environments and sessions. For example, in Germany there was discussion of the idea of not making systems too strict and allowing for individual expression.

4.3 Performance model

4.3.1 Philosophy and culture

In the literature review section we noted an increasing recognition of the need for a defined, clear, coherent and shared philosophy and culture to shape and permeate the player development system.

The importance of clear, coherent and shared philosophy, culture, identity and mindset was very evident in the research. For example, in the French system experts discussed the importance of aligning player development environments with a good understanding of the cultural environment or system they were in (in this case professional football and the needs of specific groups of players).

There was an interesting contrast between those who appeared to have a very clear, identifiable and omnipotent philosophy (notably the Netherlands and Spain), those who were more pragmatic (Belgium, Italy and Germany), and those who were working on the development of a clear model (England and France)⁵.

In the Netherlands and Spain there was a significant emphasis on 'game focused development' which appeared to provide the foundations for the whole player development system (as will become increasingly clear as the reader progresses through the results section). In the Netherlands it was the game-focused 'total behaviours and actions' of the player. In Spain it was the 'principles of play'.

Despite having equally clear views about the role of the player within the player development system the Dutch and Spanish systems exhibited different philosophies and cultures in this regard:

In the Dutch system there was strong sense of individual personal development around the 4Zs (or 4Ss in English): self-regulation, self-initiative, self-reliance, self-fulfilment/development. Ultimately, it was the players who had to perform during game time so the system was designed to give them the skills to do this – to think for themselves, make decisions on the field, show initiative, and take responsibility - "everything in the academy is focused around instilling these attitudes into the players" (Dutch professional club expert). The Dutch system was also associated with enjoying the game and learning with pleasure.

In the Spanish system there was more emphasis on the behaviour and conduct of players, for example, being humble, and showing respect to all staff from "the cleaners to the cooks to the president". The behavioural characteristics included: being a good person (character), valuing education, looking after and showing support for all teammates (friendship, camaraderie and team spirit), being committed to the team (including national team), exhibiting sportsmanship, showing solidarity, self-regulation, self-esteem and confidence. At one La Liga club the values were sacrifice, effort, solidarity, sportsmanship and fair play, respect and responsibility.

Although differing from countries like Spain and the Netherlands, the Belgian model also advocated quite specific elements within their philosophy, with an apparent emphasis placed on developing highly skilful players who can problem solve and use their initiative to dominate the opposition. This model was emphasised to be distinctly different from the approach adopted in the 1980s and 1990s, when Belgian teams were seen to have had a relatively high amount of success from being well organised, counter-attacking, and working extremely hard. The Belgians also spoke about the language and cultural influences operating within their nation; the Dutch-speaking region of Flanders in the north and the French-speaking southern region of Wallonia. Hence, with their respective attachments to these neighbouring countries, certain aspects of Dutch and French football infiltrated the philosophy developed in Belgium in 1999.

In one of the interviewed Serie A clubs in Italy, there had been a specific attempt to create a philosophy and culture through 'Modello (club name)'. This was a deliberate attempt to capture the history of the club through a defined 'identity'. This included working to an entertaining and effective brand of football and associated with a particular set of values concerning behaviours including being a 'model professional'. Within

⁵ Important note: this is the researchers' interpretation of the data collected from the four-ten interviews in each country. Judgements were made on the clarity and consistency of approach, how much the chosen approach had been historically shaped and embedded in the country system, and how much reference systems made to other country systems in shaping what they do either positively and negatively. It is also important to note that there was variation within systems for example between national and club structures.

the Modello (club name) project there was a strong focus on performance and development over 'winning'. A similar set of ideas underpinned the 'We are (club name)' approach in a Belgian Pro League club.

In other countries and clubs there were less clearly defined – perhaps more pragmatic – philosophies and cultures, notably in Germany and Italy. These systems were defined more by their choices in relation to each of the principles and system components that we shall describe in the remainder of the results section though there were some additional cultural aspects. For example, in Germany it was important for the players to have a high degree of identification with the club.

In England and France, though a philosophy was taking shape, the experts were looking internally to harness their own traditions (for example, "As a nation, we have an innate need and desire to compete, to be resilient, we tend to be a pressing nation, we want to win it [the ball] back early, and that is something we need to utilise...we can't lose that" (English federation expert)), whilst also looking to factors associated with successes in other countries and sports.

The philosophy and culture was argued to be 'lived and breathed' by the academy management, head coaches and age-group coaches such that it permeated the academy and specific learning environments (for example, in the Netherlands).

One very clear finding was that those countries which were and are deemed to have the most successful youth development systems take youth development very seriously. There is a clear philosophy, plan and commitment in terms of resources and personnel. For example, in the Spanish system it was reported that there was equal investment in U8s as in the U18s.

4.3.2 Playing style

In the literature review section we suggested that it was difficult (in fact impossible) to conclude definitively on effective playing style because history shows that teams playing very different styles win tournaments. Indeed it is this feature of football (indeed any sport) which provides its enduring interest and appeal. There is no guarantee – no winning formulae – and there is no desire for it to be any other way for the risk that it is not sport at all. Each game and campaign is like a new puzzle to be solved with the players and the coaches plotting and inventing trajectories toward success relative to the opponent and conditions.

This important point made the experts had clear and shared ideas about playing style which were encapsulated in a number of thinking tools, principles and concepts that guided their planning and actions. The study suggests an emergent and (to a certain degree) shared set of concepts and language which define playing style.

These are:

- Playing identity
- Principles or concepts of play (general and specific)
- Playing system

Playing identity

We find the expression 'playing identity' very useful for describing a particular aspect of playing style that 'sits above' the more specific technical and tactical principles, concepts and systems (a number of experts used the expression 'identity' in the study).

Playing identity takes the form of a list of words which define an approach to playing football. On the basis of the analysis these were: active, adventurous, aggressive, attacking (cited many times!), attractive, beautiful, clear, courageous, creative, dominant, effective, emotional, entertaining, free, hardworking, individual, intelligent, intuitive, inventive, offensive, organised, passionate, pleasurable, problem solving, quick, respectful, spiritual, successful, surprising, technical, varied and winning!

It was at the level of playing identity that national patterns were most obvious. Principles of play and systems were described more homogenously across the group (see next section) but they were shaped/given tone in the national context by the playing identity.

Though we have to be very careful about superficial and stereotypical judgements about national identity it was interesting that the playing identity statements had an interesting link to perceptions of national identity.

For example, the words selected by the German experts emphasised more clarity, courage, speed, technique, directness etc. Words selected by the Italian experts emphasised more attractiveness, beauty and emotion etc. In the Netherlands there was a greater emphasis on individual factors such as freedom, adventure, creativity and problem solving. This was similar to the ideals of problem solving and showing initiative espoused by the Belgians.

A number of experts made a direct connection:

“Historically the ‘Italian way’ was to focus on neutralizing the opposition as there were links with the way that Italian men viewed themselves in physical terms. The roots lie in the physical stature of Latin men (going back over centuries and possibly being smaller than Anglo-Saxons) and the desire to “out-smart” the bigger, more physical enemy (opponent). The best method to “sneak” around the opposition or to find a way “out of every situation”. “Catannaccio” (defending deep and counter-attacking quickly) was born out of this concept and became synonymous with Italian football for decades. This historical playing style/approach can be linked also to the mentality of Italians in society. Create a law and Italian men will find a loop-hole/way round” (Italian federation representative).

Linked to the cultural influence referred to in the previous section, the Belgians spoke of the impact of Dutch and French influence on their newly created (in 1999) playing identity. Prevalent at this time within Dutch football was ‘Total Football’, the 4-3-3 shape and ‘de Zeister Visie’ (philosophy of youth development), while the French were world champions having played a style of football considered by an expert at the KBVB to have been influenced by English football, and so elements of these influences fed into what became the Belgian playing identity. However, the Belgians also talked about the importance they place upon “adapting to international trends”, with the practice common for them to study and then incorporate modern advancements from the highest levels of world football into the philosophy they had adopted in 1999.

Principles or concepts of play

There was a sense within the expert group that those who sit outside the game looking in (i.e. the media/supporters) inappropriately associated playing style with playing system (i.e. that discussions of playing style could be reduced to discussions about whether a team used 1/4/2/3/1 and 1/4/2/2 etc.).

Much more important to the experts were ‘principles’ or ‘concepts’ of play (different experts used either expression but the underlying idea was the same) that was distinct from playing system.

Figure 4.1 – Common principles of play in the seven European countries

- **Possession**
- “Padroni della Palla” (owners of the ball)
- “Possesso Palla” (ball possession)
- Effective possession and passing to create chances with goalkeeper seen as a player
- High quality/efficient possession
- Football is focussed always wanting to have and keep possession of the ball, play forward, attacking, being creative and showing initiative
- Focus on strong position play and players being able to be multifunctional (to a certain extent) on the pitch
- Receive and play in “tight” spaces (between the lines)
- Finding space to receive the ball
- Team mates ready to receive the ball

- Team orientated
- Playing in the spaces
- Play out from the back and through the goalkeeper
- Quick precise passes
- Full team involvement
- **Ball position**
- ‘Playing over the ground’
- Using width and depth of the pitch
- Play in opponent’s half as much as possible
- **Intensity**
- High intensity
- The focus is on always having the initiative (even if the opponent has the ball)
- Using different tempos with players able to both speed up the play and slow it down
- **Attacking**
- Diagonal passes are preferred (vertical passes are “not forbidden – but we don’t like it”)
- Counter-attacking vertical play – looking to score quickly
- Fast counter attack rather than dominating games
- Countering the opposition’s counter-attack
- Wanting to move forwards – attack and create opportunities to score
- Play forward early and consolidate possession
- **Defence**
- Defend with 11 players
- High pressure when the ball is lost (5 sec rule – needs to be recaptured asap)
- Winning the ball back quickly in high and middle areas with an aggressive high-pressing game (5-6 seconds of aggressive pressing especially when ball is lost in middle areas)
- When defending – putting a lot of pressure on the opponent – being proactive
- Show opponents outside as much as you can
- “Difendersi mantenendo possesso della palla” (defend by retaining possession of the ball).

The results suggest a clear emphasis on possession, pressing, and quick counter attack.

Though all the experts in all the countries mentioned to a varying degree the idea of principles or concepts this approach appeared to find its clearest expression in the Spanish system where the entire player development system was defined by it. This is linked to ‘game based development’ – see section 4.3.3 – and was the driving force behind the country’s development activities. The principles were trained over and over again to develop ‘behavioural automatisms’. Appendix A2 provides more details of the principles in a Spanish context.

The principles were not rigid – they were seen as guides to action to inform development approaches which the players would apply within the game context. For example, a specific principle of play might be for the goalkeeper to restart play through a short pass to a full-back. However, if the goalkeeper noticed a central or wide forward in space with a clear run on goal then he must flexibly adapt (against the principle) to take advantage of the opportunity.

Playing system

Though opinions varied on the role and importance of playing systems within broader conceptions of playing style for the most part the expert group thought of systems as emerging from identity and playing principles/concepts together with an appreciation of the players available and opposition.

For example, in the Spanish system, the principles of play were seen as non-negotiable but systems such as the commonly used 1/4/2/3/1 and 1/4/3/3 were seen to be highly flexible depending on the characteristics of available players. A number of playing systems were identified in the research, all of which will be familiar to the reader (interestingly very few mentioned 1/4/4/2). Though particular countries have favoured playing

systems such as 1/4/3/3 in Belgium and Holland the way in which they were deployed depended on the available players and the opposition as we shall now see.

Application

A number of experts noted the benefits of having a common playing style within national and/or club context. A common approach provided a specific focus to development and playing activities and supported a shared understanding and integration (for example between age-group and first team squads and teams), with all players working to the same approach. This was argued to be occurring at least partially within the Dutch and Belgian systems, and within interviewed clubs such as one from Serie A and one from the Premier League.

Other experts suggested that although there was benefit to a common approach it was left to the coach working with a particular age-group, squad or team to make the decision in line with the coaches' ideas and player characteristics. In the Dutch system, particular importance was attached to players influencing the way the game was played to encourage their thinking, creativity, problem solving, and taking responsibility (as ultimately it would be them out there on the pitch). In the French, German and Dutch system playing style was to some extent seen as determined by player characteristics. For example, in France the success of Aimé Jacquet and the French 1998 world cup winning team was attributed to the formers' development of system which suited the players at his disposal which an organised defensively minded approach. In Germany it was argued that if players were slow it would be difficult to play counter-attacking football.

Some countries and clubs (for example, in Belgium, Italy, and the Netherlands) insisted that coaches work to the same *identity and principles* but could alter the *system* to reflect their own vision and players. In the German system more emphasis was placed on changing playing style to match conditions.

Amongst many of the experts an interesting difference was noted between age-group and 1st team with regard to development. In the age-group teams it was more about the football learning process and individual development whereas the first team was more concerned with winning matches and the team dynamic.

In Belgium age-group teams were encouraged to create many chances whilst there was more emphasis on scoring and winning at the senior levels (one Pro League club's youth programme promotes "education rather than winning"). Age group teams were discouraged from using a high pressing approach due mainly to the physical demands, but this approach was also associated with the recognition that a deeper defensive line enabled more of the players to receive a higher amount of touches. Yet, at the senior level, high pressing was found to be a significant feature of senior Belgian football.

In Germany age-group teams were encouraged to play a very attacking form of football whereas a more pragmatic approach was advocated from performance teams. In Italy age-group youngsters were encouraged to make risky decisions, to experiment through 'fantasy' ("fantasia del gioco"). There was also a special role for very creative players in age-group teams. As one academy manager noted: "In the academy, the team is at the service of the individual 'special' player(s), whereas in the 1st team, the individual is at the service of the team".

The difference between playing style in age-group and 1st team was also noted in the Dutch system in that "there will always be a 'jump' to the first team when age-group players enter a 'men's world' and more is expected from them, especially in terms of a higher level of analysis of the opponent and very detailed and considered tactical plans" (Dutch expert).

In the English and Italian game occasionally different approaches to playing style in different parts of the same system were seen to present a problem – younger age-group players were being developed in a system with very different ideas on playing style than those they were exposed to when they reached the first team thus creating a kind of 'clash of cultures'. For example, the age-group teams might be focused on a technical expressive style whilst the 1st team focuses on a tactical results style.

There was an interesting difference within the expert group with regard to how much (formally) defining and implementing a playing style within development systems, squads and teams was important for future success.

There were country and club systems that were driven or defined by specific principles (though locally applied and modified) such as in Belgian and Spain. There appeared to be a high level of agreement amongst these federations and clubs about playing style – notably principles – which had been developed through discussion and negotiation over many years. Because of this consultative, negotiated approach the principles were widely regarded to have permeated the whole development system.

Others, however, were much more pragmatic.

For example in the English, Italian and Dutch systems the federations and clubs were more concerned with the development of players and player characteristics such that they would be able to play any system and indeed *define systems* through their emerging characteristics. Players were explicitly educated in a variety of philosophies, styles and models such that the coach could assess their development and adaptability to change. Flexibility was key.

“The Federation thinks it is important that they do not see 20 different teams in Serie A all playing exactly the same way. It is important for the development of players and ultimately the national teams to have many different styles of play and systems of play etc.. The Federation feels that whilst the principles (on the sheet) are very important moving forward, it is not so important to have a concrete ‘identifiable product/brand’ such as the Dutch or Spanish Model” (Italian federation representative). (It was interesting that the Dutch see their system as flexible but the Italians see the Dutch system as more defined.)

Though there was no ‘one’ identity, set of principles or system that guarantees success, the experts agreed that there were certain characteristics and trends in the game that it was important to recognise; for example, that the game was getting faster and more technical.

4.3.3 Player Characteristics

Within the context of playing style were discussions about player characteristics.

As we have noted there were countries where the playing style dictated the player characteristics to a greater extent, such as the Spanish system, which was argued to be principles- rather than characteristics-focused. Alternatively, there were countries where the specification of player characteristics was considered to be very important. English federation experts were attempting to identify the PPSTT attributes of the position-specific national senior player and then using this information to inform earlier player selection and development.

In other countries the development of adaptable and flexible player characteristics was seen as more important as a means of creating potential for playing style (e.g. England, Germany, Italy and the Netherlands). It was the players and coaches working together that allowed for new playing styles to be possible and for the game to innovate. As one expert in the Italian system suggested: “give them the tools to be able to play whatever way or whatever system is needed on any given day”. As an English expert suggested “we’re producing Champions League players or tomorrow’s game – but we don’t know what tomorrow’s game will look like so the players have to be able to adapt or die”. Despite the recent competitive successes of the Spanish system a number of experts in Germany and Italy were critical of the latter’s player development approach. Spanish players could work in a Spanish system, it was argued, but could they work in others? (The evidence would suggest otherwise we estimate there is easily 40 Spanish players playing in top leagues outside Spain including 15 in the English Premier Leagues.)

In France desire to play the game was cited as an over-riding characteristic: “Before researching characteristics and skills, we look to give the desire to play. The idea of pleasure is key. Football is above all a game and you have to work whilst enjoying yourself and from time to time we forget this” (French expert).

In the literature review we noted that elite player characteristics were multi-layered and multi-disciplined, reflecting a range of physical, psychological, social and lifestyle, movement and technical and tactical characteristics (PPSTT). The expert group confirmed these characteristics collectively, though perhaps not in the individual countries to the comprehensive detail outlined in the review and the data was too patchy between and within countries to provide a comparative overview. However, the following provides a list of commonly cited PPSTT characteristics from an expert group perspective:

Table 4.2: Commonly cited PPSTT characteristics in the seven European countries

Physical	<ul style="list-style-type: none"> • Endurance • Energy • Flexibility • Good VO2 max 	<ul style="list-style-type: none"> • High levels of physical fitness • Physical endurance and adaptability • Range 	<ul style="list-style-type: none"> • Reaction time • Speed/pace • Strength
Psychological	<ul style="list-style-type: none"> • Ability to adapt and progress • Ability to learn • Ability to reflect • Adaptability • Aggressive but fair • Always trying their best • Ambition • Appetite for learning and seeking out new learning opportunities • Appetite for personal improvement • Attacking mentality, creative, incisive and driven by 'casta y coraje' (race and courage) • Balanced character • Chasing every ball • Commitment • Competitive drive/ spirit / wants to win • Confidence • Conscious/ deliberate self-improvement • Critical thinking 	<ul style="list-style-type: none"> • Dedication • Desire • Determination • Educated • Effortful • Enjoys challenge • Fearless/ mentally strong i.e. in possession • Good attitude • Grounded • Hard work • In the present • Independent decision makers • Insightful • Intelligence / speed of thought • Intelligent • Leadership • Mentally tough • Motivation • Personality/ character • Players that make things happen for themselves 	<ul style="list-style-type: none"> • Problem solving • Resilience • Responsibility • Sacrifice • Self-aware/aware of impact on others • Self-fulfilment/ Development • Self-initiative • Self-organisation, for example, football-life balance • Self-regulation • Self-reliance • Shows initiative • Solution focused • Speed of mind • Team worker/works for team • Tough • Understands expectations • Very intelligent • Wanting to be the best • Winning mentality
Social/ lifestyle	<ul style="list-style-type: none"> • Appropriate behaviour on and off the pitch • Being a representative for the club and role model to others • Commitment to education • Conduct with coaches • Contributes to team on and off the pitch • Fair play • Good communicator • Good family/friends • Good lifestyle habits 	<ul style="list-style-type: none"> • Humble • Kind • Managing media, money, lifestyle (first car, first contract, first girlfriend, family, friends, agents, managers, drugs, sexual change) • Nutrition • Part of the team/ contributes to team • Personal improvement • Polite • Professional behaviour 	<ul style="list-style-type: none"> • Respectful (to everyone) • Rest, recovery, nutrition, social life • Settled private life • Shows sportsmanship and fair play • Sleeping at right times i.e. siesta • Solidarity • Sportsmanship on and off the pitch • Well behaved • Well dressed • Well dressed and presented
Technical	<ul style="list-style-type: none"> • "...through co-ordination capacity you can teach techniques" • Ability to move the ball away from pressure quickly • Body mastery • Comfortable on the ball (even the keeper) • Confident under pressure • Coordination • Good 1st touch/control 	<ul style="list-style-type: none"> • Great technique • Happy with the ball at both feet • Has a 'trick' • Heading • High level of receiving skills (quality 1st touch and ability to use both right and left feet) • Know technical demands of every position • Passing with both feet 	<ul style="list-style-type: none"> • Resisting tackles • Skilful in the dribble • Tackling • Technical ability • Technically comfortable so that a possession-based approach is possible • Technically good • "Tutto Tecnicio"! ("Everything is about technique"!)
Tactical	<ul style="list-style-type: none"> • Adapt to different oppositions • Contributes to team • Creative • Creativity (is very important) • Decision making • Find solutions to the problems in front of them • Finds associations with other players – 'passing lanes' • Flexible to different playing styles • Fulfilling role on the pitch • Game intelligence • Game understanding • Good decision making • Good intuitive decision making • Good movement • Good positioning on field 	<ul style="list-style-type: none"> • Innovative • Knowledge of team functions and tasks • Optimal decision making in situation • Players have a lot of freedom to make own decisions • Players take responsibility, show initiative, be creative, problem solve their way through games • Position intelligent • Position understanding • Quick decision making • Reading and reacting to game • Reading the game • Showing initiative 	<ul style="list-style-type: none"> • Tactical automatisms – knowing exactly what to do within the context of the game • Tactical awareness • Tactical knowledge • Taking responsibility within game • To play in different teams and work with different coaches and playing ideas • Understanding and reacting appropriately to state of the game • Understands different systems of play • Understanding how football works • Understanding role in team; understanding expectations • Understanding the game • Versatile players in a variety of styles

One interesting facet of the analysis was the number of mentions of each type of PPSTT characteristic. Psychology was mentioned most of all, followed by tactical characteristics and then the technical. Physical and social characteristics were mentioned much less. In some systems characteristics were foregrounded that were seen to be missing before. For example, in the Spanish system they believed their players were well equipped against all the PPSTT characteristics they needed apart from competitive instinct. A revised competitive ethos and structure was introduced into the Spanish system which is now widely regarded as being central to their player development and competitive success.

There was an interesting emphasis on 'intelligent' and well behaved players in both the German and Italian systems that was not picked up in the English research (North et al., 2012a, 2012b). This was not just 'football intelligence', though that was thought to be central, but rather a more conventional educational view of intelligence. These individuals, it was argued, were best equipped to deal with the modern game and its technical and tactical evolutions.

Reflecting the individual nature of human development, considerable emphasises was given to the contrast between 'ideal objective lists' of player characteristics and the 'reality' of the players the coaches were working with. There was a sense that though it was relatively easy to work up lists of essential and desirable characteristics the reality of working with players was much more complicated and subjective. The ideal lists were illustrative but the coaches worked much more with gut instinct and feel. There was no tick box judgements rather extended observations of players and discussions between coaching staff.

The player characteristics could not be sharply defined, it was argued; each individual was 'special'/'unique' and there was no such person as a standard player. One Premier League Academy Manager, for instance, talked of having developed and graduated to professional status 36 different 'player types' within their selection systems in recent years. Players often compensated for weaknesses in one area by developing strengths in others. From the Dutch system: "some players will have an exceptional specific skill level that makes them valuable even though they might not have the ultimate game understanding, whereas others do. So every player and his talent should be looked at individually". From the Spanish system there was an understanding that the great players will not be perfect, they will also have problems: "even the best Serrano Ham has a bone inside".

Just as there could be a cultural influence on a country or club's 'playing style' one of the experts in the Spanish system also mentioned the influence on player characteristics: "Taking advantage of the traditions in the south of Spain, they want to develop players with an attacking mentality, creative, incisive and driven by 'casta y corage' (race and courage). This is a player that is able to compete, skilful in the dribble, winning is important but is not the main thing. However, they try to ensure some winning takes place to ensure motivation is kept high" (Spanish professional club coach).

The player characteristics were also seen to vary by playing position; a finding identified in previous research (Nevill, Holder, & Watts, 2009).

It was interesting that a number of experts mentioned the fine margins associated with playing success for example between 1st and 3rd leagues.

Whilst valuing the relevance of identifying aspirational player development characteristics, one Premier League Academy Manager expressed pessimism over the practical utility of generating such lists of attributes: "Ideally you want someone with the pace of Usain Bolt and the brain of Einstein, but you don't always get that perfect blend. I could show you a list of idealistic things that we've had to write, but it's bullshit – everyone's got these things [in list form] – but it comes out like... 'that's Jesus Christ playing at full-back' ...that player doesn't exist."

4.4 Development model

4.4.1 Long-term approach

A long-term approach to player development was implicit in all the seven countries.

Players were entering the player development pathway as early as five years of age, receiving professional contracts around the late teens/early 20s, most progressing to the 1st team in their early to mid-20s.

The experts talked about the individualised and long-term nature of player development – with young players experiencing many peaks and troughs – which necessitated the need to take time and for patience.

In Italy the experts reported the benefits of a ‘10 year plan’ but noted complications in their player contract system that meant this was not possible. Players were not contracted until U15 (‘Giovanissimi Nazionali’ or ‘Young National’) so they adopted a light touch on players younger than this with a focused four to five year plan from U15 to U19. To manage this issue, Italian clubs expend considerable energies scouting for young players between 11-14 years. The Italian experts noted an admiration for the more long-term organised approaches in England, Germany, the Netherlands and Spain but also felt it important to ‘celebrate the creativity of Italians’ and to be cautious about adopting a system with what they saw as rigidity and flexibility.

In Belgium, England, Italy and Spain there was a recognition that practice is accumulated over many years with quality exposure to football contributing to expertise development. This had an impact on the number of sessions organised for youngsters at different age-stages per week and in terms of exposure to competition. For example, English experts reflecting on weaknesses in their own youth international system suggested that German and Spanish players, by a certain (unspecified) age, had experienced 50-60 matches compared to only 30 in England. England, it was suggested, had less international friendly fixtures than Germany and Spain, particularly at U16 and U18.

4.4.2 Age-stage

All of the seven countries used an age-staged differentiated approach to player development though - as we shall see - there were some very interesting differences in application.

The thinking underpinning age-staged approaches was similar to that suggested by the research. There were important physical, psychological and social differences between youngsters at different age-stages that impacted on their readiness for learning and development thus requiring a differentiated approach (interestingly, biological and physical development tended to dominate the narratives here, notably in Belgium).

Age-staged approaches were used to maximise learning efficiency by relating the practice sessions and game conditions to what the players were capable of-meeting their learning needs at a particular stage of development (keeping them in the learning zone – not the boredom or panic zones). “The system needs to make sure it is appropriate and fitted to what children of different ages and specifically different developmental ages (so not just chronological ages) need” (Dutch federation representative).

“The idea is not to cut corners. You must respect the stages of child and adolescent development, therefore you cannot play children in the same way as adults” (French expert).

An advantage of this approach was that children were given the opportunity to play with children at a similar stage of cognitive and social-emotional development. This way they could learn and develop at their own level and pace, within an appropriately challenging and safe climate. Additionally it provided a model, structure and starting point for development strategies and resource allocation.

The differentiated age-stage approach was used to influence learning environments. There was widespread agreement that younger age-groups should be more focused on fun, engagement, movement development, technique and fostering a love for the game. This would then eventually provide the foundations for later tactical and physical development (see Table 4.2) – though tactical development was a key feature for the Spanish experts from the outset of the player development pathway. The experts emphasised the importance

of building up the basic foundations – movement skills - “...through co-ordination capacity you can teach techniques” (Italian federation representative).

“Younger children will want to copy behaviours more and are not ready yet to have a tactical understanding of the game. However their age is very suited for working on technical ability and skill levels, as well as fundamental movement skills. When they are young the focus should be on not doing too much – letting them play. Young children will train less than older children, their programme will be less complicated and things like strength training are only introduced after players have hit their growth spurt. However enjoying playing football is something that is emphasised all throughout the system” (Dutch federation representative).

The game should be simplified for younger age-groups to maximise learning and gradually made more authentic as they get older; for example, in terms of pitch sizes and team numbers. It progresses from easy to hard and small to big. Fun, fantasy and experimentation in younger age groups, more specialisation later. The Belgian KBVB and a Dutch Eredivisie club both spoke about promoting an affinity between players and the ball ('me and the ball') during the early years of youth development, perceiving this to be an ideal time (when young children are not so predisposed to work collaboratively within groups and tend to be more selfish in nature) to encourage children to work individually on exploring the ball, experimenting with it, and getting many touches in the process.

Age-stage considerations were also used to influence other aspects of the development experience. For example, in Germany it was noted that youngsters struggled physically with the change up to a full-size pitch at U13. In Belgium, progressive increases in team numbers (2v2 to 5v5 to 8v8 to 11v11) were sequenced to reflect both the psychological (self-focused to self- AND other-focused) and physical (able to make short, then 'half-long', and finally longer, passes) developments in children.

	Belgium	England	France	Germany	Italy	Holland	Spain
U19	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11
U18	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11
U17	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11
U16	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11
U15	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11	• 11v11
U14	• 11v11	• 11v11	• 11v11	• 9v9 • 11v11	• 11v11	• 11v11	• 11v11
U13	• 11v11	• 11v11	• 11v11	• 9v9 • 11v11	• 11v11	• 11v11	• 11v11
U12	• 11v11	• 11v11	• 8v8	• 9v9	• 11v11	• 11v11	• 11v11
U11	• 8v8	• 9v9	• 8v8	• 7v7	• 9v9 for first half of season and 11 v 11 for second half • More fixed roles	• 7v7 and transition into 11v11	• 7v7
U10	• 8v8	• 7v7	• 8v8	• 7v7	• 7v7 • Starting to fix positions but players rotate	• 7v7	• 7v7
U9	• 5v5	• 7v7 or 5v5 (choice)	• TBC	• 7v7	• Little chicks! • 5v5 • No fixed positions • Street football	• 7v7	• 7v7
U8	• 5v5	• 5v5	• TBC	• 7v7	• TBC	• 7v7	• 7v7
U7	• 2v2	• 5v5	• TBC	• 7v7	• TBC	• 4v4	• TBC
U6	• 2v2	• TBC	• TBC	• 5v5	• TBC	• 4v4	• TBC

In all systems it was recognised that age-stage thinking was a *guide to inform* individualised coaching rather than a strict 'law-like' method of development and assessment:

"The main benefit of an age-stage approach is that it offers a way of adapting the training process to what the learner needs at that stage – you are able to fit in with the learner and his needs and capabilities. However, it should never become a law-like template – there should be flexibility to move players up if they are ready or keep a very talented player back a year if that is what is best for their individual development. A similar point should be made for the dominant football actions for each age category – individuals develop at different paces and in different ways and there needs to be flexibility to cater for that too e.g. early maturing players and late maturing players" (Dutch system expert).

'Broad stage' versus 'principles of development' approach

There were some very interesting differences in the application of age-stage differentiated approaches.

The Belgian, English, French, and Italian systems appeared to use a 'broad stages' approach with outline curriculum guiding development in each stage, for example, in Belgium, 5-7 years, 7-9 years, 9-11 years, 11-15 years, in England, 5-11, 12-16 and 17-21; in Italy, U9-U14 (grassroots) and U15-U19 (competition).

The Belgian system appeared to be heavily influenced by the Long-term Athlete Development (LTAD) model – which in English speaking countries is often associated with the work of Istvan Balyi (Balyi & Hamilton, 2004), but whose work had been applied to football by Joost Desender in Belgium. This approach uses biological markers such as peak height velocity (PHV) to identify specific stages which in turn determine programme content. For example, technical and tactical development was seen to be most effectively achieved in the 'golden age of learning' from 7-13 years. Once sexual maturation had occurred the players were seen to be more ready for physical development work.

In the French system the training programme was varied by age-group but with particular focus on game based developments for example, relating to attacking or defending. The French experts also noted age-stage guidance provided by the French federation but that there was a high degree of latitude for the clubs and coaches to modify and apply this.

In the Spanish system the players worked with a number of specific tactical principles which were used to guide development using individual and team sensitive progressions in clubs from U8 to U18 and in the national structure from U15 to U21s. The system was structured around the developmental stage of the player and finding the right place for each player regardless of age. Beyond the principles there was no age-stage model or prescriptions – though some clubs may have developed more specific guidance. All the age-groups, squads and teams worked to the same principles but the complexity builds up as the young player develops.

Further, in the Spanish system, there was a battery of set tasks and drills that all the teams repeat continuously but with slight variations around time/space/numbers to accommodate for developmental stages. If a group outgrew a phase they were quickly progressed to a new one. There was a constant process of evaluation to ensure that the coaching sessions were delivered at the right level to continuously stretch the players. Session content was normally set to cater for the needs of the most talented players in the group – the talented players should not be held back it was argued. If the most talented players were performing significantly ahead of their group they were 'promoted' to the next level team.

The Belgian system deliberately structures its games programme to promote progressive technical and tactical challenges (underpinned by associated physical [e.g. strength] and psychological [e.g. perceptual awareness] advancements) by moving from 2v2 (between ages of 5-7), to 5v5 (7-9), to 8v8 (9-11), and finally to 11v11 (12+). In doing so, the KBVB advocate that coaches emphasise the lessons learned from playing in the former team sizes during the first year of the new team size before progressing on to new content (e.g. dribbling from the 2v2 during the first 5v5 year; short-passing during the first year of 8v8; etc.). It was noted, too, that the federation experts spoke about how plans are in place to stretch this sequencing to an older age before players play 11v11 in order to create further consolidation points.

In the German and Dutch systems there appeared to be a more fine-grained age-stage approach which worked like a cross between the English, Italian and Spanish systems. The Dutch, for example, had developed fine-grained curriculums for each age group but were very individualised in their application: “It is a progressive structured system, as the children grow older and mature, more things are added to what they should be able to do” (Dutch federation representative). The Dutch system, as we shall show, however, was very ‘game focused’ rather than compartmentalised into age-stage PPSTT components. Experts from the German system referred to the variability of individual development and players working closely with coaches and parents than strict adherence to age-stage curriculum.

Though the French system appeared to use a broad stages approach there was also considerable discussion of individually sensitive progressive programmes and coaching.

Extending development beyond typical age-stage bandings

Most of the countries’ player development systems appeared to tail off around the U18-U19 age range (Belgium, England, France, Italy, the Netherlands and Spain).

Some experts suggested that this was a significant problem since there remained a great deal of player development potential in the late teens and early 20s and indeed the ‘players never stop learning’. The main issue appeared to be what to do with young players in the period between U19 and U23 with a particular focus on competition experience. Experts in the Belgian, English, France, and Spanish systems stressed how important this phase was.

There was concern in some countries about what to do in the ‘black hole’ gap between U19 and first team football. In France it was suggested that player development systems should be extended to U20 and U21s. In Italy, for example, there was no meaningful competition structure and players are used in B-teams or sent out to lower league clubs. In Spain there was a dedicated B-team structure for U18-U21 and this was seen to be very successful – “in other countries the gap is too big” (Spanish expert). Spanish clubs do not loan their best young players but keep them in their professional second teams where they play very competitive games against older players every week and where they can also train with the first team and get some first team football. This appeared to work very well. The young players may get loaned later on at early 20s if their position is well covered in the first team but then brought back a couple of years later

There were a number of suggestions for changed structure including allowing competition between teams with 1st teams at different levels (in Italy), more European competition between the U19 to 1st level (Italy).

The main response was to send players out on-loan to other clubs (for example, other Premier League or Championship clubs in England; Serie B teams in Italy; the club’s B-team in the Netherlands and Spain) to play and gain experience. There was significant frustration however that this did not represent an optimal development experience at a crucial age, for example, that it was too significant a jump. One Serie A club explained how they have recently joined forces with 15 other clubs across Europe in Belgium, England Germany and Holland (Club 15) to provide appropriate competitive experiences. The German system appeared to provide the most development opportunities for older age group players – perhaps to the mid-20s.

Table 4.3: Age-stage and development priorities

	Belgium	England	France	Germany	Italy	The Netherlands	Spain		
U25	Individual development to become a 1 st team player	1 st and 2 nd teams and out on loan	1 st and 2 nd teams and out on loan	1 st and 2 nd teams and out on loan	1 st and 2 nd teams and out on loan	1 st and 2 nd teams and out on loan	1 st and 2 nd teams and out on loan		
U24									
U23		Professional development phase Professional behaviours and winning mentality							
U22			Building stamina and strength and preparing for the tough challenges of professional football						
U21									
U20									
U19			Competition phase Developing professional characteristics	A-junioren/b-junioren Professional behaviours and preparation Position specialisation More intense training	Competition phase More physical development, learning how to be a professional footballer, more tactical work, and position specific work	A-juniors Performing as a team in competition and winning	Juvenil U18 competition U17 development		
U18									
U17	Physical development post-PHV	Youth development phase Tactically focused	Building physical capacity to vary game approach i.e. use of both short and long pass Focus on tactical understanding Introduction to 11v11 and competing Enter regional and national academies	C-junioren Managing sexual change in terms of physical and psychological development More tactical work refined Sportsmanship	Pre-competitive or initiation phase Maintaining coordination through sexual change, technical development and introduction of tactical work (working with teammates)	B-juniors Playing as a team through the lines	Cadete U16 competition U15 development (and start of national development)		
U16									
U15	The period of the PHV Put the brain into the muscles		Tactical work starts at this stage based 8v8	Scoring goals but not worrying about results Move to big pitch	Foundation or imitation phase Technical development using unstructured games	C-juniors Fine tuning team play and starting to compete	D-juniors Playing in a team Starting to learn positions		
U14									
U13	“Golden age of learning” Movement, technical skills, and brain development pre-PHV		Foundation phase Movement and technical skills	‘Beginners football’ Movement and technical skills development – using small sided games – 2v2 to 4v4 - and “meticulous drills”	E-junioren Focus on technical skills through games and drills Passing and playing together	Together the Pre-competition and foundation phases make up the ‘Grassroots phase’	D-juniors Playing in a team Starting to learn positions	Infantil U14 competition U13 development	
U12									
U11									
U10	Emphasis on the basic skills (fundamentals) of football	F-junioren Fun, movement skills, beginning technique		Bambinis Fun, movement skills, active	E-juniors Technical focus, lots of touches, with fun Learning how to play together		Alevin U12 competition U11 development		
U9									
U8									
U7			Fun, small sided games					F-juniors Technical focus, lots of touches, with fun Playing in a direction	Benjamin U10 competition U9 development
U6									
	“The ball and me’ Developing confidence in movement and in having the ball								

Position specialisation

Early specialisation in specific playing positions was seen as a problem for football development.

In Italy the experts felt that historically players often long periods in the same position on the field (e.g. as a left winger) but that this might impact on their long-term development. For example, when they may reach the first team with a manager who employs a specific system of play (e.g. 1/3/5/2), a winger may find the requirements of the role are different (e.g. he is required to drop a little deeper to defend in a midfield five, rather than just focus on getting high and wide to attack as an attack-minded wide player in a 1/4/4/2), and may struggle to adjust (and find himself unable to keep his place in the team).

Players, it was suggested, should have the opportunity to try out different positions so that their enjoyment and development was not restricted. It was also thought important that players have flexibility because the future game might look different and players may be exposed to different playing styles and systems of play. This will require players to have experience of playing in different parts of the field.

The English and Italian experts suggested that players should be asked to play in many positions with increased task difficulty level (exposed to a range of situations that may occur in matches) to challenge and test their knowledge and skills. They would be exposed more at younger ages to other ideas and tactical concepts that they may face in their future education (e.g. playing with 4 at back, playing with 3 at back, man-marking with a sweeper, zonal etc.). The experts were keen to address certain weaknesses in players in addition to their strengths (e.g. expose a left-sided player by playing him on the right wing). The aim was to expose players to a variety of situations that may occur in their future experiences (in matches) so they will be more prepared to deal with them when encountered.

Table: Age considerations in position specialisation

Country	Age considerations in position specialisation
Belgium	<ul style="list-style-type: none">• Commit to a specific position post-PHV
England	<ul style="list-style-type: none">• U13-14 starting to have a sense of where on the pitch the player is likely to play• U18 playing in specific positions
France	<ul style="list-style-type: none">• Up to U15 players play all different positions• At U16 position specific work starts more formally• U17 positions starting to firm up
Germany	<ul style="list-style-type: none">• Up to U11 everyone plays every position including goal keeper• Up to U13 everyone plays every position• U14 experiments with positions start• U15 more specific training• U17-U19 positions starting to firm up. Certainly nothing definite before U18
Italy	<ul style="list-style-type: none">• Up to U11 everyone plays every position• U12-U14 start experimenting with 3-4 different positions• U14-U15 experiments with positions start• U17-U19 positions getting firmed. Rotation can continue up to U19!
The Netherlands	<ul style="list-style-type: none">• U13 there is an idea of the player's position (which is related to the transition to 11v11)• U13-U15 a sense about whether the player is attack or defence• At U14 – players play a minimum of 2 positions• There is a big emphasis on keeping players multi-functional and flexible in the Dutch system
Spain	<ul style="list-style-type: none">• U13 there is an idea of the player's position• U17 and/or after sexual maturity this becomes firmed up• Players play within very flexible systems in Spain.

The data suggests the positions specialisation starts about U14-U15 and is cemented U17-U19 across the different country playing systems.

4.3.3 Holistic development

In the literature review section we suggested that holistic development was a necessary feature of developing players with the wide ranging characteristics required to compete at the highest level. We also noted its value for wider life-skills development.

Though most of the experts suggested their systems attended to PPSTT development as a natural feature of the coaching process there appeared to be two main approaches which appear fundamental to understanding the differences between country approaches in this study.

The split was generally between those who – on paper at least – treated each of the developmental features (physical, psychological, social, technical and tactical) on a relatively equal footing (e.g. England (Four Corners), Germany (significant emphasis on non-sport Education) and most experts within the Italian systems), and those who foregrounded a ‘game based approach’. With the latter there was a focus on technical and tactical development with other factors such as psychological, social, lifestyle developments emerging from game specific problems (e.g. France, the Netherlands, Spain and to a smaller extent Belgium and Italy).

We might call this *explicit holistic* versus *game focused* development approaches.

PPSTT development

PPSTT approaches (in theory) attend to physical, psychological, social, technical and tactical developments as equally fundamental within the player development processes. In England the ‘four corners’ (physical, psychological, social, technical) model is seen as the ‘cornerstone’ of all player development work (with “In order to teach football to Johnny, you need to know football, but you also need to know Johnny” a phrase used by the English federation expert to reflect the importance of understanding psychical, psychological and social development, as well as technical). In Italy, the national federation was very supportive of holistic development including technical development, making correct decisions, dealing with risk, helping team mates (social), playing under pressure (psychological), operating with speed (doing things quickly under pressure). There was a sense that the focus on technical and tactical developments alone was an outmoded legacy approach with holistic approaches better equipped to serve modern players. “You can’t approach kids in the way the coach approached you....the world is changing” (Italian federation representative).

At one Serie A club, the coaches talked about ‘aspetti globali’ (global aspects). “A player that enters the field with a body that can move well, a head that can think and a heart that feels emotion...for this to happen, the player must train the body (physical), the mind (psychological) and the heart (social).... We as coaches must create sessions that train the muscles, brain, emotions and also the social side....enabling the player to co-operate with his teammates whilst learning to play in a team” (Italian club youth technical coordinator). For the Italian federation the players were the ‘unita significativa’ (the meaningful unit).

Game focused development

In Belgium, France, the Netherlands and Spain there was considerably more emphasis on game focused development with holistic development, notably psychological and social development, not targeted separately but integrated in (where necessary) to game-based technical and tactical sessions.

In the French system there emphasis on all development focusing back on particular playing principles:

“In the beginning, here and throughout France, we used to have a type of training which really distinguished the difference between “Athletic development” and “on-the-pitch development”. This is to say that these two aspects are quite different. When we trained using this aspect, we used six to eight different sessions in order to differentiate between the two and put aside time to do each one. I think that over time the player was mentally worn down after several training sessions. This was not always linked to the activity but I had noticed it for a while. Next, we went for a complete overall training method of developing tactics and game plans whilst including athletic aspects. We realised that for training this also was no longer very interesting. Today since the start of the year, we split up the training where we try to have a part which develops the physical side which corresponds to a tactical theme at the start of the session using the ball as much as possible. Afterwards we focus fully

on that specific tactical element. The differentiation is there but we have tried to keep the tactical and technical principles that we had previously” (French expert)

In the Dutch system this was regarded as a ‘total approach’ and importantly addresses PPSTT developments (strength and conditioning, running technique, psychological, nutrition, social media training, technical and tactical features etc.). However, it is explicitly football- or game-led to enable the ‘best possible focus on football’. It is holistic development from a game sense – an ‘action theoretical’ perspective as the Dutch call it – that rejects a more compartmentalised PPSTT approach. Most development goals were technically focused (for example, heading or playing with both feet) or tactically focused but they may have other additional foci. For example, for physical development work they would use a bigger pitch during games rather than undertaking separately to actually playing the game (i.e. in a gym). All nutrition development work is focused back on football improvements. A compartmentalised approach was seen as being too risky as there is too much room for over-interpretation and confusion amongst players and parents. This was formalised in the Dutch player development curriculum (‘football theory’ and ‘football learning process’) and explicitly focuses on football actions and behaviours with PPSTT characteristics integrated into this approach. Similarly, the Belgian ‘Learning Plan’ provides a comprehensive, football-oriented basis to their holistic development curriculum.

In the Spanish system a similar approach was adopted. The Spanish experts talked about ‘multidisciplinary players’ – though the research suggests that the Spanish experts were certainly sketchier and less concerned about the specifics of psychological and social development compared with their counterparts in England, Germany and Italy (one interviewed La Liga club seemed to be an exception to this). It was not that they were unconcerned with wider holistic development but had not yet articulated the details to themselves (there were some complications – at the national team level, the experts emphasised personal characteristics such as respect, responsible behaviours, education and a balanced lifestyle).

The Belgian system was based on three key concepts – technique, tactics and the physical – with psychological skills underpinning all of the three main areas. There appeared to be a particular focus on physical maturation issues and physical development within the Belgian system. Many of their coaching decisions appeared based on principles of Long-term Athlete Development (LTAD) and where the young players were in relation to both the Relative Age Effect and peak height velocity (PHV) – with teams sometimes split up into early, normal and late maturers (including the late maturers-specific ‘Futures Team’, who play international fixtures against other nations). There appeared to be less attention to social development and there was some acceptance at the national level that this was an area for future work.

In Italy, at one interviewed Serie A club, the ‘technical/methodology director/coach’ was seen to lead player development, with ‘Lab’ psychologists and performance analysts supporting the process.

Values and goals within player development systems

An important feature of discussions of holistic development concerned values and goals within player development systems.

A number of the experts made an explicit connection between an approach which positioned football within a wider development context - i.e. developing good people, and the recognition that not all players within the development system will be offered a professional contract and thus should be given skills for their life beyond sport – and holistic approaches.

For example, at one interviewed Serie A club (one of the most prestigious football clubs in Italy), were keen to promote values and set up development environments which extended beyond those simply serving football and into wider aspects of player development. It was seen as a reputational issue which meant a holistic development approach was a priority. They had established “(club name) College” to provide a higher quality of holistic support and education for their young players, to help them both on and off the field and to recognize the importance of preparing a young person for a possible life away from the game.

Similarly, the importance attached to schooling and getting a good education was also apparent within the Belgian Topsport school-based system. Whilst possessing a fundamental aspiration to provide the players selected to attend the school with increased amounts of quality practice opportunities, the programme also

demonstrates its concern with the players' education by placing the boys within very small class sizes to ensure that the quality, individualised, academic tuition.

Comparable values and goals were very evident in the English, German, Italian and Dutch systems. In Germany, school was argued to be more important than football development with players encouraged to attend school for as long as possible (at least until 18 years). However, it was also recognised that later on in the player's development balancing a dual career became more difficult. In the Netherlands it was complained that around 60% of professional footballers had not completed their education.

4.4.4 Selection and inclusivity

In the literature review section we described some of the tensions associated with player development environments concerning, in particular, the limited resource available for high quality player development which necessitates some form of selection, and the idea of ensuring pathways are as broad, developmental and inclusive as possible to maximise player engagement with those resources.

In broad terms, the seven countries adopted a similar approach:

- rejection of a community-based solution to early player development (all serious development took place in academies and training centres)
- relatively early selection to player development systems (in most cases around 8 years of age but often earlier)
- recognition that it was important to adopt a long-term, patient approach to individual player development for those in the system but that, in general, there was further selection/filtering mechanisms at around U14/15 (pre-scholarship agreements/full-time academy places), U16/U17 (scholarship – 1st national selection) and U19/U20, with players moving out of the system during these phases.

The following provides more details of each:

Community or academy based coaching

The systems of the seven countries suggested the rejection of community clubs as an appropriate environment for player development in favour of the professional club academy. Indeed, in the Dutch system, one expert suggested that even the sampling of different sports should be conducted through the academy system, while this recruitment of coaches from other sports to come in to the Academies to coach players in 'other' sports (e.g. badminton, judo, multi-skills) was common practice within the interviewed Belgian clubs.

Within this context, however, there was recognition that at younger age groups academies should draw mainly on local players. In Spain, for example, most clubs had a preference for selecting local players at younger age groups because it was thought that they develop better when they are in a 'normal environment' (living at home with their parents, seeing their friends regularly, their girlfriend, attending their local school etc.). They try to keep players in their natural environment for as long as possible. In Italy there were rules for where the clubs could recruit from – locally, nationally, overseas – by age group.

Selection ages

In some countries such as England there was de facto selection occurring from 5 years of age for club 'development centres'. Most countries started academy based development (and selection) from 8 years of age. Other important transition ages included U14/15 (pre-scholarship agreements/full-time academy places), U16/U17 (scholarship – 1st national selection) and U19/U20. For more details see Table A3 in the Appendix.

Long-term patient approach

The long-term patient approach expressed here is far removed from that advocated by Côté, Martindale et al., and the like. This is not an approach which favours a developmental approach for wide swathes of the playing population, rather those who remain (for the time being) in the academy system. As we have noted, the numbers gradually reduce as the age groups progress in the system.

“If we do not respect these stages of child development, we can have a player who reaches maturity very quickly but his capability to develop will be consequently limited. It is necessary to be extremely patient with the young players and vary your selection criteria. A kid who is mature at the age of 12 or 13 years old in terms of their athleticism and who can nearly reach adult size will not inevitably play better than another player who is much smaller but who has the capability to adapt, who understands the game well and has a sense of a team game. You must leave him until he stops maturing so you can see what his potential is at adult age” (French expert).

In Italy, the Academy Manager at one Serie A club suggests a patient, long-term approach “Normally, we wait a lot...I prefer one year or more” before making a decision on a player. In the Netherlands players were typically allowed two years to sort out performance issues before there was any action around de-selection, though there was typically less patience with older players. An interviewed Head of Coaching from one Premier League spoke of guaranteeing their youngest players (U9-U11) a three-year period that was free from de-selection decisions in order to promote long-term, patient thinking.

English experts suggested that, within the national team programmes, Germany and Spain identify players earlier than in England but maintained them in the system for longer (our results confirm this for Spain, but suggest that Germany has later specialisation). “We believe there to be a correlation between the earlier you’ve been selected to play international football and therefore the more experiences you accumulate, the easier it will be to transfer into senior international football ... hence why we value talent identification so highly ... It correlates: if you’ve got success at junior level, it is easier to transfer to international football” (English federation expert).

Some of the experts felt the academy managers and coaches were still too focused on competitive success and results above player development. For example, the Spanish experts thought this about other countries. Clubs within the Italian system made this comment about other clubs. In the Netherlands it was felt the development coaches were being judged on results rather than their ability to develop players.

Selection methods

The general process for making decisions about selection appeared to involve scouts, age-group coaches and academy manager/athletic director.

“A scout’s job is to bring a player in, but then to go and find a better player. Scouts must go and find more ‘A’ players, so ‘B’s drop out. This changes so quickly; the best players at 16 are rarely the best players that get through into the senior squad” (English federation expert).

Pre-academy, the players were watched playing league games and invited to academy trial days/small-sided game competitions with the best players selected and watched further. There was often a relationship between the professional club and many local ‘feeder clubs’. In the academy, progress was carefully monitored by the coaches. Similar systems were used – but at older age groups – by regional and national coaches.

The basis for decision making was complex. In the English study (North et al., 2012a, 2012b) the coaches talked about a balance of probabilities between PPSTT factors and ‘gut instinct’, and similar ideas were expressed here.

“Rating a player, everything is taken into account: school, private life, friends/family by the athletic director of youth football and pro team, coach of youth team and pro team, and the player himself in a private talk with the pro team's coach. Every player's big picture decides on him, but always with his current personal situation taken into account. Judging players underlies subjective findings which are oriented along objective criteria” (German expert). In Spain it was interesting that players were not punished for taking risks and making mistakes but were dealt with more severely if they did not work to the established playing principles.

In the Netherlands: “We look for players that show initiative and show commitment to the game and to work hard. Agility and fundamental movement skills are other things that are important at a young age. We strive towards the 4 main principles - to develop players that can take ownership, show initiative, are committed to

working hard and can solve problems” (Dutch club expert). Another Dutch club expert, however, was very keen to emphasise that technique was the standout quality sought within their recruits.

Entry to the Belgian Topsport School programme is dependent on players’ capacity to meet the five criteria that are prioritised: ball and body control (assessing technical competence); ‘the inside’ (game-based decision making); winning attitude; emotional stability (reactions to success and failure) and athletic qualities (with a high emphasis on speed).

One German expert suggested “it was the little things that make the difference” and that the coaches were looking for something special/unique. Another German expert felt that selection issues were too arbitrary – too based on the experience and judgement of a few scouts and coaches and that there needed to be a more systematic, rigorous process.

The experts felt there was an issue with physical bias and relative age effects in selection, notably in Germany and Italy. Others felt that if there were two players of equal ability they would always take the late maturer as he had more growing room.

Specific country systems

There were some very interesting applications of the above general principles within specific country systems. These are best illustrated by the contrast between Germany and Spain.

The German system appeared to favour much broader pathways earlier on in the players’ development with opportunities for sampling, with gradual specialisation and patience.

The Spanish system appeared to embrace an early specialisation approach, whilst recognising the problems of talent spotting by bringing through a large cohort of players from an early age and then attempting to keep them within the system, showing significant patience. For example, one La Liga club indicated that they run 19 teams, with 380 players, with three squads per age group. There is extensive scouting at the pre-academy stage within the Spanish system (often undertaken by the coaches) and the Spanish experts claimed they could pinpoint very early on who has a chance of making it to the top and in their words were rarely proved wrong. They felt that ‘not many [players] slip through the [selection] net’. Indeed, they appear to have supreme confidence in their scouting abilities before 14 years of age (which probably requires further investigation!).

At national team level, the Spanish players did not work on technical aspects because of time constraints but were thought to be very technically accomplished anyway thanks to work done back at the clubs. The focus remained on the key principles of play mentioned above.

This club-based philosophy was augmented by a regional and national development and competition structure which meant the best age-group players were getting significantly extra experience and coaching. Spain has 19 regions (autonomies). In each region there are three regional coaches at U14, U16 and U18 level. Players were selected into these squads and competed in the inter-regional championship (as well as the club competition). The competition ran in 3 phases (December, March and May). From this pool of players, the Spanish federation selected 55 players per year (5 per position) which fitted the trademark style of play. The 55 players congregated together at the City of Football in Madrid 3 days a month to work together. After the December session, the number is reduced to 33 (3 per position) and they work together until a squad has to be chosen for the next international competition.

This approach appeared to represent a kind of double selection and talent concentration but still with sufficient breadth of coverage to keep the talent concentration fresh. The Spanish federation believed a key to their success was the building of a very comprehensive database of all players deemed ‘selectable’ and the fact they have a very clear and rigorous methodology as to how the youth national team operates. They have as much information as possible about each player from anthropometric, to fitness tests, to complete breakdowns of game performances. In the end, however, the biggest marker is performance in games, particularly in tough games. The Spanish federation calculate they have a 50% retention rate from U15 to U21 which they think, based on their research, is much higher than most European countries. This allows them to see a lot of players for six years and gives them a much bigger chance of impacting on their development.

In Belgium, at the national level, selected players were separated into early, normal and late maturers because they did not want to lose players unnecessarily due to physical differences being interpreted as performance or 'potential' differences. The Belgian experts provided examples of players who had previously been deselected from their systems due to maturational issues but were now succeeding elsewhere. They suggested many of Belgium's current national team were late maturers.

To support the scouts in performing their role, the English FA have created a set of position-specific profiles that reflect the technical and tactical qualities required for players playing in those positions. To complement these, and consistent with the federation's 'four corners' model, scouts are also provided with physical and psycho-social criteria to look out for when selecting players. In each case, scouts using the following grading system assess players:

C Grade (1-5): Below international standard for that age group.

B Grade (6-7): Expected international standard for that age group

A Grade (8-10): Above international standard for that age group

"If they are scoring above international standard at a range of things consistently, we would think about moving them up an age group" (English federation expert).

Selection success

It was interesting to discover the national federations' and clubs' views on the number or percentage of players in the player development system who would eventually gain a professional contract. In Germany it was suggested that 3% of youngsters in the player development system become professional footballers. At one interviewed Serie A club, it was estimated that of 350 players registered at the club the reality was about 10 would achieve a professional contract (c3%).

Overall

European football appears to be selection-oriented but within a diminishing cohort giving these players as much chance as they can. The selection and de-selection of players is a charged and emotive issue and there was definitely a sense among the experts of 'we are long-term and patient where as others (the remainder of football set-ups and clubs within the country) are not'.

The most common practice therefore was, what Ford et al. (P. R. Ford et al., 2012; P. R. Ford et al., 2009) refer to as, either the early specialisation or early engagement approach. These kind of early selection approaches have been criticised by those advocate sampling, late specialisation and broader developmental pathways (e.g. Côté et al., 2007). There was signs of this latter approach, for example, in Germany but even here selection based approaches prevailed.

4.4.5 Embedded Systems

In the literature review section we noted the spatial and social embeddedness of player development systems and the importance of system clarity, implementation, coherence and alignment within this social space.

This principle was very evident in the expert interviews though with different levels and types of engagement from different countries and clubs. The experts talked about developing a shared understanding of philosophies, performance and development models with the sporting workforce (scouts, coaches, teachers employed by the academies, sport scientists etc.) and also players, parents, schools etc. Belgian experts referred to the *triangle* of 'player', 'club' and 'parent'.

The key communication mechanisms were educational workshops, regular meetings etc. There was a responsibility on academy staff to monitor whether important messages were being understood by key stakeholders and putting in place remedial actions if they were not. For example, academy managers would often observe coaching staff to ensure they were working to the national or club philosophy and principles.

Meetings between coaches, players and parents were also seen to be important and in some contexts quite regular (for example, in Germany). In Belgium there were concerns about relations with parents and parent understanding which was thought to be detrimental to player development; for example, related to their

child's selection in the team or playing position. It was recognised that better systems could be put in place to work with and educate parents.

As we have seen, some national and club systems appear more coherent and integrated than others. In terms of system alignment there appeared to be considerable progress within the German system. As a result of international competitive failures in Germany in the late 1990s and early 2000s there was a now often mentioned review of their youth development system. Among the many proposals suggested by the review was the importance of ensuring that all parts of the German system understood the new vision, and bought into it through their actions.

The German 'story' focused more on the identification, alignment and mobilisation of system structures than perhaps any other part of the system principles we have described. The Germans wanted to ensure that effective player development was a planned process and not just a 'random happening'. There were excellent relationships, it was suggested, between DFB (German football association), the DFL (German league federation) and the clubs, which has extended into the NLZs (Youth development centres).

The relationships were based upon effective communications between structures, shared (or very similar) coach education (though not everyone agreed with this last point), and more cooperative working, for example, between national level and youth coaches. Despite their obvious recent successes, the Germans believed there could be more successful integration of the player development systems with schools.

The Belgians talked about their Topsport School programme – a Government-backed initiative, regulated and delivered by the KBVB, but based upon trust and effective communication between the KBVB and the professional clubs – that began around the turn of the millennium in order to enhance the individual development of talented players. The programme (for U15-U19 players) involves 5 schools across the country, with each containing approximately 50 players, all of whom receive 12 hours coaching at the school per week, with further practice time provided within the club environment. Whilst some concerns were raised over the quality of communication taking place between the federation and the clubs, the system was perceived by experts from both within the clubs and the federation to be a key determinant in the nation's recent surge in elite player development.

In Italy, a Serie A club's 'Modello (club name)' project has been an explicit attempt to set-up a performance and player development identity and vision within the club and community and then to get 'joined-up' thinking and 'buy-in' from all the relevant stakeholders. This approach, it was argued, was starting to return dividends through more consistency in training and in games.

4.4.6 Skilled and committed workforce

In the literature review section we noted the importance of a skilled and committed sporting workforce to support player development systems. We also noted the importance of ongoing workforce development and education.

The interviews with the expert group revealed a considerable number of roles which made up the player development workforce.

These included:

- National leads
- Sporting directors
- Technical/methodology directors/coordinators
- Academy managers/directors/heads
- Coaches (head, age-group, and assistants)
- Bio-mechanists/physiologists/medical staff
- Strength and conditioning coaches
- Fitness coaches
- Technical/methodology coaches – are central in Italy with others providing a supporting role.
- Physiotherapists
- Sport psychologists

Teachers/educationalists
Education and welfare officers
Life skills coaches who consider everything on and off the pitch (girlfriend, social behaviour, rules of behaviour, being on time, reliability)
Sport nutritionists
Performance analysts
Coach developers and educators

The importance of having a breadth of staff to support the development system was emphasised by the Academy Manager at an English club: “The physio, sports scientist, administrator, education and welfare officer are all player developers...we aim to make sure that no reasons exist for players not fulfilling their potential”.

A key feature of the research was the importance of coaches and coaching to player development. The coaches were the orchestrators and facilitators of the player development systems working with the individual players, age-groups, squads and teams to interpret and apply the philosophies and programmes. This was likely to produce a high degree of variability within this interaction since there were different coaches, different players and teams, and different philosophies and practice methodologies. “If a coach says to me that he plays in ‘that way’, he is not my coach. If he says, give me one week and I will tell you what way I want us to play, he is my coach!” (Italian expert). The Technical Director of a Belgian Pro League club’s Academy spoke of the time that he invests in his coaching staff (“travel with them to games, watch training sessions, hold meetings with them”) in order to educate them (to an acceptable level – “85%...to gain 100% trust and understanding is unlikely – but I can only hope that the 15% difference is better or more effective than what I would tell him, and not simply a contradiction”) on the prevailing playing and coaching philosophies.

The development and education of coaches was seen as unequivocally central to effective player development systems in almost all the countries. “Coach education is very important” (German expert). “[Our system] is underpinned by a very strong, time-consuming and not cheap coach education system” (Spanish expert). The coaches’ philosophies, practice methodologies, and coaching behaviours were seen to be appropriately influenced and challenged by high quality coach education in Italy. For example, experts at one Serie A club talked about “the futuristic coach who must learn to train the muscles, train the mind, train techniques, whilst considering ways to develop the emotions of their players. They must also look at ways to build relationships with players, and so the education of the ‘futuristic coach’ has to be based on the delivery of a holistic session that integrates all of these components together and not in isolation (‘aspetti globali’)” (Italian expert). All active coaches including ‘parent helpers’ had to be qualified in the Netherlands.

National federations had extensive coach education functions including certification schemes, workshop provision, coach licencing schemes with published resources and online materials, and 1:1 coach developers. Clubs held regular coach education workshops and meetings to ensure philosophies and ideas were shared, for example, throughout the whole club, in particular age-bandings, and in specific age groups. Coach meetings or what might be called de facto communities of practice were very important in the Netherlands and especially in Spain. For example, the Spanish national level coaches regularly helped-out with each other’s squads and teams, and the whole national structure regularly had breakfast together as a deliberate method to understand the latest developments and share ideas. National and club coach educators also met regularly to discuss the latest ideas for coach development. There were also documents and presentations available for coaches and staff to consider.

Opportunities were also provided for the different members of the player development system ‘team’ to come together, for example, academy managers, coaches and sport science staff – “there is continuous support for staff to clarify expectations and embed the key principles and philosophies of the programme” (Italian expert). The academy managers also regularly monitored and met with coaches 1:1 to ensure consistency and quality in programme delivery. One Premier League Head of Coaching spoke of their deliberate strategy to promote integration amongst their staff members by creating office spaces that were shared by support staff who worked together with the same group (i.e. age group coaches, sport scientists, physios, video analysts, etc. in the same room).

Though coaching and coach education was seen a central component of the player development system there were concerns from the experts that it could be improved, for example, the mechanisms for development and

educating coaching in the community game at the beginner and youth level needed attention in the Netherlands.

The experts also discussed recruitment strategies with national leads and clubs wanting to ensure that they had the right staff to deliver their programmes. For example, in Belgium they were concerned about the coaches' presence and ability to deal with 'arrogant' players. In England one expert suggested the importance of coaches adhering to the academy philosophy and programmes (in typical English style 'FIFO' – "fit in or f**k off"). In Spain at the national level there was a strategy of targeting ex-professionals who had undertaken very intensive coach education but who were also vetted by the Director of Youth National Teams and the Coaching School. In the Spanish club system the aim was to recruit coaches who were passionate about developing young players, keen to work within a set of style guidelines, well educated (highest possible coaching qualification and graduates from the National Institute for Sport and Physical Education) and preferably with elite playing experience (particularly for the small number of full timers). At one Serie A club there was discussion on finding the right coaches to deliver the 'coaching concepts' (i.e. about alignment of personnel to philosophy). This kind of alignment was also used to organise coaching deployment within clubs – getting the right coach with the right age-group, squad or team. Another Serie A club valued 'mature and experienced' coaching staff who adopted a 'holistic and global approach' to place the learner at the heart of the process. Clubs (in Belgium and Italy) also discussed the notion that good ex-professionals do not necessarily make the best coaches.

High staff retention and continuity was also seen as a significant component of player development success in Italy and Spain with the collective wisdom of many coaches over many years helping to sustain and improve systems. A strong interest and work commitment was rewarded by good rates of pay in Italy. Coaches' dedication to coaching in Spain was seen to be a key success factor. It was interesting that in Spain there appeared to be relatively few paid and full-time coaches within the clubs – most had other full-time jobs. However, they were all highly qualified (at least level 2 or 3) and remarkably committed to the player development endeavour. The Italian and Spanish systems and communities in particular appeared to value highly their staff members though working with very different employment models.

4.5 Learning Environments

4.5.1 Player centred approach

In the literature review section we noted how contemporary theories of human development and learning suggested the importance of highly individualised and player centred development and learning approaches.

An individualised player centred approach was very important to all the countries and clubs according to the expert group.

“There is an emphasis on individualising the programmes – no player is the same, not every 11 year old is capable of the same thing and this needs to be recognised and catered for” (Dutch expert).

“Again there is a strong emphasis on ‘custom made’ development – very much based on what every individual needs, acknowledging that not every player of every age is the same, can do the same, or can be expected to be able to do the same. We look at every player individually and on that basis they decide what aspects need developing” (Dutch expert)

“We use a player/learner centred approach - i.e. it is the player who does the learning and the coach’s job is to facilitate this (not coach focused or lead)” (Italian expert)

“The system needs to be learner focused – i.e. it needs to be centred around ‘how children learn’ and what makes them ‘tick’, what they are able to understand, what fits their lived experience” (Dutch expert)

Individualisation was clearly highly connected to the development stage of the player using a holistic approach to meet the needs of the player. In the Netherlands there was a careful process of analysis to ensure that every drill, every session was set at the right level and promoting learning of key building blocks the players needed to understand and be able to play the game.

Thus, for example, a coach may be very aware that a player has strong technical skills but is a poor communicator or poor socially. Work would then be done to maintain the development of the technical skills but address the communication weakness using a ‘custom made’ approach. In the Italian and Spanish system considerable use was made of ‘playing up’ and ‘playing down’ depending on the performance maturity of the player. In Spain, players progress through the various national youth squads based on their level of ability not their biological age. The Spanish coaches were always looking to find the right level of competition for players to keep their progression on track. The Spanish expert expressed surprise by how few underage players compete for the other nations in international competitions. The last Spanish U19 who won the Europeans had six U18s.

The individualised approach also meant that some players were allowed to visit home from the academy more often than others if it is felt appropriate for their individual development (Italy). PPSTT variability was recognised by all the experts and this connected to the need for a long-term approach and patience discussed earlier.

Sessions were highly individualised to meet a particular development need. For example, in Italy “a coach may take the back four to one side and work on specific jumping drills to increase the vertical power in young defenders, whilst the other coach may work with attackers and midfielders on fast footwork patterns” (Italian expert). This was also seen to be common practice within the professional clubs and national federation in Belgium. In the Netherlands significant importance was attached to the idea of involving players in all aspects of their development – they were expected to have an opinion about what was best for them as well as the team. As we noted earlier, the Dutch system was highly premised on an individual/individualised approach.

One Pro League Belgian club shared details in relation to an element that they have created within their system that is specifically geared towards the bespoke development of approximately 25 of their most elite players. This specialist support programme – entailing assistance in areas such as functional movement screening, core stability analysis, bespoke nutritional plans and supplement provision, dentist and health support, specialist pillows to assist their sleep – exists in order to allocate preferential treatment (all overseen

by a team of specialists who meet regularly to review individual cases) for those players deemed to possess exceptional capabilities.

Central to this approach was a player centred facilitative approach to coaching. In Italy it was suggested “we don’t shout at players who make a mistake we try to find a solution” (Italian expert). In the Dutch system there was a strong emphasis on the fact that if practice is set up at the right level, the players will learn by themselves (with careful guidance from the coach). These approaches are also quite consistent with the ‘Stop, Help’ method found to be prevalent in Belgium; this coaching approach is geared towards supporting the players to be able to independently solve the problems that they encounter during their development.

The experts talked about regular individual review and assessment approaches. This was more or less everyday informally, with formal assessment meetings occurring from every 4 weeks to every six months. These often involved reviewing performance data and video materials. There was also regular meetings with parents (the Netherlands). In the Spanish system they were experimenting with player diaries to understand more clearly the player’s situation, wants and needs. There was also an important role for psychologists in the Spanish system who in one club maintained a ‘sociogram’ of each player to understand their relationships with others.

Team development

A number of the experts mentioned the need to address individual development within a team context. The individual had to understand his role within the team particularly using the game as a teacher approach (the Netherlands).

There were many times when individual needs had to be put on hold for the sake of the team. Indeed in the Spanish system – as will be noted shortly – practice sessions were often set-up to benefit the most technically and tactically developed players. One French club had experimented with an approach which favoured the most ‘gifted players’ but had reverted back to a system which focused on all individuals but as part of a team i.e. possession oriented football.

In other systems however, and at the development phase, it was mainly the individual players who were the focus of development “the player is more important than the team” (Italian expert). The player is the “unita significativa” (the meaningful unit). In England “we’re about players, not teams...our players might play up and down, across age groups, in different positions ... we don’t have a ‘team’” (English expert).

4.5.2 Practice

In the literature review section we highlight at a broad level a range of options open to coaches and players in terms of learning environments and practice structure.

We described three main binaries:

- Sampling versus specialisation
- Unstructured play versus structured practice
- Games based versus skills based approaches.

The following provides an overview of the most common approaches to learning environments and practice structure from the perspective of the expert group.

Sampling

There was a mixed response to the notion of sampling amongst the expert group.

It was seen as particularly important in Germany (agreement amongst all the experts), to a degree in France and Italy (where the practicalities were questioned). In the Netherlands and Spain the ‘science’ of sampling was understood but compensated for by ‘modern football practice’.

A number of the experts believed there was an argument for sampling in younger age groups because there was less opportunity for street play and this was impacting on movement skills. Sampling was also seen as providing variation, 'different loading', ideas and inspiration.

Since the experts were primarily concerned with football development they were keen to identify sports that had good transfer to football. These included: acrobatics, capoeira, gymnastics, canoeing, rock climbing, boxing, badminton, judo, track and field, tussling and wrestling to address physical (contact) and movement development, and ball sports such as basketball, handball, rugby, tennis, and volleyball to address balance, coordination, spatial awareness, ball flight, game awareness and tactical skills. Further, experts in Belgium and Holland spoke of their belief in the importance of incorporating a range of 1v1 sports on the basis that these activities promoted opportunities for individual battles and presented chances to dominate an opponent. In the Spanish system the regular participation in futsal at school was seen to be highly beneficial to football development.

However, most believed that by a certain age the young players should be starting to specialise (from 10 years) and then totally focused on football (from 11-12 years (the Netherlands) to 17 years (Germany)). There were issues it was argued about loading, rest and recovery in later years if the youngsters played many sports.

A number of experts commented on the practicalities of participating in many different sports suggesting it was difficult for players and parents to find time, opportunities and had financial and logistical implications. Most saw it as a role for schools as part of physical education; there was a need for a more 'physical culture' and movement development curriculum in schools.

In the Netherlands they thought the sampling should be looked at on an individual basis – it might be useful for some individuals depending on the sport. The delivery of these sports it was suggested should probably be integrated into the football player development system so they are appropriately implemented and monitored. Otherwise it should be dealt with in schools.

In Spain it was argued that training methods had improved so players receive a very well rounded experience in terms of the development of all psycho-motor abilities using football as a vehicle.

In Belgium it was argued that players should practice in a range of positions to improve their footballing skills as a kind of sampling within football (what they called 'polyvalence' – the ability to play two to five positions).

In Germany it was suggested that all players should have a break from football at some point in the year (for example, the winter break) when 'they should go the cinema'!

Unstructured play

Unstructured play was thought to be very important to player development particularly for younger age groups up to 11 years of age but also for older age groups, for example, in France, Germany and Italy.

This approach was often associated (somewhat nostalgically) with a golden age of 'street football' or 'cortile' (courtyard football in Italy) which had diminished because of access to computer games and concerns about street safety. One expert cited (unknown) research suggesting that young children had lost 30% of their movement skills compared to 20 years ago as a result. To compensate a number of experts suggested they had a role helping to build these lost movement skills through unstructured and other activities.

There were a number of countries where finding space for unstructured play within practice was very important especially in younger age groups e.g. Belgium France, Germany and Italy.

"At the start, the balls are on the pitch and the players are "free", a bit like our generation playing in the street. The trainer will not be in charge of them during the first half hour. If a kid does not want to do it, he is not obliged to do so and he will be able to talk with his friend quietly. We want it to be something that is their own and in which they can completely immerse themselves ... they each have their own ball and do their own little technique work and we leave them to be creative" (French expert).

A Dutch professional club expert described how strategies had been created at his club to try and alleviate this issue:

“With our youngest boys they will regularly spend some time playing on the concrete area within our academy just to give them some time to play as if they were on the streets, as we want to give them the opportunity to do this that they’re otherwise not getting that we all used to get.”

This same coach then also spoke of how players within the older age groups would receive protected time each month to play street-like games within a caged, small-sided game facility at the Academy, during which no formal ‘coaching’ would take place; once more, this was done in order to provide the players with opportunities for unstructured play.

In Spain it was thought that multi-skill sessions could compensate for the lack of unstructured play:

“Youth sport is now much more regulated, with better facilities and better coaches, but perhaps we have taken away from the child playing on the street and developing a wider range of skills. They now do more regulated sport than before, but do nothing beyond that. There is a possibility that they could benefit from more variety, but they do so much work on the motor skills during the football training that we feel this compensates their lack of free play” (Spanish expert).

In the French system unstructured practice (and indeed structured games based approaches) were thought important because of their motivational qualities i.e. play and game activities were more intrinsically enjoyable than the structured skills based practice.

“I think that this method of incorporating the ball is very important because you enjoy it a lot more when you have the ball when you train. Therefore, from the beginning to the end of the session everything is done on the pitch. The players do not go jogging in the woods or go in the weight room” (French expert).

Structured practice

Games based approaches

From an expert perspective structured game based practices were now the dominant format for football development.

This was the favoured approach to practice structure in France, the Netherlands and Spain. It was certainly important in Italy at younger age groups though the Italians also recognised an important role for skill based practice. It was also very important in Belgium, England and Germany.

The expert group often associated this approach with the notion of ‘game as the teacher’. There were two aspects here. The first concerned the players’ relation with practice. The game should not be broken down, compartmentalised, cleansed, and individual skills practiced out of context. Rather players should learn through experience, encounter and/or solve ‘real life’ opposed and pressurised, random and variable, footballing problems to produce game realistic technical improvements and/or tactical understanding and decision making. This is seen to provide the maximum transfer from practice to competition.

The second concerned the coach’s role as learning designer manipulating game conditions to meet specific learning objectives, for example, working with the STEP principle (altering space, task and equipment and players). Thus, this approach combines the ‘real’ playing experiences whilst providing the coach an opportunity to structure learning.

In the French system one expert suggested “the training ideas allow us to see a player who is capable of reacting in every situation and they ensure that the player responds and reacts in the best way in game situations. It is necessary to put them in situations but organise space and time and putting pressure on that will allow the player to know what to do. We do not tell them straight away, “we play long, we play short” but it is the structure of the exercise and the learning situation that will be in such or such game. It is clear that if

we organise a game with a pitch which is 30m long and constructed differently, the long game is not possible. The constraints that we use in terms of space and time will force the students/players to play shorter. It is that which we consider and reflect". In the Spanish system the coaches, it was suggested, spent hours designing games to meet the particular learning objectives of individuals and teams. The games were rarely copied from existing ones and newly designed for specific tasks.

"The biggest innovation in terms of thinking is that it is no longer the coach who would say that you need to do this or you need to do that. The coach only puts the child or player in the situation so they can solve the problem themselves. The idea is to have a game where the players have to react to the situation, come back with the players and explain what they did and how they responded to such and such problem. They also need to know how to fix responses that have become automatic, to know how to play when for example you are in a situation when there are less defenders, to know not to panic but to have ways to respond to the situation and to know how to adapt to situations when there are less or more players and where there is space behind the defenders and therefore you must play longer" (French expert).

Game based approaches were associated with a wide range of languages, for example, conditioned games, problem solving games, tactical problem solving games e.g. possession based games, specific task games. It was also associated with a range of practice options: full-size games, small sided games, and overload and underload games (4v2 / 2v4).

Small sided games were very important in all the countries. These ranged from 1v1 through to 9v9 with different size pictures and rules (i.e. no offside) with smaller sided games generally used with younger players. The advantages were seen to be that they shared a great deal in common with 11v11 but there was more of everything – more involvement, more touches, more tackles etc. They were also seen to be fun, good for game understanding, technical skills, and physical preparation. They were thought to be very important for young players building up reaction times. The disadvantage was that they did not provide a feel, an orientation, for big pitches and the speed of the game.

"They (small sided games) make up the majority of the time because they allow the players to touch the ball very often, to respect the game logic and to be in situations with problems so players manage to play with or without the ball. In the case where my team has the ball, the players without the ball need to get free. These reduced games are essential as they require immediate thinking and they go back to the essentials of a football game" (French expert)

Overload and underload games were also used and reported on mainly in France and Italy, for example, 8v4, 8v6, 2v1 etc. depending on the age group with smaller games for younger players. Games were also often manipulated to reflect a particular development objective. For example, if there was an emphasis on physical development bigger pictures were used. If there was an emphasis on technical development smaller pitches were used with touch rules (i.e. one or two touch only).

In the Netherlands playing the game – game based practice – was central to all development strategies. "everything revolves around using the game as the teacher of the game, everything needs to be related to playing football, the game is at the core of development. It is the 'total behaviour or actions' of the player that you want to influence throughout your youth development system, which means that you need to create development opportunities and training opportunities by creating football related situations in which they can practice the desired behaviours" (Dutch federation representative). The Belgian experts were also seen to emphasise this approach too.

In Spain games were played repetitively and progressively against the agreed playing principles and through set practices to develop 'tactical automatisms'. In particular the following hierarchical structure was provided by the Spanish experts: (1) principles of play (technical/tactical building blocks) (2) game model (technical/tactical directives) (3) specific tasks per position/area of play. We have already provided details of the playing principles in the Spanish system. The following provides details of how this might be implemented in practice:

Club example from Spain: from principles to practice

Attack

- Possession-based games with reduced numbers adapted to their principles (i.e. to include progression through zones; ball switches; associations between players)
- Progression-with-the-ball games (aimed at three key concepts: 1. Ball switches; 2. 2v1 situations; 3. Laying the ball off to the player who is facing forwards)
- Finishing-tasks: aiming to get the ball to the wing for a cross.

Defence

- Ball recovery tasks
- Avoid/slow down ball progression: 4 key situations - retreat, relocation/shifting (in relation to ball and opposition), help defence, pressing.

Set pieces

- Learning to attack and defend set pieces.

In focus (in the vicinity of the ball) and out of focus (away from the ball)

- While 'in focus' look for associations with the players 'in focus'
- When 'out of focus' be in a position to facilitate ball circulation and the creation and development of schemes of play.

'Schemes of play'

- Each scheme of play has different set of objectives and concepts that players must become very familiar with. To achieve this training sessions have the following format:
- 20% habit development (technical/tactical automatisms in specific situations)
- 20% 'in focus' small game work (work designed to solve a particular scheme of play in a specific 'focus area')
- 20% association – work designed to allow players to be able to move the ball from a particular focus area into a new focus area
- 40% match conditions – application of the above to the 11v11.

Skills based

Though not as regularly used as a game based approach the experts still thought there was a place for skills based practice approaches.

In France there appeared to be set-routines that the players were assessed against: "The players work on a dozen techniques on which they will be evaluated three times a week for thirty minutes. They will have to carry them out with us without making any errors. They know them and they will be able to work on them for a month and a half" (French expert)

In the Netherlands skills based approaches were seen as a useful addition for specific technique based development "especially if it improves performance in the game" – but not the main practice activity. The Dutch experts repeated the notion that skills based approaches are not game realistic and take the skill 'out of context'.

In Spain skill based 'technification' sessions were used to compliment the more commonly used game based sessions. These might take the form of additional sessions outside of the main practice session to work on individual weaknesses with technical skills expert.

In Italy, the federation had historically focused on technical development using a great deal of unopposed unpressurised passing drill work. However, as a result of poor performances in the 2010 World Cup and the appointment of a new technical director a decision was made to focus more game based practice. However, in the Italian system there still appears to be an even balance between game based and skill based approaches. In the Italian expert interviews there was an emphasis on whole-part-whole approaches which was interpreted to relate to game-skill-game based practices.

Unstructured/semi-structured games

Between unstructured play activities and structured practice were practice matches in training. In Italy they were used later in the player development pathway, for example, at the competition phase. These games might have some modifications e.g. different numbers of players e.g. 7v7, smaller goals, no goal keepers etc.

Variation

A key principle to emerge notably from the French, English, Italian and Dutch systems was of variation and variety. It was thought important for player development to experience lots of different types of styles and systems of play, practices activities, game formats, pitch sizes, styles of coaching etc. This encourages the development of more flexible and adaptable skills and players capable of playing in different systems and for different coaches. This was also thought to keep practice sessions fresh and fun using new approaches.

Overall

Ultimately, the majority of the experts recommended or used a mixture of approaches but with some methods being more favoured than others i.e. seen to be more relevant to the player preparation task. A mixture of approaches was recommended by French experts:

"We must not have a very closed vision of this idea of education and training ... [we] try to do a summary of all the methods that have been used and use them appropriately using a common theme. It is necessary to be wary of trends and do not expect to completely hide what is working well at one point" (French expert).

The Italian Federation – indeed they suggested both game based and skill based practice were a necessary feature of player development. In other words, one without the other would be not provide players of the required standard.

4.5.3 Competition

We noted the importance of competition to development objectives in the literature review section but also noted that it could be miss-used. Interviews with the expert group confirmed the importance of competition to development and that it was used in a number of different ways:

- to experience a different kind of playing environment (to practice) so the players need to adapt and expand their skills
- to practice a particular development objective, for example, keeping possession rather than scoring goals
- to monitor and assess the development of the player
- to assess whether practice sessions had been successful or not/whether learning had occurred (Italy).
- to challenge/stretch players into the 'learning zone'
- to assess a player against an opponent
- to gain essential competitive experience in the native country and overseas "competing while educating and educating while competing" (Spanish expert)
- to develop a competitive spirit/winning mentality/mental toughness amongst the players
- to learn how to loose (and what to take from it)

- as a talent identification and selection mechanism.

“Competition is massively important as this is what football is eventually about! Competitive matches are seen as an opportunity to ‘test’ where you stand, an evaluation moment in terms of ability and what to work on. The competitive matches are seen as highly important because everything that is relevant to the game of football takes place during a match – it’s a situation in which everything that you want your players to be able to deal with takes place – it therefore offers a great learning opportunity. As much as you try to recreate these types of situations in training – this is never the same” (Dutch expert)

There was a significant emphasis on competition and competitive structures in Spain. Competition was seen as providing an essential challenge for players where considerable learning happens. The competition structures had been carefully designed to maximise player learning. It was organised on a 2 year basis – U8, U10, U12s and so on. The Spanish have 2-3 teams per double year group but the young players get moved up to older groups if they outgrow their age-band peers. These included: a club regional championships (the winner of each province), a regional representative championships (the winner of each of the 19 regions), international competitions (youth national team), and attending tournaments (club and national team). As we noted in the selection and inclusion section the competition structure was a central part of the player development system in Spain with performance successes in competition rewarded by high quality coaching and opportunities. The Dutch system was also seen as being focused on competition.

The right kind of competition

Though the experts were agreed on the importance of competition for development they were clear that it had to have the right qualities.

In Italy there was a sense that too often competition was being manipulated for other ends – to satisfy the egos of chairmen, directors, academy managers, coaches and parents. There was a suggestion from one Italian expert that players below U14 should only be exposed to competition once they had a full grasp of the playing principles or concepts.

“In Italy competition and results can be everything! It offers coaches an opportunity to show their ‘superiority’, and this is not right! Competition should provide an opportunity to see if the players have understood the work that has been carried out in training and whether they are trying to transfer these aspects into the game environment” (Italian expert).

In the French, English, Dutch and Spanish systems there was an awareness that winning was not the most important aspect but that it was still important if managed appropriately:

“Competition is interesting but it makes the children want to outdo one another, to show their potential and their skills and they self-examine other players and themselves. It is an important educational value but you must be cautious because an intensified competition can have consequences on player development and on the game itself. If the result has too much importance, we realise that we create players who are not confident in themselves and who do not take risks” (French expert)

“Winning is always important – you do not want to make winning less important or relativize winning as it is what the end game is about. It is always about winning but that is always encapsulated within rules and it something you always want your players to want. Coach behaviours are very important in this respect. You don’t explicitly say it’s about winning to younger children, you help them focus on the main football tasks at hand (the goal is there – that’s where the ball needs to go, when we’ve lost the ball we try and get it back, when we have the ball we try to score, when we don’t have the ball we try to prevent the others from scoring and try to retrieve the ball). Actual winning as an explicit goal becomes more important from 16-17 onwards” (Dutch expert)

“We have the tendency to say that winning isn’t important, however we should never say this to our players– winning is important. However coach behaviours should emphasise development over winning at the earlier stages. So when someone is late for a game you might keep them on the side

even though letting them play would be better for the team's chances of winning in the short term. The older the children get the more important winning becomes" (Dutch expert)

However, it was clear that the competition had to be at the right level:

"It is very important for competition to be played at the right level –children of similar levels should play to children at similar levels. The best vs the best etc. This is why a good quality competitive system is very important" (Dutch expert)

It is important to make a difference between competition and competitive matches. It is the latter that brings benefits, not all competition is competitive...the system requires 'competitive competition'.

Competition by age-group

Since competition is considered here as a development experience – it is important to ensure that these experiences are appropriate from an individual and age/stage perspective:

- Competition is appropriate for U6 and U7s groups – they learn a lot from it – it is the coaches and the parents who have to be managed (they put a lot of pressure on). "this pressure tends to be less later on when they realise that their kid is not going to be the next Iniesta" (Spanish expert)
- Up to U12s competition provides the coach a chance to work on particular principles of play but in a competitive environment
- From U12-U14 the competition provides an opportunity for the players to work on combination play
- From U14-U18 – results and combination play are very desirable
- Results not really important until U17
- From U17-U19 winning becomes important
- In Germany winning is very important in the older age groups – they want to develop the winning mentality – to be the 1st in every league
- At U19 and upwards many players enter formal professional competitions either through B-teams or other clubs.

"A good competition structure is of great importance, the children should be able to play at their own level of development, but whilst being appropriately challenged. Especially as they get older you want the best to play against the best. Players need opposed practice to develop – playing in a team against another team" (Dutch expert)

Suggested changes to competition structure

There were concerns in Italy, the Netherlands and Spain about the standard of competition at age group because of competition structure and travel restrictions. In the Netherlands it was felt there was not the depth of competition required at younger age groups e.g. cU13-U16. In Italy, Juventus were looking to travel overseas more to gain international competitive experience for their age group teams. In Spain, they were looking to strengthen the U12 and U14 competition through regional and national competitions.

The Belgian federation spoke of their plans to prolong the period for 8v8 football up to both U12 and U13 age groups. Their rationale for this was to try and reduce the issue that they have seen with players who enter into the period of peak height velocity earlier than their peers dominating games on account of their superior physical attributes (with implications of reduced work rate [finding it too easy], inflated ego and ultimately poor attitude found to be associated with this). Therefore, by playing in smaller games and on smaller pitches, the Belgians believe that this might negate or at least reduce the potential for physical-based dominance during these pivotal maturation years.

A further innovation to be implemented within the Belgian system – albeit at levels below the professional clubs' youth programme structure – centres around the desire to create competition between players and teams of similar ability. Essentially, youth teams will soon receive a quality label, not only for the club but for each team within the club, meaning teams that play each other will intentionally be on a more even level – aiding the development of players to continue through to a more elite level.

4.5.4 Coaching

In the literature review section we suggested a flexible, player centred, and facilitative view of coaching where coaches constructively aligned practice activities and behaviours to meet coaching goals – with the latter determined by a range of factors including the performance model, development model and the players and teams under consideration. We also suggested that the consistent achievement of coaching goals using constructively aligned methods was the hallmark of effective coaching but that this required considerable knowledge, skills and expertise.

The reader will already be familiar with this approach to coaching through the evidence presented in the results section. We have described how the coaches were flexible and facilitative to meet individual player's wants and needs and use a range of practice activities and competition approaches depending on the learning goals, players, age-groups, squads and teams. We have also shown federations have encouraged coaches to develop their own style and make their own decisions (within the broad parameters of the academy context).

One French expert described a new approach to coaching:

“There is currently a large rethink of this way of advancing, namely not having methods which are too domineering. Sometimes the way which we want to lead our players is through thinking. Throughout this, the pitch is clearly marked but there are certain free spaces where we know where we want to lead the players. Here it is the guiding aspect in the sense of where the goal and aim is clearly defined by the instructor or coach. However in this way of resolving problems, there will always be interactions between the players and the coach through conversations and demonstrations where the solution is not always given straight away. We do not say straight away "do this" or "do that", we are making the player think and adapt to the exercise. If I need to explain the situations to them, I must express myself in quite a serious way. It seems that it is much easier to learn whilst we find solutions ourselves compared to when we are guided to them, even if from time to time it is useful to give a few instructions on the usage of such and such tactic” (French expert)

These approaches were illustrated by the Spanish coaches who would spend it was suggested hours designing and planning practice activities to maximise learning and transfer to competition. Their role was to make sure that every session counts – there were no ‘free sessions’.

The Italian coaches had thought about their coaching behaviours and delivery technique – coaches were encouraged to be “chiaro, conciso, completo” (clear, concise, detailed) especially when using questioning and instruction. There was a recognition that Italians like to discuss issues at length and to maximise practice they attempted to ensure that they did not talk too much (this was both a joke and a serious point!). The Spanish reinforced this view of positive, concise and clear coaching with positive goals, broken down step by step and with a high frequency of positive reinforcement.

There were some exceptions to this general pattern, however.

For example, in Italy the federation suggested that coaches take control of sessions and not be ‘too liberal/democratic’ with players. A coach centred command style approach to coaching was often used notably in sessions focused on tactics. It is not uncommon it was suggested to hear coaches talking/shouting more in sessions. In England experts talked about the ‘coach being king’.

A command style was seen as more important for younger age groups, for example, 5-7 year olds who have not yet the capacities into sessions and their development (the Netherlands, Spain).

4.6 Summary

This section has shown that the schematic on ‘emerging principles of player development’ is fully shared and worked with in a practical sense by the expert group in the seven countries.

This validates the schematic but only tells half the story. What appears to be crucial here is the way in which the principles are applied in the specific country and club contexts.

Though this results section has sketched out some of the details of this – a more thorough preliminary comparative analysis is developed in section 5.

Though everyone uses the same principles there are clear differences in application. Can this provide insight into success factors and effectiveness in player development systems?

5. Applying the principles – a preliminary comparative analysis

5.1 Introduction

In section 3 we identified a schematic of ‘emerging principles of player development’. In section 4 we showed that the experts from seven major European footballing nations agreed and worked with the principles thus providing confirmation of the schematic. However, and crucially, we also demonstrated that though the experts were all working to similar principles the way in which they were applied was very different according to the national and cultural context.

This section attempts to make sense of the similarities and differences between countries by undertaking some preliminary comparative analysis. This work is undertaken in tabular form – over the next 9 pages - with some brief commentary following it.

Important note: the main purpose of the study was to develop further and validate a number of principles of player development with comparative analysis being a secondary aim. The data presented in this section is based on between four to ten interviews in each country and therefore there are likely to be inaccuracies and gaps representing the country systems. Thus the following comparative analysis is presented tentatively and with considerable health warnings. This said, we think the data provides many interesting insights and potentially opens a comparative line of enquiry around the key principles of player development which can be pursued at a later date and through further projects.

5.2 The comparative tables

The comparative tables summarise evidence for each of the seven countries around the following principles:

Theoretical principles
Player development is multi-layered interactionist and emergent. This means that player development is highly individualised, non-linear and unpredictable. There are significant difficulties detecting talented players. Programme developments and coaches need to be highly flexible, adaptable and realistic about what they can control regarding player development.
System principles
Effective player development systems have a clear model of success which covers:
Philosophy and culture
Playing style
Player characteristics
Effective player development systems have a clear model of effective player development which includes:
Adopting a long-term approach
Differentiating programmes according to development age
Attending to physical, psychological, social, technical and tactical (PPSTT) developments
Making appropriate use of selection – using a multidimensional approach – and being patient with those selected
Player development systems are clear, implemented, coherent and aligned
Player development systems are supported by a skilled and committed workforce
Learning environment principles
Ensure learning environments have clear goals situated within the above theoretical and systemic principles but being relevant to the learner and context
Using learner centred and team centred approaches (not coach centred)
Setting up challenging learning environments
Using appropriate practice structures including engagement in other sports, unstructured play, game based and skills based approaches as appropriate to the learning goal, task and context
Using appropriate competition to support development
Use aligned coaching behaviours minimising coach interference and maximising player learning

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Theoretical principles							
Player development is multi-layered interactionist and emergent. This means that player development is highly individualised, non-linear and unpredictable. There are significant difficulties detecting talented players. Programme developments and coaches need to be highly flexible, adaptable and realistic about what they can control regarding player development.	This principle was a late though important addition to the emerging schematic but was not used explicitly to guide the interview discussions. However, the implications of the principle were evident in the approaches adopted by the expert group. For example, all the experts agreed with the notion of individualisation and individualised programmes and adopting a long-term approach with a chance for players to flourish and mature within a patient system. There were some differences between countries. For example, the Spanish experts appeared to work with early selection and specialisation whereas the German experts worked with later selection and specialisation. All experts emphasised the need to be player focused and flexible within, of course, the broader constraining structures that defined the country system.						
System principles							
Effective player development systems have a clear model of success which covers:							
Philosophy and culture	After a 1999 review, and approach emerged which appeared to be a pragmatic conflation of Dutch (Flanders) and French (Wallonia) influences, complemented by recent good practice development in player development approaches	The English philosophical approach again appears to be a pragmatic conflation of the best of English playing traditions but complemented by some of the best practice ideas from around the world. Currently piecing the components together to establish a clearer picture	A review post the 1998 World Cup prioritised attacking intent and a creative problem solving approach for the players (this was seen in sharp contrast to a highly organised defensively minded approach that proceeded it). From a development perspective there was a move toward a game based approach based on tactical understanding and game intelligence	Failures in the late 1990s/early 2000s necessitated a comprehensive review of the German system. The result was a view of development based on recognising its importance, having a collective vision and a clear systematic plan (though with considerably flexibility built in) which is widely shared and implements amongst stakeholders	Reasonably established, though pragmatic approach to player development philosophy and culture. There was a sense that adopting too strong a position could be counterproductive. The current Italian system is defined by its choices with regard to the principles alignments identified below. Italian history seen as very important to defining philosophy and approach	Very strong defined player development philosophy and culture based on the players’ individual responsibility (and game based learning. The ultimate aim is for the individual to contribute to team performance	Very strong defined player development philosophy and culture based on young players’ exposure to the game through playing ‘principles’ and carefully designed selection and competition. Coaching workforce highly committed, valued and respected

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Playing style We have argued that playing style can be separated into three conceptual components playing <u>identity</u> , <u>principles</u> and <u>systems</u> . We suggest that there are powerful forces of convergence and divergence in playing style between countries. The winning nations establish a playing style which others attempt to replicate and react to but also attempt to surpass. We suggest that there are convergent tendencies amongst nations around playing principles and systems but naturally divergent tendencies around playing identity. We suggest that clarity and realisation of identity into principles and system appears very important for system success.	Identity Emphasis on skilfulness, problem solving and using initiative to dominate opponents Principles Common principles based on possession etc. Systems Many mentioned but the following was the most favoured: 1/4/3/3	Identity High energy, desire to compete, to be resilient, and a 'never surrender' attitude Principles Common principles based on possession etc. Systems Many mentioned but the following were more common: 1/4/3/3 1/4/2/3/1	Identity Importance attached to mental aspects of performance, tactical knowledge and making the right decisions Principles Common principles based on possession etc. Systems Not identified	Identity Greater emphasis on clarity, courage, speed, technique, directness Principles Common principles based on possession, counter attack, vertical play etc. but it is the players that are most important Systems 1/4/2/3/1	Identity Greater emphasis on attractiveness, beauty, emotion but also pragmatism, being crafty, sneaky. A tactical emphasis remains important Principles Common principles based on possession etc. Systems Many styles mentioned emphasising pragmatic approach	Identity Greater emphasis on individualism, freedom, creativity and problem solving Principles Common with greater emphasis on player characteristics Systems 1/4/3/3 seen as being the 'Dutch system'	Identity 'Tiki-taka and furia, 'silk and steel'. Greater emphasis on tactical understanding and the team. Being respectful is an important part of the Spanish identity Principles Common with additional terminology of passing lanes <u>Principles strongly identified to develop 'tactical automatisms'</u> Systems Many mentioned but the following were more common: 1/4/3/3 1/4/2/3/1
Player characteristics There was a high degree of commonality amongst the desirable player characteristics amongst the expert group across the seven countries. These included the key PPSTT aspects.	Common PPSTT approach with emphasis on physiological markers	Common PPSTT approach	Common PPSTT approach with particular emphasis on positive psychological characteristics (e.g. mental strength/determination), social characteristics such as team work, and tactical characteristics such as creativity and game intelligence	Common PPSTT approach but with emphasis on <u>unique but flexible players</u>	Common PPSTT approach but with emphasis on technical skills, tactical knowledge, flexibility and decision making. Understanding of tactics is 'everything'	Common PPSTT approach – but with a <u>strong focus on individual responsibility and accountability</u> . For example, within one academy this was operationalised as 4Zs (4Ss): self-regulation, self-initiative, self-reliance and self-development	Common PPSTT approach but <u>player characteristics less important than adherence to playing principles</u> . Respect for the system and others appears important

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Effective player development systems have a clear model of effective player development which includes:							
Adopting a long-term approach	A long-term approach was implicit in all the seven countries player development systems. The youth development systems in most countries started at U8 or earlier. Players do not typically become a regular in the first team until their early 20s.						
Differentiating programmes according to development age	Age-stage approach based largely on physiological development processes. Notably player's stage in relation to peak height velocity (PHV) determines programme of development	Broad age-stage approach based on the following three main phases – foundation stage (5-11 years), youth development phase (12-16 years) and professional development phase (17-21 years). Coaches individualise within main stages	The French system orientates towards a fine grained age-stage approach which key stages at: 6-7 years 8-9 years 10-11 years 12-15 years 16-19 years	Fine grained age-stage approach around six development stages – Bambinis, F to A – which are highly individualised	Broad age-stage approach based on two or three main phases – foundation or imitation phase (U6-12), pre-competition or initiation phase (U13-U14) and the competition phase (U15-U19). Age-stage thinking very important to development in the Italian system	Fine grained age-stage approach around six development stages – Mini Pupils, F to A – which is highly individualised. Coaches individualise within main stages	Not explicitly age-staged. Focus on playing principles to shape coach-player interactions. System highly individualised and flexible including playing up and down in competition
Attending to physical, psychological, social, technical and tactical (PPSTT) developments	Though Belgium use a model that focuses on physical, technical and tactical development with psychological development underpinning this – developments appear to be guided to a significant degree by physiological markers and PHV	Explicit PPSTT approach based on the 'Four Corners' model (physical, psychological, social, technical). Four Corners model central to player development system	A game based approach focused on playing principles with wider learning undertaken with reference to the game	Though the evidence was not strong in relation to Germany it was clear that the German experts attended to PPSTT aspects. There was a particular focus on non-sport, traditional education aspects as part of the academy experience	Main focus on physical, technical and tactical development but with increasing emphasis in pockets on holistic development 'aspetti globali' (global aspects), for example, in the clubs and is seen as a 'modern approach' to coaching	Though the Dutch are concerned with holistic development they <u>reject a 'compartmentalised approach'</u> . PPSTT characteristics are nurtured through a <u>game based 'total approach'</u> with game practice being the site for all individual developments	A game based approach focused on playing principles with technical and tactical developments relating specifically back to the playing the game (much like the Dutch system). They were very sketchy on PPSTT details. At a national team level, there was a very strong emphasis on the whole person (respect, education, humility, etc.)

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Making appropriate use of selection – using a multidimensional approach – and being patient with those selected	Aligned with a more physiologically orientated approach Belgium experts used a system which accounts for early, normal and late maturers	Early selection into clubs (from as early as 5 years into ‘development centres’), with a patient, long-term approach applied once players are recruited. ‘Four corner’-based criteria used for selection of players, but with emphasis on technical ability above other factors	Broader pathways in younger age groups with an appreciation for sampling. Selection to academies starts about 13-14 years	Broader pathways in younger age groups with more emphasis on early sampling, and later specialisation and patience	Selection to academy system started at U9 but was complicated by the use of one year rolling contracts until U15. This meant there was some volatility in early player development system with the clubs using scouting extensively to find the best talent for the more established contracts at U15	Clear emphasis on being patient with those selected, very aware of player development being a long-term process. Although selection (at certain clubs) happens early (i.e. 6-8 years) it is emphasised that pathways should remain open and established, close links with grassroots clubs help facilitate this process (back and forth). From a federation point of view selection does not happen until 10-13 years of age (regional talent pool for 10-12 and national youth teams from U14)	Early selection into clubs at U8 but with emphasis breadth of numbers (large age group cohort). Key decisions about progression at U15. Youngsters selected for regional and national squads receive extra high quality coaching at this stage (providing a kind of double programme/ concentration). Very patient approach later in pathway from U15-U21 with 50% retention rate
Player development systems are clear, implemented, coherent and aligned	Integrated system involving national government, federation, professional clubs and schools (Top Sport School) which provides specialist coaching to 250 players (across 5 schools) in the U15-U19 age range. This is credited as being important to recent player development successes. Belgium experts expressed concerns about the integration of	Emerging system with concerns about links between international, main professional leagues, and grass roots levels. A notable concern is playing opportunities for U19 to U23s	The French federation have provided clear guidance to the academies and club development systems. The guidance is used as a framework approach with individual clubs and coaches using the information to fit their circumstances. It was difficult to ascertain from the French data how embedded this relatively new	The articulation of a new plan for youth development in the late 90s/early 00s, and the integration of the plan into the German system is seen as being one of the key aspects (if not the key aspect) of recent successes. The alignment of the DFB, DFL, clubs and NLZs (youth development centres) was seen to be a key success factor. Significant E investment has been made into youth development in	The Italian experts had a mixed view on the extent to which a defined philosophy should be integrated into the player development system. There was a sense that too much formality would unnecessarily restrict player development and a flexible pragmatic approach was largely adopted. There was considerable investment in and importance attached to youth	A clear philosophy emerged that was shared by all stakeholders - federation, professional clubs, grassroots clubs - and which formed the basis of (and was clearly embedded within) all coach education (with supportive documents). However, although clear alignment and agreement existed in terms of what Dutch football is about and how to develop players, clubs (and individual coaches) have freedom to make this philosophy work within their contexts	Clearly defined, integrated and applied system as a result of historical relationships between federation and clubs. Youth development is highly valued, there is a high level of buy in and commitment for all stakeholders. There is a high level of financial, human (time, commitment) resource invested

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
	parents into the current system		approach was	Germany	development in Italy		
<p>Player development systems are supported by a skilled and committed workforce</p> <p>All of the experts emphasised the importance of a skilled and committed workforce and notably coaches.</p>	<p>Considerable investment in coaches occurs to develop them (in-house) to the point where they can independently represent the philosophy and beliefs of the club within their work with players</p>	<p>Multi-disciplinary staff structures to provide specialist, individual need-based support to players (with many of the elite clubs having specialist support that is devoted to specific age group squads). Specialist education programmes exist, with high level youth specific programmes (managed primarily by the English FA but a high-level course is also offered by the Premier League) a very recent advancement in this area.</p>	<p>Coach education was important in France though there was less data on the status of the coaching workforce</p>	<p>Coach education was seen to be very important in Germany</p>	<p>The coaches were highly valued in the Italian system. There was an emphasis on equipping coaches with information and knowledge so they could make effective decisions in their contexts. Importance attached to the quality, buy-in, commitment and longevity of staff in post</p>	<p>Coach education was seen as very important in the Netherlands, both at the academy level and at the grassroots level (i.e. parents that want to coach also completed a coach education course). Extensive coach education system, with many different courses at different levels in place and managed by the Dutch FA</p>	<p>Coach education seen to be very important in Spain. There was particular emphasis on coaches 'communities of practice' – informal discussion/ breakfast meetings etc. Very few Spanish coaches in the academy system were paid full-time. However, they were highly qualified and highly committed. Coaches appear to be highly valued indeed revered in Spanish communities e.g. like a doctor or teacher</p>

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Learning environment principles							
Ensure learning environments have clear goals situated within the above the theoretical and systemic principles but being relevant to the learner and context	Those systems with a clearer philosophy and culture, and high levels of system embeddedness were more acutely aware of the influence of performance and development model influence on learning environment goals – notably, Belgium, Germany, the Netherlands and Spain. Sometimes the mechanisms connecting system and learning environment components appeared more formal and explicit e.g. Belgium, England, Germany and to an extend the Netherlands, sometimes it was more informal and implicit notably in Spain.						
Using learner centred and team centred approaches (not coach centred)	On the one hand, some Belgian experts spoke about promoting players' self-determination to use their own initiative to solve their own problems, but on the other it was suggested that 'the week is for the coach (to instil learning), the game is for the player'; in each case, this was being achieved via the 'stop, help' method	The English experts supported an individualised view of player development (the focus was on individual players rather than teams). It was difficult to determine on the basis of the interviews the relationship between player and coach though we suspect player development was more coach controlled than player controlled	The French experts spoke of a 'new approach' to coaching where the coach facilitated learning environments in which the players were encouraged to undertake their own learning and find their own solutions	The German experts appeared to place considerable emphasis on an individualised player centred approach	The Italian experts discussed the notion of a facilitative approach to coaching with the coach and player working together to find solutions to development problems. The player was seen as the 'unita significativa' (the meaningful unit). However, the Italian system – like the Spanish system – appeared more coach led than other systems	One of the two main defining features of the Dutch system was its focus on the individualisation of player development programmes. The Dutch have adopted individualisation and individual responsibility as central to their coaching approach. Indeed. the players were encouraged to control or be highly involved in the shaping of their development activities	Though the Spanish experts thought of individualisation as central to their coaching approach the programmes were more team orientated than for example the Dutch system and often favoured players who were the highest performers with the latter often moving up age groups. The team approach was concerned with player learning and playing 'in the right way' rather than winning

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Setting up challenging learning environments	All of the systems emphasised challenge.						
Using appropriate practice structures including engagement in other sports, unstructured play, games based and skills based approaches as appropriate to the learning goal, task and context All of the experts emphasised the importance of a mixture of practice based approaches including unstructured play, and structured game and skill based approaches. Game based approaches were seen to confer the most development advantages and were the most used.	Promote engagement in other sports and have formally built it into the curriculum, with sport-specific specialist coaches brought in to deliver the sessions; game-based practices prevail, with the importance of practice representing 'the game' emphasised	There was general support for sampling (alternative sports) especially in younger age groups; however, there was a suggestion that time was an issue and so physical education should facilitate sampling. Unstructured and structured game based approaches were very important in the English system. However, coaches were keen to emphasise that technical, unopposed work also had a place	There was support for sampling (alternative sports) especially in younger age groups. Unstructured and structured game based approaches were very important in the French system. Using a structured approach the experts influenced player learning through the STEP principle e.g. overloads and underloads. However, the French experts were wary of singling out one method. The player and the task were most important to deciding the method used	Supportive of sampling and integrated into coach recommendations and activities. Unstructured play activities argued to be important especially up to 11 years of age	Emphasis on a mix of activities in Italy. Unstructured play activities argued to be important especially up to 11 years of age. Game based approaches were important in the Italian system but were supplemented by skill based approaches	Sampling could be useful on an individual basis but should generally be dealt with by physical education. Together with individualisation, game based approaches were defining of the Dutch system. Skill based technical sessions were still used however, especially when thought useful to individual player development	There are benefits to sampling but these can be replicated through fundamentals and play activities in a football context. Game based approaches were central to the learning of playing principles and the development of 'tactical automatisms'. Some skill based technical work was also used

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Using appropriate competition to support development	League tables are introduced at U12 level, with the 16 clubs competing in the nation's highest adult professional league comprising the clubs involved in the youth leagues. Clubs value the balance between playing style, education and success.	Competition is important, but downplayed by a system that does not record results until the U18 level. Prior to this time, the games programme is considered an opportunity to develop and to test players' learning	Competition is very important in the French system but it has to be managed appropriately. It has to be the right kind of competition. It provides an opportunity to learn the rules and actually play the game	Aligned with late specialisation approach in Germany, competition was mentioned more frequently in relation to older age groups	Competition was thought to be highly important to development in the Italian system. There was a concern that there was too much focus on winning and results. There were also concerns about how the system was organised post U19s	Competition was seen as very important, both in terms of players having a winning spirit (a need to always want to win), and as a means of assessment (to see where the learning/development is at). However, at younger ages the emphasis was on the players always wanting to win and putting in the effort but not on the ultimate result of the game. Actual results only become important at later stages and coaching practices/behaviours need to reflect this. Furthermore, the need for appropriate competition (i.e. challenging, not too easy, not too hard) was emphasised	Competition is fundamental in the Spanish system. Competition is above creating opportunities for the best teams/players to play each other more often avoiding 10-0 score-lines and keeping players in the learning zone. Players play up if deemed good enough

Principles	Belgium	England	France	Germany	Italy	The Netherlands	Spain
Use aligned coaching behaviours minimising coach interference and maximising player learning	'Stop, help' method is dominant method of intervening: Stop the play when absolutely necessary to have players think about what has just happened, then question why – helping the participants come up with the solutions themselves. Prefer to do this individually whilst the exercise is still going so the session doesn't have to be stopped	Coaches facilitate players' developmental journey, providing opportunities for player-led problem solving in the early years before becoming more directive (preparing for first team football) during the later years.	Coach as facilitator, learning designer, enabling players to negotiate their own learning journey	Coach as facilitator, learning designer, enabling players to negotiate their own learning journey	The coach is more prominent in the mix in Italy. The federation appears to encourage a mix of coaching styles but a relatively coach centred approach emerged. More vocal/controlling, less time for questioning during sessions. More emphasis on discipline and correct behaviours during sessions	Coach as facilitator, learning designer, enabling players to negotiate their own learning journey	A greater emphasis on a coach led approach but with game tasks/ drills very well thought through and designed to maximise learning of the main principles

5.3 Some brief comparative analysis

Areas of convergence

As we have noted the most obvious area of convergence between country systems relates to the acknowledgement and high level application of the 'emerging principles of player development'.

With regard to the more detailed contextual application of these principles, however, there were some aspects that were more convergent than others.

Within the context of playing style, though there were differences with regard to playing identity (a point we will come back to in the next section and in the overall conclusions), there appeared to be high levels of convergence around playing principles and systems. Put simply, contemporary football appears to value possession, speed, strength, determination, technical excellence and tactical intelligence. The most favoured systems appear to be 1/4/3/3 or 1/4/2/3/1. The way in which these principles and systems are applied, however, depends on the playing identity, and on the player characteristics, game situation and opposition (thus their divergence is at the level of playing identity, and game conditions, rather than playing principles and systems). There also appeared to be a high level of commonality amongst the desirable player characteristics with all PPSTT aspects mentioned (in one form or other) by all the experts.

There also appeared to be a high level of agreement around the importance of a skilled and committed workforce (notably coaches) though the development and education systems varied as did typical employment conditions. For example, in England there was much more emphasis on formal coach education and paid coaches (albeit at a relatively low salary level compared to other professions such as teaching), whereas in Spain there was more emphasis on informal learning through communities of practice and unpaid but highly committed and respected coaches.

With reference to learning environments, there appeared to be widespread recognition of the value of range of practice environments and pedagogical strategies ranging from unstructured play, to structured game and skill based approaches. There was widespread recognition of the value of tactically orientated game based practices to football development and with this the use of small sided games, full sized games and games using unequal sized teams.

Areas of divergence

Perhaps the most fascinating aspect of the study was the way in which the same important principles were differently applied in the seven countries. The most obvious of these related to the use of selection, age-staged and holistic development approaches, and coaching behavioural styles.

In the research literature a number of models have been developed which help to describe and prescribe the best approaches to player selection to higher quality learning environments. These are broadly conceptualised as early specialisation, early engagement, and sampling (Côté, Erickson, et al., 2013; P. R. Ford et al., 2012; P. R. Ford et al., 2009). Early specialisation involves early player commitment to football (from around 5-8 years, for example), with serious focused (often skill based) practice. Early engagement involves early player commitment to football but with more emphasis on fun, play and games in the early stages. Sampling involves later commitment to football with more engagement in fun playful activities and different sports in the early years.

Though early specialisation and/or engagement were the dominant models of development across the seven countries, the Spanish system on the one hand, and the French and German systems on the other appeared to offer different approaches. The Spanish experts emphasised the importance of broad early selection with many youngsters recruited for player development at an early age and focusing solely on football. The French and Germans appeared to be more inclined towards sampling, a balanced early sporting profile, and later selection. This was about where the 'mass' of sporting talent was located in the early years, i.e. in the academy in Spain, or in the community in France or Germany. In Spain and France crucial decisions about player progress appeared to be made from 13-15 years, though it appeared to be later in Germany.

Most countries worked with an explicit age-staged approach though there were differences between those who worked with a *broad approach* (i.e. a smaller number of broad stages between 5-19 years in Belgium, England and Italy) and those who worked with a *fine grained approach* (i.e. many narrower stages between 5-19 years in France, Germany and the Netherlands). In all of these countries however the experts emphasised that the 'stages' were just frameworks to understand and inform development and to be applied in an individualised context between player and coach. The notable difference was Spain – though the coaching was age sensitive their development model was based around an individual approach against largely tactical and technical playing principles. Particular use was made of playing up and down in competition, with early achievers allowed to move freely around age groups.

There was a very interesting difference in the application of holistic approaches, with two main models emerging: a more *compartmentalised explicitly PPSTT approach* in England and to a degree in Belgium and Italy and a more *game based approach* in France, the Netherlands and Spain. The compartmentalised approach appeared to more explicitly target particular development features – physical, psychological, social/lifestyle, technical and tactical aspects – using a range of curricula and workforce. The game based approach or 'total approach' as it was referred to in the Netherlands was more concerned with using the game as the focus for all aspects of development.

Though the data was not definitive it appears that some countries value or are moving towards a much more player centred view of coaching behaviours (i.e. coaching as facilitator, questioner). This approach was central in the Netherlands and Germany, and emerging in Belgium, England and France. The Italian and Spanish experts suggested a much more coach directed approach (relatively speaking). From a philosophical perspective there were strong strands of individualism within the Dutch system but a much more collective controlled approach in Italy and Spain. The Belgium, English and Germans appeared more pragmatic in this regard.

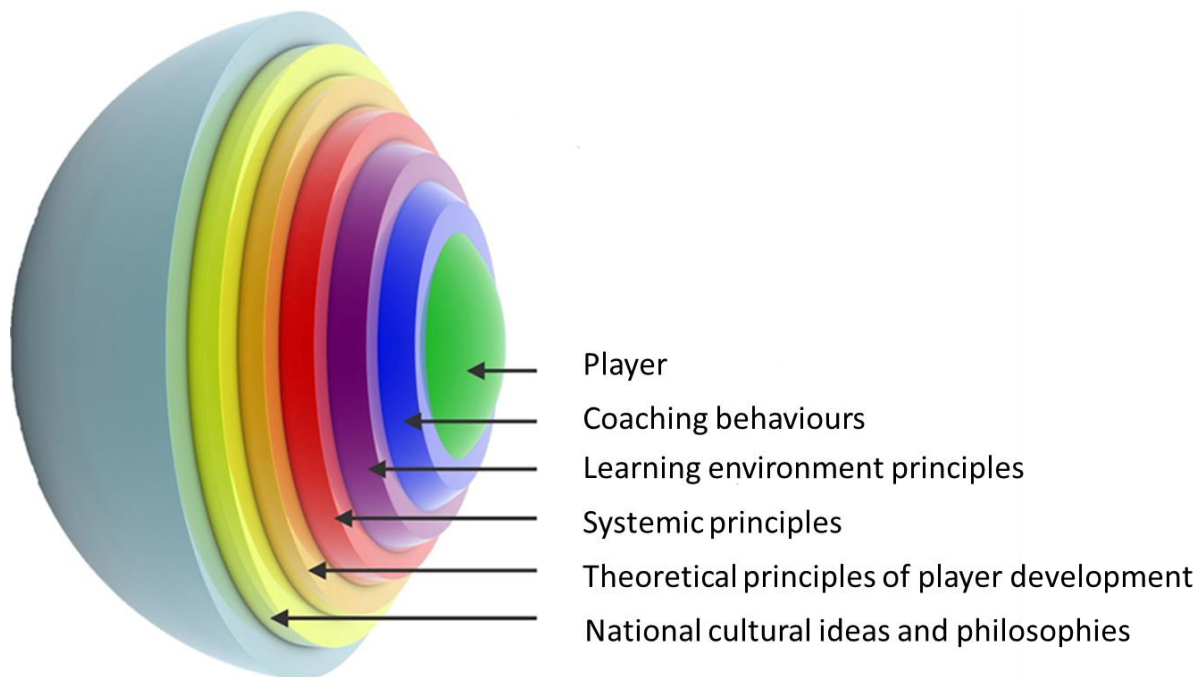
Accounting for difference: historical, social and cultural forces on playing identity and system design and implementation

Though we need to be cautious about the comparative results and emerging analysis it appears that historical, social and cultural forces were impacting strongly on the different systems which had very significant implications for important aspects such as playing identity, and system design and implementation.

For example, though it has been argued that the playing principles and systems elements of playing style were increasingly convergent, there were distinct national playing identities in the seven countries which appeared to trace directly to historical, social and cultural forces. These were highly influential in dictating how playing style (principles and systems) manifest. For example, a strong strand of individualism can be traced to Protestantism in the Dutch system, which is captured in David Winner's book 'Brilliant Orange' (Winner, 2001). This notion of individualism was highly influential in the Dutch player development system and on player characteristics. In the results section we noted how the Italian identity could be linked with particular views of the 'Italian male' and his physical stature and a societal obsession with challenging rules. This was also thought to have an important influence, for example, to the development and adoption of *catenaccio*.

What is interesting here is how much important socially and culturally bound aspects of playing identity can be actively challenged and changed by 'good practice' emerging from other countries? If, for example, using our host institutions country, the English have historically embodied a high energy never say die ('bull-dog') approach will they ever be able to excel at the patient tactical approaches embodied by the French, Italians and Spanish? We have our doubts at least in the short to medium term. We see historically, socially and culturally embedded identities as defining player development, player development systems and performance (captured in Figure 5.1 on the next page). The widespread importation of ideas and approaches from other country systems should be thought through very carefully. As an aside, and beyond considerable good fortune, it is difficult to see England winning a major international tournament after a long playing season and in hot summer temperatures because the key aspects of their playing identity are inevitably undermined by these factors. Anecdotally we can provide many examples of imported ideas from other countries into the English system which were designed to provide benefits but lost something in cultural translation.

Figure 5.1: Laminated player development systems



From a system design and implementation perspective similar results can be noticed as with playing identity. Each country's player development system is enabled and constrained by a set of social and cultural practices and institutional arrangements which exist in that country. There appeared to be strong historical, emergent and consensual traditions within the Italian, Dutch and Spanish systems which generally underpinned success. There are some country systems where a need/perceived need for change has been identified; for example, Belgium, France and notably Germany where institutions and stakeholders have quickly agreed and played their part in the new developments. In other countries, for example, where there appears to be significant tensions between institutions such as between the FA, Premier League and community game in England it is difficult to see how change initiatives will be appropriately implemented and embedded.

This subsection hints at the possibility of a comparative analysis of player development systems, and their links to particular historical, social and cultural arrangements. We believe this type of research approach should be actively pursued through future research.

Laminated player development systems

What is clear from the research is that principles and system components interact and relate to each other to form a laminated player development system in the application context (Figure 5.1). The Netherlands and Spain in particular appeared to have highly coherent and consistent systems, with which the component parts complimenting each other. It is likely that system successes will be defined not only by selecting the 'right' system components for the country and culture, but also understanding how these system components work together to form a relevant, integrated and efficient approach.

6. Conclusions and recommendations

6.1 Introduction

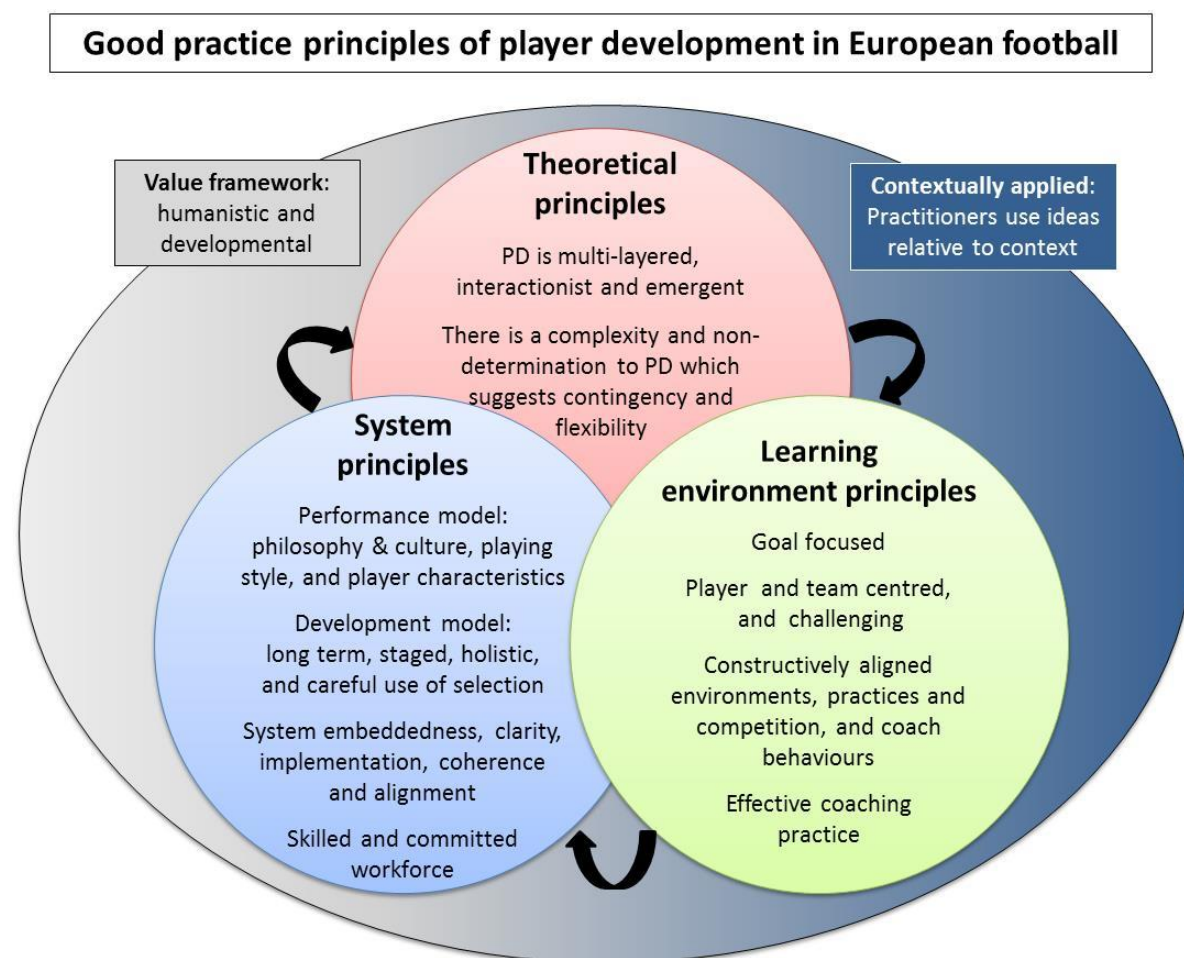
This concluding section attempts to briefly summarise the key points made in this report, offers a revised schematic of the principles of player development in European football, and then makes some recommendations for practitioners and research.

6.2 Key points

- A schematic of 'emerging principles of player development' was identified from the research literature.
- The practices, experiences and opinions of an expert group of 41 leading player development specialists in Belgium, England, France, Germany, Italy, the Netherlands and Spain supported the schematic and principles. The schematic/principles were 'validated' by the experts.
- The way in which the principles were applied, however, varied considerably between countries, clubs and coaches with some very interesting and varied approaches to similar themes.
- The way in which the principles were applied appeared to be highly related to the historical, social and cultural conditions within the country (and club).

6.3 Revised schematic of principles of player development in European football

Based on the above key points we offer the revised and validated schematic with the key addition being the cultural context and application:



6.4 Recommendations

For practitioners

Good practice principles provide a framework and checklist of considerations for the design, implementation and evaluation of player development systems.

These principles are there as guides and need to be applied to the context under consideration i.e. the conditions and constraints evident in any country, club, coaching group and session etc.

Practitioners should try to avoid uncritically applying what appear to be good practice ideas from other successful country and club systems. An idea which works in one context may be distracting or even detrimental in other.

Practitioners should attempt to understand how system components work together to form a unified, integrated and coherent system.

For researchers and research funders

The research rejects a one model view 'social science'. Researchers should think not so much about capturing an immutable external reality but rather how research informed good practice ideas might be applied by practitioners.

There is considerable scope to expand on this research both in terms of the existing data set and new research. More detailed studies could be undertaken. We believe a more detailed case study of two highly successful though contrasting systems such as Germany and Spain would be very useful.

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Appendix

Table A1: Age-stage PPSTT table used as a prompt in the expert interviews

	Physical/physiological	Psychological	Social/lifestyle	Technical	Tactical
17-21 years	<u>Developmental focus</u> Physical development with strength and condition specialist <u>Key activities</u> Activities to build strength, speeds, power, flexibility etc.	<u>Developmental focus</u> Continue to develop key psychological characteristics - motivation, commitment, discipline, resilience, confidence, desire to learn and improve; work on refinement of high level professional characteristics - awareness and concentration, coping with pressure and stress, competitive behaviours and appetite for winning, never giving up <u>Key activities</u> Continue to build players key psychological attitudes and skills in and out of sessions	<u>Developmental focus</u> Help players manage transition to first team football, working on higher level social characteristics - place and humility, respect etc. ; reinforce importance of appropriate lifestyle characteristics and choices - nutrition, hydration, rest and social behaviour <u>Key activities</u> Helping players to understand professional environment	<u>Developmental focus</u> Maintaining and refining technical skills; work on position specific skills <u>Key activities</u> Position specific skills	<u>Developmental focus</u> Develop detailed understanding and awareness of game, tactics, team organisation; understanding difference between different levels of competition, increasing overall speed of play; providing opportunities for young players to play at senior/first team level <u>Key activities</u> Advance game understanding and tactics, and playing opportunities
12-16 years	<u>Developmental focus</u> Sensitivity to changes associated with sexual maturity; there are differing opinions about the introduction of physical development work in this age band; some advocate a specialist programme, others suggest physical development should be done through normal game related training activities <u>Key activities</u> Physical development through games	<u>Developmental focus</u> Getting to know players and building relationships; emphasising personal responsibility, motivation, discipline and focus; establishing a practice ethic; sessions in the learning/challenge zone, emphasising calculated risks and creativity <u>Key activities</u> Continue to build players' key psychological attitudes and skills in and out of sessions	<u>Developmental focus</u> Helping players through difficult life changes; work with and develop players ideas about friendship/peer group encouraging mutual support, respect and humility; develop a culture of hard work; develop good nutritional and life-style habits; manage parent expectations; working with educationalists <u>Key activities</u> Helping players through a difficult period	<u>Developmental focus</u> Manage technical inconsistencies associated with sexual change; skill development under pressure; greater emphasis on passing and retention; advanced technical skills; exposure to position specific work though players not 'locked in'; work with skills coaches; continue to encourage engagement in other sports <u>Key activities</u> Problem solving games, move towards 11-a-side, some unopposed development	<u>Developmental focus</u> Prioritise game understanding and awareness; awareness of roles in and out of possession; overall decision-making; manage transition to 11-a-side <u>Key activities</u> Problem solving games such as 3v2; use competitive matches as development opportunities
8-11 years	<u>Developmental focus</u> No specific physical focus other than engaging youngsters in games of a slightly longer duration <u>Key activities</u> Physical development through	<u>Developmental focus</u> Same as 5-7 years but encouraging youngsters' self-regulation e.g. showing up on time, encourage players to take responsibility for their own learning, coaching focused more on individual players, using	<u>Developmental focus</u> Same as 5-7 years but focus more on evolving peer/team mate relations, and managing parents with regard to selection and competition. <u>Key activities</u>	<u>Developmental focus</u> Same as 5-7 years but refine movement skills, and greater focus on technical ball skills particular ball retention and passing, using both feet, encourage engagement in	<u>Developmental focus</u> Work on decision-making - when to pass, when to dribble, when to share, when to keep, consider off the ball movement, and reading and anticipating play, introduce and manage competition, more

	games	consultation to shape sessions, use questioning more, encourage risk taking and creativity <u>Key activities</u> Building players psychological attitudes and skills, experimentation through games	Working with team on their relationships, talking to parents	other sports. Key skill development age. <u>Key activities</u> Problem solving games, small sided games, some unopposed development (but keep fun)	detailed rules later in this age group <u>Key activities</u> Problem solving games, small sided games 3v3, 4v4.
5-7 years	<u>Developmental focus</u> No specific physical focus other than engaging youngsters in games <u>Key activities</u> Physical development through games	<u>Developmental focus</u> Getting to know the youngster, being a 'fun friend', making the youngster feel safe, secure and happy, establish clear behavioural boundaries, prioritising fun and enjoyment in sessions, plan structured sessions but with variety (change every 10-15 minutes), simple language, with low levels of instruction, very positive/encouraging approach <u>Key activities</u> Fun varied games	<u>Developmental focus</u> Work with club, other coaches and parents to define a clear philosophy, expectations and manage problems. <u>Key activities</u> Talking to parents	<u>Developmental focus</u> Prioritise movement development such as agility, balance and coordination, introduce ball work notably dribbling and shooting with players having many touches, encourage engagement in other sports <u>Key activities</u> Fun games with movement focus, small sided games 2v2, 3v3, some unopposed development (but keep fun)	<u>Developmental focus</u> Develop a basic understanding of the game - team, directions of attack, simple rules <u>Key activities</u> Small sided games with some very basic tactical ideas such as passing and space (though these are not a priority compared to movement and ball skills)

Table A2: Spanish Playing Principles

Spanish System – Common Playing Principles

Attacking Principles

- Penetration with the ball
- Playing through the thirds
- Use of space: a combination of depth and width
- Width: ensuring the full width of the pitch is maximised to make the job of the defence harder and to facilitate the use of depth.
- Depth: to create scoring opportunities e.g. runs behind the last defender's back
- Constant movement of players to create passing lanes and force the defence to adjust
- Players use space off the ball to provide passing lanes/support to the ball carrier
- 3 types of passing lanes are identified:
 - Primary: short passes looking to ensure ball movement and providing pressure release
 - Secondary: Passes behind enemy lines but only over one line of defence
 - Tertiary: Passes across multiple lines of defence both vertically and horizontally
- Very strong value on ball possession and the 'careful treatment of the ball' (positive possession, not possession for possession's sake)
- Attacking as a unit: including the back 4 being integral to the attack
- Against a pressing defence
- Against a defence that starts on the half way line
- Against a defence that sits very close to their own box
- Control – pass: in one to two touches max
- Creation of passing lanes and constant movement and reposition (exchange of positions) to progress the ball through the three thirds of the field towards threat areas
- Alternate short and long game (but not kick and chase down)
- Bring the ball to the wings to put a cross into the box
- Ball reversal – side switching.

Defensive Principles

- Slowing down attack
- Quick application of ball pressure after losing possession
- Crowding the area close to the ball to reduce options, space and time/denial of passing lanes/
- Help system around the player defending the ball
- If press is broken, intensive retreating to own half/box
- Protection of 'threat-spaces' and 'shooting areas'
- Maximum vigilance of opposition's attackers – the ball should be intercepted as it travels to the attacker or as they receive the ball, they should never be able to turn and face up
- Shifting and balance of defenders furthest away from the ball
- Maximum concentration.

Transitions

- Defence to offence: create opportunities from steals and turnovers. On recovering the ball find the 'media punta' (a player that bridges the midfield and the strikers) who will then switch the ball from one side to the other looking to surprise the defence.
- Offence to defence: Switch 'gear' quickly when losing possession to apply immediate pressure.

Malaga – Specific Playing Principles

Collective Principles of Attack

- Use constant ball switches to shift the defence and create ‘maladjustments’ and open up new spaces
- Constant support of ball carrier (provision of passing lanes)
- Alternating primary, secondary and tertiary passing lanes (short or between defensive lines)
- When on the ball and facing back to the opposition’s goal, quickly passing the ball back to a teammate facing in the direction of the goal.
- Make run into space to create depth
- Do not slow down the game
- Circulate the ball in one or two touches
- This is to force the defence to constantly have to readjust their position until they make a mistake
- Create and capitalise on numerical advantage situations
- Create a 2v1 when the ball carrier is pressed
- Go and fix defenders to create a space where you came from
- When receiving into a defended space quickly pass the ball out of that space
- Beat the defender 1v1 and pass the ball using the numerical advantage
- Finish the play as soon as there is an opportunity to do so (don’t over-elaborate).

Individual Principles of Attack

- Always receive the ball on the move to make it harder for the defenders
- Provide passing lanes to the ball carrier all the time
- Run into open space to create continuity and depth
- Move behind defensive lines where they can’t see you
- Arrive at the space reading the ball and what to do with it if you get it
- Constant scanning of the field looking for cues as to what to do next
- Body shape and head-swivel
- Make quality passes and good control-touches
- Make life easy for the player we are passing the ball to and ensure continuity
- Defence: as soon as we lose possession, the whole team must defend in order to stop the easy progression of the other team towards our goal and to regain possession as soon as possible.

Collective Principles of Defence

- Defend space collectively
- Closest player to the ball carrier must get close to the ball, but ensure he does not get beat by it.
- Shift with the ball to be in a position to provide help to the teammate defending the ball while still being able to defend the goal
- Force the opposition to specific areas to reduce space and make regaining possession easier
- Players furthest away from the ball must position themselves in the appropriate spot to be able to ‘keep watch’ on their counterparts
- Regain possession collectively
- Constant pressure on the ball carrier
- Pressure on attackers closest to the ball (deny passing lanes)
- Prepare to regain possession
- Read when the ball is going to be recovered and move away from the opposition’s players into space to provide a quick ‘exit route’ for the ball.

Individual Principles of Defence

- High work rate
- On the ball:
 - Put pressure without getting beat
 - Put pressure without fouling
 - Get the ball if possible
- Off the ball:
 - Body position that allows you to see ball and player at the same time
 - Play close to the primary passing lane player to either steal the ball as it travels to them or be able to apply pressure as soon as they get it

- Take a position between opponents when defending a space containing more than one attacker.

Transition

Transition defence to attack: as we regain possession, we must decide what the safest option is to keep it and to provide continuity (ensure ball circulation) or play vertically to take advantage of a potential fast-break.

Collective Principles Transition defence to attack

- Once we get the ball, move it away from the pressure area as soon as possible and pass it to the a teammate in a better position
- If in a dangerous area/situation move the ball away at once
- When going for a 50/50 ball always hit the ball towards a team mate or to an area without attackers
- Play the ball deep when it is stolen with space in front of you or when there is a numerical advantage to gain depth straight away

Transition defence to attack: as soon as we lose the ball we must apply pressure to regain it or to stop its easy progression. We must avoid the attacking team being able to organise their offence

Collective Principles Transition attack to defence

- Closest player to the ball applies pressure to reduce thinking time
- The rest get closer to the 'focus area' to reduce space for the ball carrier and to put pressure on passing lanes
- Players who are close to the ball but ahead of it, must fall back to the line of the ball
- If when we lose possession we find ourselves in a numerical disadvantage, we must retreat and buy time for the rest of our players to get back in

Table A3: Selection strategies in the seven countries

	Belgium	England	France	Germany	Italy	The Netherlands	Spain
U19	•	•	•	•	• Full-time club contract	•	•
U18	•	•	•	•	• Full-time club contract	•	•
U17	•	• Award of scholarship or apprenticeship; first professional contracts	• 16-17 years is a good age to move to training centre	•	• Full-time club contract • 'Allievi Nazionali' (national students) • Many Italian clubs discard players at this age • Overseas players eligible	•	•
U16	•	• National development/ • competition • system starts	•	•	• Full-time club contract • Anywhere in Italy	•	•
U15	•	• Pre-scholarship agreements; move to full-time academy place (if available)	•	•	• Full-time club contract • Anywhere in Italy	•	• National development system starts • Spanish expert "14 is the most important selection age ... all talent identification happens before 14 years" • "If a player does not make it by 14 it is unlikely they will make it later"
U14	• National selection and associated development starts at this age.	•	• Players selected for inter-regional centres or training academies	•	• One year rolling contract with freedom of movement • Italian federation recommend to clubs withholding selection decisions until 13 years of age • Anywhere in Italy	•	•
U13	•	•	•	•	• One year rolling contract • Anywhere in Italy • By the age the scouts	•	•

	Belgium	England	France	Germany	Italy	The Netherlands	Spain
					believe they will have seen almost all the local talent.		
U12	•	•	•	•	<ul style="list-style-type: none"> One year rolling contract 50 km from the academy 	•	•
U11	•	•	•	•	<ul style="list-style-type: none"> One year rolling contract 50 km from the academy 	•	•
U10	•	•	•	•	<ul style="list-style-type: none"> One year rolling contract 50 km from the academy 	•	•
U9	•	•	•	•	<ul style="list-style-type: none"> Starts of club academy system Most clubs ignore federation advice and select at 8-9 years of age 	•	•
U8	•	<ul style="list-style-type: none"> Start of club academy system Invited players 'register' with professional clubs 	•	•	<ul style="list-style-type: none"> Soccer schools e.g. Nike Juventus School 	•	<ul style="list-style-type: none"> Start of club academy system
U7	•	• Development centre	•	•	•	•	•
U6	•	• Development centres	•	•	•	•	•

