

Developing the Potential of Young People in Sport

A report for sportscotland by
The University of Edinburgh



Developing the Potential of Young People in Sport

A report for **sportscotland** by
The University of Edinburgh

Angela Abbott
Dave Collins
Katie Sowerby
Russell Martindale

Published by:

© **sportscotland**
Caledonia House
South Gyle
Edinburgh
EH12 9DQ

Tel: 0131 317 7200
Fax: 0131 317 7202
www.sportscotland.org.uk

ISBN 978 1 85060 510 2

March 2007

Developing the Potential of Young People in Sport

Foreword by sportscotland

	Page
Peer Review Papers, Publications, Presentations and Submissions Emanating from the Project	1
Acknowledgements from Authors	2
Section 1 Introduction to the Report	3 - 5
Section 2 The Philosophy and Structure of the Project	6 – 41
2.1 Justification for the Philosophy Adopted	6 – 19
2.1.1 A Short Revision of the Arguments Underpinning the DPYPS Approach	6
2.1.1.1 Key Attributes of Physical Talent	8
2.1.1.2 Psycho-behavioural Precursors to Excellence	11
2.1.1.3 Psychomotor Capacities which Enable Elite Performance	14
2.1.1.4 Interactions between Psychomotor and Psycho-behavioural Elements	16
2.1.2 The Developmental Pathway. Different Emphases Necessary at Different Levels	18
2.1.2.1 Successful Transition from One Stage of Development to Another	19
2.2 ‘Consumer’ Perceptions of the Philosophy	20 – 41
2.2.1 Overview of the Data Collection	20
2.2.2 Local Authorities	21
2.2.3 Seconded Teachers	27
2.2.4 Teachers	33
2.2.5 Sport Specialists: Coaches, Active Primary & School Sport Co-ordinators and P.E. Specialists	36
2.2.6 Summary	41
Section 3 The Content and Methodology of the Intervention	42 – 86
3.1 An Overview of the DPYPS Content and Methodology	42 – 52
3.1.1 Why was the DPYPS Programme Created?	42
3.1.2 What are the Objectives of the DPYPS Programme?	42
3.1.3 Psychomotor Development	43
3.1.4 Psycho-behavioural Development	47
3.1.5 Implementing and Piloting the DPYPS Programme	50
3.1.6 Other Initiatives with Parallel Aims	52

3.2 Consumer Perceptions of the Methodology Adopted	52 - 86
3.2.1 Overview of the data collection	52
3.2.2 Local Authorities	53
3.2.3 Seconded Teachers	58
3.2.4 Teachers	65
3.2.5 Sport Specialists: Coaches, Active Primary & School Sport Co-ordinators and PE Specialists	81
3.2.6 Summary	85
Section 4 Resources and Professional Development/ Training within the Intervention Package	87 – 120
4.1 Development of the DPYPS Resources	87 – 96
4.1.1 The Rationale Underpinning Development of the Psychomotor Resources	87
4.1.2 The Content of the Psychomotor Resources	87
4.1.3 The Rationale Underpinning the Development of the Psycho-behavioural Resources	91
4.1.4 The Content of the Psycho-behavioural Resources	91
4.1.5 Resources Provided to Deliverers	97
4.1.6 Location of the Materials Against Other Resources Available	97
4.2 ‘Consumer’ Perceptions of the Resources	98 - 106
4.2.1 Overview of the Data Collection	99
4.2.2 Psychomotor Resources	100
4.2.3 Psycho-behavioural Resources	103
4.3 The Professional Development Programmes	106 – 107
4.4 Consumers’ Perceptions of the Training	107 – 120
4.4.1 Overview of the Data Collection	107
4.4.2 Local Authorities	108
4.4.3 Seconded Teachers	111
4.4.4 Teachers	115
4.4.5 Sport Specialists: Coaches, Active Primary and School Sports Co-ordinators and PE Specialists	118
4.4.6 Summary	120
Section 5 Impact of the Intervention	121 – 163
5.1 Children	121 – 151
5.1.1 Overview of Data Collection and Analysis	123
5.1.2 Quantitative Data	123
5.1.2.1 Participation Data Analysis Results	133
5.1.2.2 Perception Data Analysis Results	135
5.1.3 Qualitative Data	145
5.1.3.1 Perceptions of the Psychomotor Impact	145

5.1.3.2	Perceptions of the Psycho-behavioural Impact	146
5.1.3.3	Comparisons with 'Conventional' PE	150
5.2	Front Line Professionals	151 - 159
5.2.1	Seconded Teacher Perceptions of the Programme Impact	151
5.2.2	Teacher Perceptions of the Programme Impact	153
5.3	Local Authorities and Sports Specialists	160 – 162
5.3.1	Local Authority Perceptions	160
5.3.2	Specialists' Perceptions of the Programme Impact	161
5.4	Summary	162
Section 6	Discussion and Future Directions	164 – 169
6.1	A Critical Appraisal of The Results	164
6.2	Recommendations	168
6.2.1	Extension and Deployment of the DPYPS Approach	168
6.2.2	Refinement and Extension of the DPYPS Approach to Strengthen Impacts on Physical Activity	169
Section 7	References	170 - 176
APPENDICES		
	Other Initiatives with Parallel Aims	177 - 184

Foreword

In 2000-01 **sportscotland** operated a talent identification and development (TID) pilot programme in conjunction with three local authorities in Scotland. The programme was based on an Australian model which used a series of physical tasks and an interactive CD-Rom to determine the suitability of sports for young people. In parallel, **sportscotland** commissioned the University of Edinburgh to undertake an evaluation of the TID programme and also produce an academic review of the factors influencing TID. As a result of the findings of both the evaluation and the academic review, and because of conceptual and empirical weaknesses, **sportscotland** decided to conclude the pilot programme in late 2001. **sportscotland** published *Talent Identification and Development: An Academic Review* in August 2002.

The academic review highlighted that resources should concentrate primarily on the psychological dimensions supported by the development of fundamental motor skills. It also identified that talent is dependent on genetics, environment, encouragement and the effect of these on physical and psychological traits. It argued that by equipping young people with the appropriate psycho-behavioural characteristics of excellence and providing them with opportunities to develop, at an early age, the fundamental motor skills required for participation in a wide range of sporting activities that this would allow young people to reach their potential in sport and physical recreation. It also contended that by equipping young people with these competences that physical activity levels would be raised.

In December 2001 **sportscotland** decided to commission the University of Edinburgh to develop and test a new approach with young people in two local authority areas in Scotland (North Ayrshire Council and Stirling Council). This approach would be based on the psychological characteristics of excellence with an explicit focus on the enhancement of psychomotor capacity. The new programme was called Developing the Potential of Young People in Sport (DPYPS).

The DPYPS programme ran from early 2002 to the end of 2003 with the University providing its report in March 2004. The programme involved the development of resources for teachers to use with pupils in schools at primary level and a workbook for sports coaches and the training of primary school teachers to deliver DPYPS sessions in both the classroom and in physical education (PE) classes. Both local authorities seconded a PE teacher to work alongside the University to ensure that the resources developed were appropriate for use in schools and also to provide additional support to primary school teachers in the planning and delivery of the classes. In the Stirling area the University also provided training to a group of club sports coaches in the philosophy and approach to developing young people.

Overall although the amount of time the programme actually operated in schools was limited the results were positive and feedback was almost unanimous in its support for the programme from pupils, teachers, parents, local authorities and club coaches. In the summer of 2004 **sportscotland** staged consultation seminars with Scottish local authorities and Scottish governing bodies of sport where there was widespread support for the philosophical approach used by DPYPS of providing all children with the psychomotor and psycho-behavioural curriculum to allow them to realise their potential and to keep them involved in sport and lifelong physical activity.

Since 2004 **sportscotland** has been using the findings of the DPYPS programme to develop a Long Term Player Development (LTPD) model to be used by governing bodies of sport. **sportscotland** is also using the principles of DPYPS in the development of a coaching resource for use by governing bodies with children.

This report was commissioned and is being published by **sportscotland** but the views expressed are the authors' alone.

sportscotland
March 2007

Peer Review Papers, Publications, Presentations and Submissions Emanating from the Project

Abbott, A. and Collins, D. (2002). A theoretical and empirical analysis of a 'state of the art' talent identification model. *Journal of High Ability Studies*, 13(2), 157-178.

Abbott, A. and Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal of Sports Sciences*, 22(5), 395-408.

Abbott, A. and Collins, D. (In Press). Talent Identification and Development in Sport: A Multidimensional Framework for Theory, Research and Practice. *The Sport Psychologist*.

Abbott, A., Button, C., Pepping, G-J, and Collins, D. (2005). Unnatural Selection: Talent Identification and Development in Sport. *Nonlinear Dynamics, Psychology, and Life Sciences*, 9(1), 61-88.

Abbott, A., Collins, D., and Martindale, R.J. (2002) Talent Identification: How Not To Do It!! Current 'World Best' Practice? *Proceedings of the 12th Commonwealth International Sport Conference. Manchester, July 19 – 23.*

Abbott, A., Collins, D., Martindale, R.J., and Sowerby, K. (2002) *Talent Identification and Development: An Academic Review.* sportscotland.

Abbott, A., Collins, D., Martindale, R.J., and Sowerby, K. (2003) *Developing The Potential Of Young People in Sport (DPYPS): A Baseline Report.* Sportscotland.

Collins, D., and Abbott, A. (Under Review). Characteristics of Development and Excellence in Sport: What Makes the Difference? *Journal of Applied Sport Psychology*.

Collins, D., Abbott, A., and Martindale, R.J. (2002) Talent Identification And Development: How Would We Do It? *Proceedings of the 12th Commonwealth International Sport Conference. Manchester, July 19 – 23.*

Martindale, R.J., Abbott, A., and Collins, D. (2002) A Theoretical Evaluation of Talent Identification Processes. *Proceedings of the 12th Commonwealth International Sport Conference. Manchester, July 19 – 23.*

Martindale, R.J., Collins, D., and Abraham, A. (In Press). Effective Talent Development Environments: The Elite Coach Perspective in UK Sport. *Journal of Applied Sports Psychology*.

Martindale, R.J., Collins, D. and Daubney, J. (2005) Talent Development: A Guide for Practice and Research within Sport. *Quest*, 57, 353-375.

Martindale, R.J., Collins, D., and Keavenly, A. (Under Review). Talent Development in the UK: The Athletes' Perspective. *International Journal of Sport Psychology*.

Acknowledgements from Authors

The Developing the Potential of Young People in Sport (DPYPS) programme would never have started without the efforts and backing of **sportscotland**.

Thank you to all those children, teachers, coaches, and specialists who volunteered to be involved in this programme and gave such effort to introduce the concepts into their every day work. Their honest and 'to the point' feedback is also much appreciated and has been utilised throughout this report in order hopefully to fuel future and further growth.

Thank you to Bob McGowan and Gordon Syme, of Stirling and North Ayrshire Councils respectively, for their efforts, support and enthusiasm.

Thank you to the seconded teachers, Lynsey Bryden and Rob Lewis for their efforts and abilities to help make this programme successfully come to life within their respective areas.

Thank you to Mike Jess, Kay Dewar and Shirley Gray for their willingness to give us free reign to their own personal work and research developments and their expertise during in-service training. They have made a valuable input to the DPYPS programme and we are grateful acknowledge them.

Finally, our grateful thanks to Lawrie Randak and Elaine Wolstencroft, whose open-mindedness to new ideas enabled us to develop this 'compelling' programme.

Section 1 Introduction to the Report

This package grew out of a Talent Identification initiative. As such, ‘Developing the Potential of Young People in Sport’ (DPYPS) was developed with Talent Identification and Development (TID) as its primary thrust. However, from the beginning we wished to exploit the generic benefits which seem to accrue from equipping children for achievement in sport; benefits which although consistently highlighted by research have, until recently, been dismissed. Accordingly, we aimed to develop a seamless version of the development process for sport, which would also make a substantial contribution towards broader educational aims and that crucial lode-stone of the 21st century, lifelong physical activity. This approach, summarised in Figure 1.1 below, was always presented as a broad-based, developmental and educationally orientated scheme, despite the historical genesis of DPYPS as the follow up to the more limited Sports Search initiative.

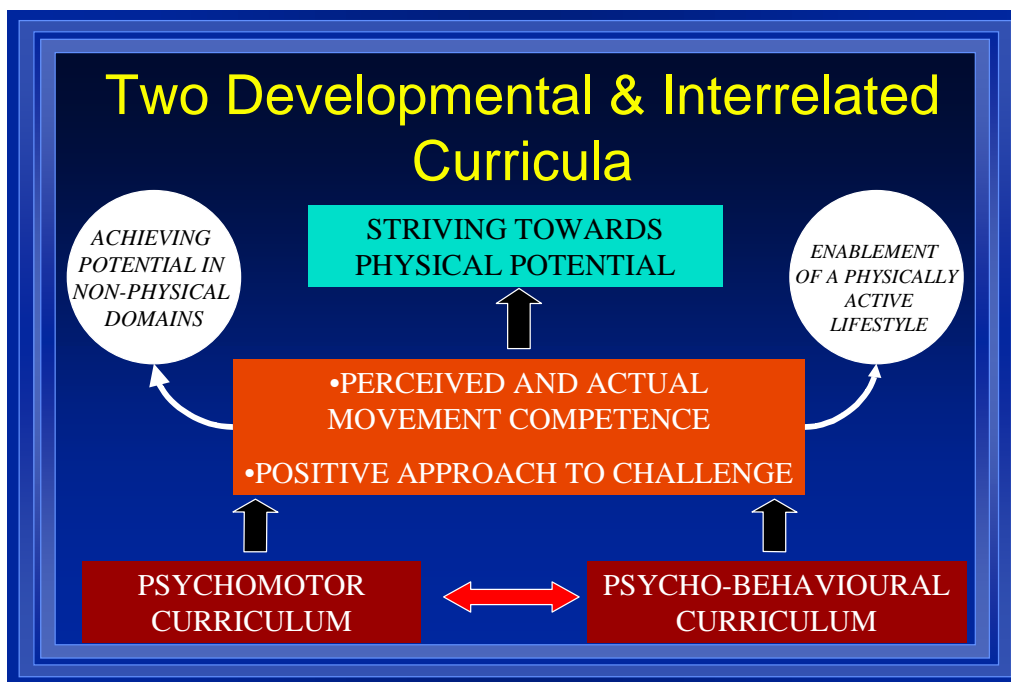


Figure 1.1: The contribution of the ‘twin-track’ DPYPS curricula to broader aims

This breadth was reflected in the vision underpinning the scheme.

*“DPYPS aims to give children the knowledge, motivation and skills they need to achieve their best in physical settings. The programme is orientated towards achievement in sport **BUT** with considerable ‘carry over’ of benefits to wider dimensions; for example, the enablement of a physically active lifestyle”*

In short, we hoped to develop, pilot test and consequently offer a refined, original but essential educational thrust which would help us to meet the current and severe challenges of obesity and under-achievement, whilst also, perhaps, winning a few more medals at international events. These broad and ambitious aims should be borne in mind as you read this report. The programme itself was piloted in three

clusters, North Ayrshire, and Bannockburn and Balfron in Stirling and included three secondary schools and 17 primary schools. Unfortunately one primary and two secondary schools did not complete the full programme due to a variety of practical problems. This meant that a total of 906 children took part in the programme. In-service training was provided between December 2002 and October 2003 for a variety of deliverers, ranging from one day for coaches to four days for teachers. Two seconded teachers then supported the primary school teachers and delivered the programme in the secondary schools. The length of time the programme was implemented ranged from ten week blocks of work to a full year of delivery, depending on the school, teacher and area location. This delivery was based on a twin curriculum of psychomotor and psycho-behavioural development.

From the TID perspective, DPYPS is certainly in keeping with the current rethinking apparent in the literature world-wide. Talent Identification (TI) has moved away from the genetics bias which dominated speculation through the 50s and 60s, and (purportedly) some ad hoc engineering attempts in the Eastern Bloc. A noted geneticist, Hugh Montgomery from University College London summed up his position as follows:

“If you gave me money and said, ‘Build a football team’, I’d be better off paying boys’ clubs to give me first crack at their talented youngsters than spending it on genetic tests.” (Sunday Times, July 6th 2003, p12)

This doctrine is already apparent in horse racing, where the vast amounts of money and tight breeding control yield poor hit rates. Only one in ten turns out to be a thoroughbred. Snafee Dancer (sired by Northern Dancer) cost £13.1m but never raced, whilst Red Rum was bred as a sprinter but won three Grand Nationals. On this evidence at least, champions are made, not born!

More recently, anthropometrics and performance have dominated TI. This approach has considerable ‘face validity’, whilst also offering coaches with a comparatively clear pathway to progress. In short, “cream off the best then work with them” has represented the underpinnings of successful systems in sport (particularly in controlled societies such as Korea and eastern Europe), and despite the anti-educational nature of this approach, there are many National Governing Bodies (NGBs), coaches and even educational establishments which still subscribe to it. As a result, perhaps, many teachers and health promotion specialists have a very negative view of sport, leading to a reluctance to get involved in anything with ‘sport’ or ‘talent’ in the title. However, these negative consequences are definitely not inevitable, and result from the NGBs’ (and therefore the coach’s) preoccupation with current performance over long-term development. Hopefully, our earlier report (Abbott, Collins, Martindale & Sowerby, 2002) went some way to attacking this stereotype, and offered the ‘new way’ which DPYPS employs.

As already stated, the broader objectives of DPYPS relate to the promotion of lifelong physical activity and, more generally, developing the ‘characteristics of excellence’ through sport. The first aim, the psychomotor component, builds on an increasing research base on the importance of actual and perceived physical competence as an important precursor to initiating and maintaining physical activity. The second, the psycho-behavioural aspect, focuses on the development of a ‘can try, solution-

focused' approach, once again a characteristic shown consistently by research to play a crucial role in achievement across a variety of settings. The roles played by these two components are examined in more depth within the next section. As a preparation to reading the report, however, it is important to emphasise that it is the interaction of these objectives, rather than either in isolation, which offers the greatest return. This integration represents another original but well founded innovation offered by the DPYPS approach.

Accordingly, this report presents the results of a first pilot run for these ideas: a pilot which must be considered against the considerable time, resources and still continuing efforts which have been applied to the anthropometrics approach. In addition, and in contrast to these earlier approaches, we have stressed the need for partnerships with workers in the field. Rather than provide a resource solely from the safety of an academic environment, we have set out to develop the programme organically, adjusting its specifics to meet the practicalities and peculiarities of the testing environments. As such, the 'action research' which has resulted offers as much development as it does evaluation of the approach itself.

One other feature is worthy of explicit consideration. DPYPS represents a philosophy as well as a set of resources, built within a multi-factored system. As such, it is worth repeating that it would be well nigh impossible to disaggregate the various elements and ascribe percentage variances to each element for its partial contribution. Indeed, such sub-division of the programme would run counter to both the theoretical underpinnings of its design and the intended objectives of its application. We strongly believe that, if the programme has worked, and if its theoretical underpinnings survive rigorous and challenging debate, then the package should be taken forwards as a whole. As this report highlights, there is a number of approaches currently in use. We suggest that critical debate, with sensible integration of best practice, represents the most effective way towards achievement of the crucial objectives which this programme is designed to achieve. We look forward to that debate, and hope that this report will serve as a stimulus to an even better and more effective, conglomerate programme.

Against this wide-ranging backdrop therefore, the report sets out a careful and systematic examination of each facet of the DPYPS approach. Each section considers a particular feature of the initiative, starting with the overarching philosophy, moving through the content and methodology, to the resources and professional training, to the specific impacts of the package employed. As such, sections should be considered sequentially, with consideration paid to the justification for the approach employed followed by the empirical evidence which supports and/or questions this approach. As a consequence, each stage of the process can be confirmed AND refined in the light of knowledge gained. Finally then, the total package can be reconsidered as a holistic programme, against the potential and actual contributions which it can make. We will employ this approach ourselves, in discussion of the findings within the final section of the report.

Section 2 The Philosophy and Structure of the Project

2.1 Justification for the Philosophy Adopted

Over the years, many models of TID have been proposed. Unfortunately, however, a review commissioned by **sportscotland** preceding the design and piloting of the DPYPS programme highlighted both theoretical and conceptual weaknesses with traditional approaches to TID (Abbott et al, 2002). This chapter provides an overview of these limitations and a theoretical justification for the approach adopted within DPYPS, with key messages summarised in boxes to highlight pertinent points.

2.1.1 A Short Revision of the Arguments Underpinning the DPYPS Approach

A Static versus a Dynamic Concept of Talent

Talent initiatives in sport have typically based the identification of the 'talented' on a range of discrete, outcome-based variables (e.g., performance or height at 12 years of age) thought to underpin success (Davids, Lees & Burwitz, 2000). For example, the Australian Talent Search programme, in identifying the 'talented' in rowing, considers the performance of children on the basketball throw, sprint and shuttle run tasks. Such 'snap-shot' performance variables however fail to capture the processes that elite athletes exploit to satisfy task demands. As an example, a photograph of an elite batter in baseball may not set him apart from a lesser player, whereas detailed analysis of digital video is much more likely to reveal why he is so successful. Similarly, a photograph of a young rugby player scoring a try will provide little information about the attribute or attributes that enabled him or her to score that try (e.g., skill, strength, quality of opposition, determination). Consequently, this snapshot of performance is unlikely to provide an insight into the youngster's potential to develop into an elite rugby player. The point to be made here is that more sensitive measures of ability are needed to provide a better understanding of the processes underpinning skilful performance (Button, Davids & Schöllhorn, 2003; Guion, 1998).

Of course, discrete performance variables may be helpful in signposting potential athletes during development. For example, measures of strength may highlight the need for an athlete to emphasise the development of this component to a greater extent. However, we should not be fooled into believing that measures on discrete performance variables can distinguish future performers. If an individual does not currently display a desired behaviour, this may be because an important factor (e.g., self-confidence) is absent or because it will not develop or emerge until later. Consequently, the key problem is not so much in identifying the best performer at any one time but instead, identifying over time which factors may be limiting talent development. Within the motor development literature, Thelen (1995) highlights how certain behaviours 'wait in the wings' and only emerge when the supporting sub-systems and processes are ready. The lack of a characteristic, such as mental focus, which may take several years to develop fully (Gould, Dieffenbach & Moffett, 2002) may hinder the identification of young and otherwise very talented athletes. Therefore, the comparative delay of one component (e.g., hand size) may act as a 'rate limiter', preventing another required behaviour from being observable (e.g., hand-eye coordination). As a result, a small retuning of one component can often

lead to an unexpected, non-linear change in development and performance. However, traditional TID models that select the 'talented' based on a limited range of discrete variables treat performance as linear and therefore fail to recognize the dynamic nature of talent.

It is worth noting that, due to this dynamic and evolving nature of talent, the likelihood of identifying a talented athlete of the future increases as a function of time. In other words, the number (and accuracy) of 'potentially talented' individuals identified will increase with the age of the athlete as values on desirable attributes progress towards their mature state. Clearly therefore, the earlier a traditional linear model of TI is employed, the more potentially talented individuals will be eliminated. In summary, the dynamic evolution of talent seems to suggest that the focus of TI models in sport, and probably other performance domains, should shift from early identification towards developmental aspects. This was a key consideration during the design of the DPYPS programme.

An additional and crucial consideration that needs to be acknowledged in the design of TID models is that "not only may the composition of a given talent change as a person ages, but the optimal talent domain may change as well" (Simonton, 1999, p.445). Examples below highlight how many successful athletes have transferred from one sport to become elite at an alternate sport. In fact, this domain change by individuals has been identified as an important component within British sport (Moore, Collins, Burwitz & Jess, 1998). Consequently, early practices designed to facilitate the growth and self-organisation of key components needs to cater for this potential domain change by incorporating 'generic' concepts underpinning sporting talent rather than limiting experiences to sport specific practices. Even if a person does not transfer to a different sport, such practices should help athletes develop the ability to adapt performance to suit different situations and environments. In fact, the subtle adaptation (or transfer) of coordination patterns is arguably what enables elite sports people such as Tiger Woods (golf), David Beckham (soccer) and Graeme Randall (Judo) to maintain very high levels of performance consistency over the course of several playing seasons. Accordingly, the importance of children developing a 'generic' skills package that they are subsequently able to adapt successfully across different contexts was a core consideration during the design of DPYPS.

Basketball: John Amaechi, forward/centre for the Utah Jazz is the only citizen of Great Britain currently playing in America's National Basketball Association (2003 season). His first love was Rugby and it was only a chance outing at the age of 16 at the local basketball court that enticed Amaechi to give basketball a try.

Athletics: Linford Christie was involved in athletics as a youth. However, until the age of 16, this involvement lacked commitment. The turning point appears to have been in the summer of 1985 (age 25) when Ron Roddan (his coach) and Andy Norman (promotions officer for British Athletics) sent letters to him saying, in effect, use your talent or leave athletics. That lit a fire, and the next year Christie lowered his 100-metre best from 10.42 to 10.04 and went on to claim his first major title. In 1992, he became the Olympics 100m title holder.

Ballet: At the age of 14, Ryan Nye was on track to play cornerback or linebacker one day for the Waterville Senior High School football team when he took up ballet. At 14 he was a late starter and had to reshape his body before he could master the many movements and the extraordinary extension demanded of a quality ballet dancer. By the age of 15, he was playing lead roles in the Bossov Ballets.

2.1.1.1 Key Attributes of Physical Talent

Moving Beyond a Reliance on Performance and Physical Measures

Acknowledging the dynamic nature of talent in the design of DPYPS

Recognising that the optimal sporting domain of an individual may change over time, the initial focus of the DPYPS programme shifted away from sport specific development to the development of attributes that underpin physical development and performance across sporting domains. Additionally, we incorporated activities into the programme that required these generic attributes to be adapted to different contexts. As such, consideration was given to generic motor (e.g., balance), cognitive (e.g., decision making) and psychological skills (e.g., commitment) that can facilitate (or if absent, limit) talent development in physical settings. The following section highlights the specific attributes promoted within the DPYPS programme and provides a rationale for their incorporation into the programme.

Traditional approaches to TI have typically focused on selecting the talented by obtaining a snapshot of a child's or adolescent's performance capacity, or by looking for physical factors that favourably compare to expert performers in a specific field (e.g., height for high-jumpers). However, these conventional measures of talent do not acknowledge that a child's performance and physique are likely to be affected by a range of variables such as past experiences, physical maturity, test-taking skills and parental support. Firstly, long-term predictions cannot be made solely on the basis of a few physical characteristics due to their unstable and nonlinear development over time. The test-retest data in Figures 2.1 and 2.2 was recently collected in Scotland and clearly shows how the aerobic capacity and height (and consequent 'potential'!) of children (aged 11-12 yrs) can vary considerably across a small period of time (Abbott & Collins, 2002). The implication is clear; discrete physical and performance measures cannot be employed as reliable determinants of future values.

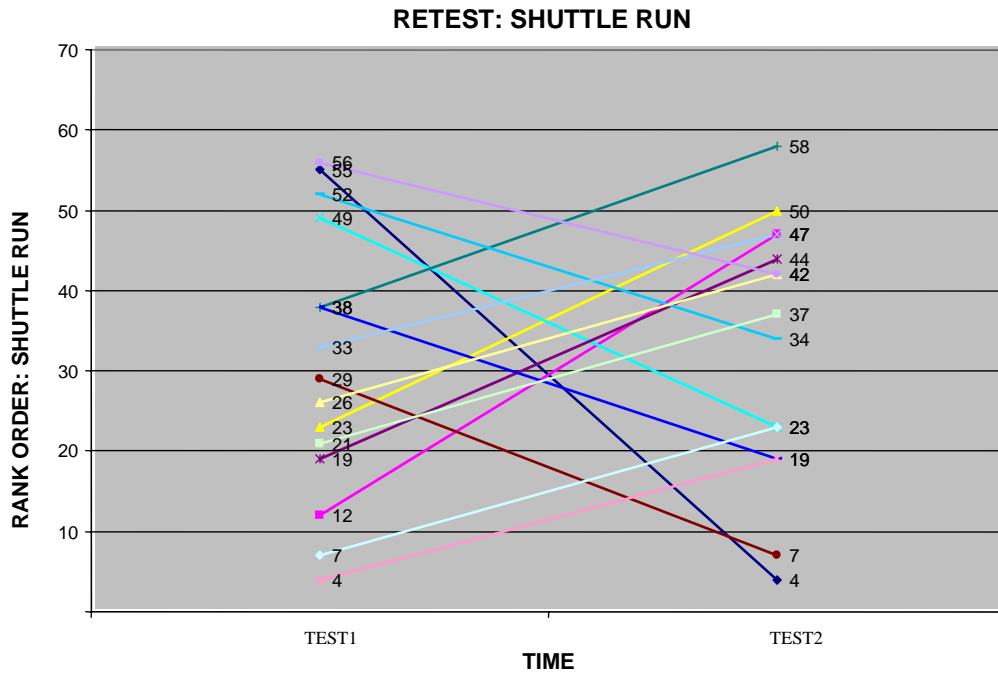


Figure 2.1: One year test-retest reliability in Scottish children’s aerobic capacity



Figure 2.2: One year test-retest reliability in Scottish children’s height

Of course, inter-individual variance in physique will also be influenced by a range of important environmental characteristics such as diet and exercise levels (Parizkova, 1977; Dollman, Olds, Norton & Stuart, 1999). Similarly, differences in levels of performance during childhood can only partly be attributed to innate factors as the actualisation of the 'innate' talent requires the existence of favourable environmental conditions and active learning processes which are supported through one's internal motivation and learning strategies.

"It is extremely likely that the environmental factors including deliberate practice, account for more variance in performance than does innate capacity in every salient domain." (Simonton, 1999, p.454)

Hence, whilst physique and motor skills will ultimately limit performance capacity in specific sports, an awareness of their dynamic and complex nature suggests that long-term predictions are only, at best, a probabilistic estimate of their development.

A further consideration is that the range of discrete variables measured within traditional linear TI approaches is typically limited, with little or no justification provided for their inclusion (Abbott et al., 2002). For example, children may be selected based on the 'appropriateness' of one or two key variables for a specific sport (e.g., height and weight for gymnastics). However, the various attributes that contribute to an athlete's behaviour interact in a nested, discontinuous fashion meaning that performance cannot be understood or predicted when each are considered in isolation. Therefore, it is probable that many children who score very highly on one or two talent components (e.g., height), may not have any talent potential due to the total absence of a different talent component within the specific domain (e.g., commitment to train). Also, a child may be eliminated due to an apparent weakness on one of the 'talent' components even though this component may improve with training or maturity or the individual may be able to compensate for this weakness by positive values on one or more of the other 'talent' components.

As an example, consider the Russian artistic gymnast Svetlana Khorkina who was originally thought to be too tall to compete at the elite level and was advised to take up rhythmic gymnastics instead. However, Khorkina insisted on pursuing the sport she loved most and excelled despite her height disadvantage (she is a multiple world champion winner across various gymnastic disciplines). In fact, she turned her added stature to an advantage by producing slower and more graceful long, levered movements. This example highlights the limitations of basing selection on just a few discrete measures of 'ideal' performance. Therefore, there is a need to re-conceptualise talent as a multi-dimensional construct and acknowledge that many of the key performance determinants in sport can be developed with the appropriate training opportunities. Unfortunately, one-dimensional models of TID, that continue to prevail in sport today, will be unable to make this crucial distinction.

DPYPS: Moving beyond a reliance on performance and physical measures

DPYPS was based upon the notion that many key talent determinants in sport can be developed with the appropriate training opportunities. As such, DPYPS acknowledges that physical and performance measures cannot be employed as reliable determinants of future values but emphasises the need to provide an opportunity for all children to develop the prerequisites for learning and development in sport. The following two sections emphasise psychological and motor skills that facilitate development and typify excellence within the physical setting.

2.1.1.2 *Psycho-behavioural Precursors to Excellence*

Psychological Prerequisites for Learning and Development

The role of psychological processes in the development of expertise is increasingly acknowledged across performance domains. Consider the place of self-motivation for example. It is widely accepted that for an individual to excel in any performance area (e.g., sport, music, mathematics), ten years of deliberate practice is required (Simon & Chase, 1973; Ericsson, Krampe, & Tesch-Romer, 1993). As such, a high level of motivation is clearly required, and its importance for high attainment has been highlighted by a number of researchers (e.g., Heller, Moenks, Sternberg, & Subotnik, 1993; Ziegler & Raul, 2000). In repeated observations (initially by Meij, 1992 and then by Meij, Riksen-Walraven & Van Lieshout, 1995) it was found that individuals achieving excellence in academia exhibited, without exception, higher levels of competence motivation and were clearly and significantly more persistent and enthusiastic than less successful individuals. Thus, both level and style of an individual's motivation will determine the frequency and persistence of his or her interactions with the relevant environment, and thereby will influence his or her development. In this regard, Riksen-Walraven and Zevalkink (2000) stated that, "given that the motivation of competence in a given field literally drives a person towards interactions that foster development, competence motivation can be considered as the primary "engine" of development" (p.204-205). This strong relationship between motivation and attainment has also been reported by Bloom (1985), Csikzentmihalyi, Rathunde and Whalen (1997), Gottfried, Gottfried, Bathurst, and Guerin (1994), and Sosniak (1985) in the areas of sport, art, academia and music respectively. Interestingly, Barynina and Vaitsekhovskii's (1992) study of elite swimmers indicated that athletes who specialised early spent less time on the national team and ended their sports careers earlier than athletes who specialised later. Therefore, while childhood performance can be a false indicator of potential, especially in sport where maturational status can play such a significant role, the child's own interests appear to be an excellent, but often neglected, indicator of adult attainment (Hany, 1996; Milgram & Hong, 1997).

Clearly, the appropriate levels of motivation and perceived competence to interact with the relevant environment are important precursors to development. However, to maximise skill acquisition and development, motivated behaviour needs to be appropriately focused in order to produce quality practice. Indeed, research has highlighted that individuals who achieve the greatest success, as well as being highly motivated, consistently employ strategies which optimise focus and learning (Kunst & Florescu, 1971; Freeman, 2000). For instance, within education, Zha (1993) reported that high-level achievers use self-regulatory learning strategies more often and more effectively than lower level achievers. Similarly, Morrone and Pintrich (1997) reported that high achievers set goals frequently and consistently across tasks more often than low achievers. Conversely, drop-outs and underachievers have been found to have difficulty with establishing and working towards long-range goals and rewards (Citizens for Better Schools, 1995). Indeed, McCall, Beach, and Lau (2000) reported that underachievers (defined as “children who perform more poorly in school than one would expect on the basis of their abilities”, p.785) had unrealistic standards, low aspiration and persistence. These were all factors that could likely be improved by employing a combination of effective learning strategies such as goal setting, planning and performance evaluation (also known as psycho-behaviours). The importance of effective learning strategies in promoting achievement has also been reported in education (Schunk, 1990), surgery (e.g., McDonald, Orlick & Letts, 1995; McDonald & Orlick, 1994) and sport (Kreiner-Phillips & Orlick, 1992). Accordingly, DPYPS acknowledges the importance of helping children to apply effective learning strategies (psychological behaviours) if they are to optimise their physical development from the opportunities afforded to them. Additionally, the psycho-behavioural emphasis presents an opportunity for DPYPS to contribute to the development of achievement across many performance domains.

Psychological Determinants of Performance

Preliminary studies that sought to identify psychological factors associated with high level athletic success were conducted in the 1950s and a substantial body of research on the personality characteristics of successful athletes was amassed from the 1950s to 1970s. Nevertheless, this body of research was inconclusive and personality profiles could not be identified for elite athletes. The focus of this research on personality characteristics may have failed to consider the psychological issues that are important in the conversion of potential to achievement. It is apparent that individuals with very different personalities can excel at the elite level within the same sport. For instance, contrast John McEnroe and Bjorn Borg who were both major tennis players of their time but who clearly had very different personalities. Within women’s tennis, differences in the personality of Monica Selles and Mary Pierce are apparent. In football, Paul Gascoigne and Alan Shearer are very different types of people but both were highly successful football players. This tenuous and fragile link between personality and success is highlighted through different research that has produced ambiguous and unusable findings for many years (e.g., Vealey, 1992).

However, subsequent research that has focused on the employment of psychological behaviours (e.g., use of goal setting or imagery) as opposed to personality variables (e.g., introversion, extroversion) has successfully identified psychological determinants of performance (Mahoney, Gabriel & Perkins, 1987; Smith & Christensen, 1995; Smith, 1997; Thomas Murphy & Hardy, 1999). Indeed,

psychological characteristics such as goal setting, realistic performance evaluation, imagery and commitment have been identified as factors that are able to discriminate between medal and non-medal winners (e.g., Orlick Hansen, Reed & O'Hara, 1979; Gould, Eklund & Jackson, 1992a, b).

In support of the influence of psychological factors on sporting performance, Smith and Christensen (1995) found the Athletic Coping Skills Inventory (ASCI-28), which was designed to assess seven psychological skill items that athletes use to manage their sports performance, to be a much better predictor of athletic success for professional baseball pitchers than an assessment of physical skills. The seven psychological skills assessed were: coping with adversity, coachability, concentration, confidence and achievement motivation, goal setting and mental preparation, peaking under pressure and freedom from worry. Additionally, Thomas et al. (1999) found that both male and female international athletes use a wider range of psychological skills (goal setting, imagery, activation, self-talk, emotional control, negative thinking and relaxation) in training and competition than those of a lesser standard.

Further evidence of the important role that psychology has in sporting excellence is apparent in research that has looked to distinguish between athletes who are able consistently to produce at the top level of their sport and those that are unable to retain their level of success. Indeed, it is often considered that a mark of a true champion is their ability to retain excellence. Starks & Allard (1999) highlighted that "sport psychology has traditionally focused on what it takes to become an expert athlete. There should be equal concern over what it takes to retain that expertise" (p.284). Research that has looked at performance maintenance has found that a range of psychological factors underpin this ability consistently to produce world-class performances (Kreiner-Phillips & Orlick, 1992; Gould, Jackson & Finch, 1993; Jackson, Mayocchi & Dover, 1998). For example, Kreiner-Phillips and Orlick found that only psychological factors were able to distinguish between consistent performers, those who experienced prolonged performance slumps, and those who failed to reproduce comparative performances. Specifically, Olympic champions who continued to win at the highest level were able to handle the demands associated with the increased personal and external expectations and to focus effectively rather than being caught up in distractions.

As research suggests that such psychological skills are highly amenable to specialised training, as opposed to personality traits which are to a greater extent inherited (Williams & Reilly, 2000), greater emphasis on these attributes would appear to be warranted within TID models. Whilst Morris (2000) highlights the problems of employing transient variables for use in TI, the move away from predictive models of talent will hopefully lead to greater emphasis on all determinants of potential and performance regardless of their transient nature. Indeed, the limitation of TID models where little or no consideration is given to performance determinants due to their developmental and therefore non-predictable nature is apparent.

Summary

As it typically takes 10 years of dedicated practice to achieve excellence (Ericsson et al., 1993), athletes must possess and exhibit the motivation and learning strategies to interact effectively with the developmental opportunities offered by the environment. This concept is formulated from the belief that talented individuals will only maximise their potential (innate capacities) when provided with appropriately stimulating developmental conditions (e.g. facilities, parental support, effective coaching) and when exhibiting high levels of motivation and adopting effective learning strategies. Coaches and teachers can provide many examples of young children who appear to have possessed all the capacities to be successful within sport, but fail to progress. Put simply, certain internal dispositions are advantageous and often essential for exceptional attainment within sport (e.g., fast twitch fibres for sprinting). However, internal dispositions do not automatically translate into high performance, but are dependent on specific individual and environmental factors (cf. Howe, Davidson & Sloboda, 1998). Further, not only does an athlete require the skills to interact effectively with the developmental opportunities offered, the athlete also requires the ability to perform optimally within the competitive arena. Again, psychological behaviours have been found to be key to this process and there is some evidence that the effective employment of these behaviours is a better predictor of success than an assessment of physical characteristics. Further, only the psychological behaviours employed by athletes are able to discriminate between athletes who have and have not maintained their success.

Clearly, multiple determinants of performance exist and a combination of anthropometric, physical and psychological factors will likely influence the sporting performance of an athlete. However, traditionally TID models have focused on physical and anthropometric indicators of talent, with the result that psychological determinants of talent have been under-represented. Consequently, the DPYPS programme places far more emphasis on psychological behaviours than any other programme, which research suggests is highly amenable to specialised training.

2.1.1.3 Psychomotor Capacities which Enable Elite Performance

It is well accepted that fundamental movement skills (e.g., catching, throwing, running) are prerequisites or “building blocks” for participation in popular forms of sports and games (Payne & Isaacs, 1995; Okley, Booth & Patterson, 2001). If young athletes fail to develop fundamental skills (i.e., a motor literacy) before becoming involved in sport specific practices, they may well become frustrated and drop out of the long road to success. In this regard, Starkes and Allard (1993) have highlighted the frustration felt by young basketball players, whose cognitive capacity to ‘read’ a game was ahead of their motor capacity to implement their intentions.

In attempting to identify the necessary components of this motor literacy, we were led to consider the motor development literature, specifically focusing on movement taxonomies which offer a comprehensive ‘list’ of the basic moves which serve as ‘building blocks’ for all other specialised movements (Gallahue 1982; Gallahue & Ozmun, 2002). In fact, such taxonomies have already been used as the basis for the design of new primary physical education (PE) programmes (Jess, Collins, & Burwitz, 2002). Providing for learning experiences in fundamental components such as

jumping, running, hopping and balance, offers young children the basic skills that they appear to need for successful early experiences and subsequent development in sport, be it at elite levels or just as health related physical activity. Accordingly, it seems that young athletes will require a basic 'movement vocabulary', which they can use as the basis for subsequent sport-specific development.

Once children have acquired these 'building blocks' they can then learn to combine these skills in order to build the coordinative structures required within different activities (Bernstein, 1967); for example, the ability to combine the movement of running, catching and throwing. Clearly, children would also need to be able to adapt these coordinative structures depending on the context in which they are performing. For example, catching a ball by trapping with two hands can be adapted to carrying out a successful movement in cricket which requires the body to be oriented to enable the ball to be caught with one hand and to adapt to variations in ball trajectory. A considerable literature supports this approach to motor development (e.g., Newell, 1985; Haywood & Getchell, 2001; Thelen, 1995).

Research evidence suggests that early diversification facilitates this ability to match 'coordinative structures' with specific situations (Baker, 2003) due to the existence of 'identical movement elements' between tasks (Schmidt & Wrisberg, 2000). To put it simply, involvement in a range of activities requires fine adjustment to be made to coordinative structures and therefore encourages adaptability. Such diversified activities, as well as facilitating the ability to transfer skills effectively from one task to another, may also facilitate adaptations required within a sport. For example, European golfers often find it hard to adapt to the very quick greens in America. Whilst UK golfers typically spend hours carrying out putting drills on UK greens, this does not develop their ability to adapt to different paced greens. American golfers typically have similar problems adapting to UK greens. Therefore, more diverse preparative activities (e.g., putting on different surfaces) are likely to facilitate this ability to adapt.

As well as the motor skills required to excel within a sport, a considerable literature attests to the superior perceptual cognitive skills (e.g., decision making skills) displayed by elite athletes. For example, consistent differences emerge between skilled and less skilled players on their anticipation and decision making skills (Williams & Davids, 1995). Differences are thought to be a reflection of their better knowledge developed as a result of practice and instruction, as opposed to any initial differences in visual skills such as acuity, colour vision or depth perception. Again, research suggests that, due to the existence of identical perceptual and conceptual elements between tasks (Schmidt & Wrisberg, 2000), diversification is likely to facilitate this learning process. Perceptual elements refer to environmental information that individuals interpret to make performance-related decisions. For instance, field hockey and soccer both require participants to interpret accurately the actions of their opponents. Conceptual elements refer to strategies, guidelines, and rules regarding performance. Gymnastics and diving share conceptual elements (e.g. similar rules), as do basketball and netball (e.g. similar strategies). Therefore, involvement in diversified activities at younger ages is likely to facilitate the development of 'identical conceptual and perceptual elements' and therefore, the ability of individuals to adapt their knowledge to different contexts.

The concept of promoting a 'generic understanding of team games' is not new. For several years, PE specialists have utilised attractive but relatively atheoretical methods such as 'Teaching Games for Understanding' (Bunker & Thorpe, 1982) in an attempt to build childrens' generic capacity to understand, and thus get involved in, team games. Such approaches implicitly acknowledge the role of knowledge structures as essential components of preparation for effective play. Recent research has highlighted the mechanisms through which this 'declarative' knowledge (cf. Anderson, 1983, 1993) can be developed (e.g., Rovegno, Nevett, Brock, & Babiartz, 2001) and the apparent generic benefits which accrue in a child's decision-making style. Once again, varied experiences offer the best medium to develop this declarative knowledge base, providing games players with the capacity to be more innovative and creative in their (eventually) selected sport.

An additional consideration supports our contention that broad-generic rather than narrow-specific preparative activities must predominate at younger ages. Research has shown that elite sports people have often transferred from another sport in their late adolescence (Moore et al., 1998). In short, many elites have started life as pre-elites in other areas. Following from our earlier arguments, it seems reasonable to suggest that they change, often because they become more suited to another sport as they mature. Thus, for example, three current British world-class 400M runners started life as junior internationals in BMX riding, gymnastics and trampolining – sports whose differences reflect the early physical profiles and experiences of the three individuals. Early specialisation that leads to the development of sport specific skills is likely to hamper this ability of individuals to make later transfers, and hence limit this important cross fertilisation of talent estimated as typifying over 44% of senior internationals in the UK (Moore et al., 1998). In this regard, in a recent study of expert decision makers from the sports of basketball, netball, and field hockey, Baker, Cote and Abernethy (2003) indicated that participation in other relevant activities (e.g., other sports where dynamic decision-making is necessary) during early phases of development augmented the physical and cognitive skills necessary in their primary sport. Stevenson (1990) also found that diversified early involvement did not disadvantage elite field hockey, rugby and water polo players.

2.1.1.4 Interactions between Psychomotor and Psycho-behavioural Elements

It is worth stressing that both early perceived success and subsequent effective development are essential for initiating and maintaining the levels of involvement necessary for eventual performance. Modern motivational research stresses the importance of perceived competence in an individual's decision to initiate and maintain an activity (Klint & Weiss, 1987; Whitehead & Corbin, 1997; Carroll & Loumidis, 2001). In the elite sport parallel, the intense levels of commitment eventually required by sport training make a certain level of security in one's ability all the more desirable as a protection against the inevitable setbacks which will occur. Consequently, both psychomotor and psycho-behavioural elements are important.

Psychomotor factors are crucial in the early stages, offering a basis for subsequent development but, perhaps more importantly, the successful experiences which serve to initiate participation in sport. It is true that, to date at any rate, research on the role of positive physical self-perceptions as a precursor of physical activity involvement has been equivocal (Fox, 2000). However, given the common acknowledgement of

self-efficacy as an essential feature of successful performance (and performers), it seems tenable that perceived ability may play a more consistently important role in determining uptake and maintenance of participation in sport. In short, without early success, any child will require special and additional encouragement to get involved in sport and physical activity. Additionally however, without the necessary basic skills, even enthusiastic involvement will offer little positive feedback and will be hard to maintain.

DPYPS: Acknowledging the role of psychomotor and psycho-behaviours in the physical development and performance of children

Instead of quantifying the existing set of attributes of an individual and viewing them as a basis for predicting children's subsequent sporting performance, the design of the DPYPS programme was based on the notion of facilitating a child towards their potential by promoting those skills that if absent may limit their development. Therefore, the DPYPS programme was designed to develop both psycho-behaviours and psychomotors. With regards to psycho-behaviours, children were taught strategies that have been shown to facilitate learning and performance across all sporting domains (and indeed beyond the sporting context, e.g., academia, acting, public speaking etc.). The behaviours promoted within DPYPS were:

- Goal Setting
- Imagery
- Realistic Performance Evaluation
- Self Awareness
- Focus and Distraction Control
- Planning
- Etc.

The psychomotor activities within DPYPS were designed initially to promote a basic moves vocabulary (e.g., the ability to catch) before encouraging the combining of basic moves into increasingly complex coordinative structures (e.g., the ability to run, catch and throw a ball). Subsequently, involvement in diversified activities aimed to encourage individuals to adapt coordinative structures to various conceptual and perceptual demands. By providing for learning experiences in fundamental components such as jumping, running, hopping and balance, it was hoped that DPYPS would offer young children the basic skills they need for successful early experiences and subsequent development in sport, be it at elite levels or as health related physical activity.

2.1.2 The Developmental Pathway. Different Emphases Necessary at Different Levels

As well as acknowledging that psycho-behaviours and psychomotor factors facilitate learning and performance, DPYPS also acknowledges the role of these variables for successfully negotiating pathways to excellence in sport. Multiple pathways to excellence can emerge within any sport. These pathways are typically complex, where athletes' requirements adjust as they progress through various stages of development (Tebbenham, 1998). For example, Bloom (1985) identified three key stages (initiation, development and mastery) that athletes pass through on the path to obtaining excellence. More recently, Cote (1999) formulated the 'stages of sport participation' model which looked at involvement in sport up to the age of 18 years. Although the stages of development are similar to Bloom and colleagues (1985), the stages were elicited specific to sport and "are anchored in the theoretical concepts of deliberate play and deliberate practice" (Cote, 1999, p.412). Cote named the three progressive stages the 'sampling', the 'specialising', and the 'investment' years:

"In general, the sampling years are characterized by a lower frequency of deliberate practice and a higher frequency of deliberate play; the specializing years are marked by more equal amounts of deliberate play and deliberate practice; and the investment years are characterized by a higher frequency of deliberate practice" (Cote, 1999, p. 413)

Cote also highlighted that there was likely to be a fourth stage of participation marked by the maintenance and perfection of skills. Kreiner-Phillips and Orlick (1992) have highlighted this distinction between 'getting there' (producing a world-class performance) and 'staying there' (consistently producing world class performances). Accordingly, Durand-Bush (2000) introduced a fourth stage that he called the 'maintenance years'. This stage emphasised the need for increased quality of training and avoidance of 'being copied by competitors' as well as the need for more expert and emotional support to deal with the additional pressures of elite competitive sport.

Although further research is required to establish the generality of these four stages of development, the important message is that unique favourable environmental conditions will exist and required support will differ as athletes progress through the various stages of development. Additionally, whilst athletes would appear to progress through at least four macro stages of development, the successful athlete will also encounter many micro and meso stages of development (e.g., coping with injury or a technique change) making development and the support required highly idiosyncratic (Ollis, 2002).

This awareness of the complex pathway to excellence that athletes must negotiate also highlights that performers must make several transitions in their careers in order to progress to the highest standards. For example, for an individual to make the transition to the mastery stage of development, research has highlighted the importance of increased technical coaching and financial support (Bloom, 1985). Therefore, the ability of an athlete to initiate and/or commit to these changes is key to his/her successful transition to the next stage of development. During the design of

DPYPS, it was considered important to incorporate activities to develop the factors likely to impact on this transition process and these factors are discussed below.

2.1.2.1 *Successful Transition from One Stage of Development to Another*

Irrespective of the performance dispositions displayed and the environmental opportunities afforded, an individual only displays true potential when they are able to transfer successfully from one stage of development to another in order eventually to achieve consistent performance at the world-class level. Research has shown that this ability to transfer successfully between stages of development is facilitated, and indeed characterised, by an individual developing and applying a range of psycho-behaviours. For example, psycho-behaviours (e.g., goal setting, imagery, self-talk) have been found to facilitate the ability to maintain focus whilst resisting the interference of distracting information (Moran, 1996). Previous research has also highlighted how psycho-behaviours (e.g., goal setting and imagery) can help an individual to progress through micro and meso stages of development (e.g., injury) (Ivleva & Orlick, 1991; Rose & Jevne, 1993).

Therefore, a key concept underpinning the design of DPYPS is that TID processes should place early and continual emphasis on the development and application of key psycho-behavioural strategies as not only will they facilitate learning and performance, they will also play a crucial role in facilitating the successful negotiation of developmental transitions (macro, meso and micro) (Ollis, 2002). Without this ability to negotiate successfully from one stage of development to the next, and to negotiate micro and meso transitions encountered within a development stage, an individual talent will at best remain a potential. Unfortunately however, TID models typically place minimal, if any, emphasis on psychological factors (Morris, 2000; Abbott & Collins, 2002). Of course we are not saying that psychological factors are the only consideration since the capacity that an individual has to make the transition to the next stage of development may also be facilitated or inhibited by their motor, perceptual and physical performance dispositions. For instance, an individual who has an inadequate ratio of fast to slow twitch fibres will find it extremely difficult successfully to make the transitions to become a world class sprinter.

2.2 'Consumer' Perceptions of the Philosophy

DPYPS: Acknowledging the need for athletes to make successful developmental transitions

DPYPS places considerable emphasis on the development of those psychological behaviours that have been shown not only to facilitate learning and development but also to facilitate the transition process from one stage of development to the next (e.g., goal setting, imagery, self-awareness). Initially, DPYPS provides activities at Level One which promote psycho-behaviours that can be transferred to any physical (and indeed non-physical) setting. This generic application encourages the children to adapt the psychological skills that they have acquired to various sporting and non sporting activities and is in keeping with the notion that an elite athlete must be able to make crucial adaptations within their sport (e.g., US and UK golfers). Further, as many elite athletes appear to excel in a sport other than the one they initially specialised in, DPYPS recognises that the ideal application of skills will vary from one sporting context to the next and the ability to adapt to meet the demands of differing contexts is a crucial one.

Therefore, coaches involved in sport specific development within the pilot clusters were provided with information regarding the generic psychomotors and psycho-behaviours that were being developed through the school environment. These sport specific coaches were also provided with training and resources to enable them to facilitate an athlete's ability to adapt the psycho-behaviours to meet the demands of their sport.

2.2.1 Overview of the Data Collection

Procedure

The interviews were conducted by the research team. Interviews lasted between 40 and 90 minutes (depending on depth of involvement with the programme), and all the interviews were completed within a one month period. No data were collected prior to establishing rapport and trust with the interviewees. This was accomplished by being candid with the interviewees and reassuring them that the purpose of the interview was not to evaluate their performance, but to gain an understanding of their perceptions of the DPYPS programme and how it could be improved. The interviews, which were semi-structured, were tape-recorded and transcribed verbatim.

The numbers of participants interviewed from each category are summarised in Table 2.1.

Participant's Role	Number of Individuals Interviewed from:		
	North Ayrshire Cluster	Bannockburn Cluster, Stirling	Balfron Cluster, Stirling
Teachers	5	5	6
Coaches	6	13	0
Seconded Teachers	1	1	0
Active Primary School Coordinators	0	1	0
P.E. Specialists	1	1	0
School Sports Co-ordinator	1	0	0
Local Authorities	1	1	0

Table 2.1: Breakdown of Participants Interviewed/Surveyed

Data Analysis

Following the transcription of the interviews, the raw data for the three pilot clusters were arranged in text units, and were then analysed using qualitative inductive methods based on open codes, emerging themes, and emerging categories (Miles & Huberman, 1994). The emerging codes were then arranged into themes that were based on the converging responses of a number of participants to minimise the effects of personality and other individual differences, thus leading to the identification of common patterns.

Presentation of the Data

For clarity, when key messages have consistently emerged, these messages are presented then supplemented by data-based support and discussion. When feedback data is more mixed, presentation style is adjusted to reflect this. The first two sections reflect data collected from two participants for each category. Accordingly, quotes are not ascribed! Other sections reflect data from a larger number of participants, and therefore quotes are contextualised by anonymised labelling.

2.2.2 Local Authorities

The DPYPS Philosophy is Sound

Participants have extremely consistent and positive perceptions about the underpinning philosophy of the programme. To the representatives questioned, DPYPS makes sense, represents effective practice, and provides an educational and inclusive basis for children's physical development. The Local Authorities feel that the explicit development of the physical and mental factors presented in DPYPS provides crucial aspects of effectively targeting children's development and the promotion of lifelong participation in sport and activity.

The idea for me about looking at broad-based development, getting kids involved, covering good attitudes and values associated with participation is both fundamental to me educationally and from a sporting sense and coaching sense.

The one thing that was interesting about the programme was that it's developing the attitudinal aspects which is fundamentally different from some of the programmes that have potentially been available in the past and I think, for me, observing what's happening in schools and education, the whole idea of developing attitudes and a positive sense to learning and towards participation are really key to making progress. And I don't think that's a physical activity or sport related idea or ideal. I think that's what we really need to be working on.

When you think of other things that kids will encounter in their day-to-day life within school. I've limited it to that, you know, passing exams, you know? The psycho-behaviour, attitudinal changes, skills you give as well. It's not changing behaviour on its own. It's actually the skills to change the behaviour you're giving them as well. Kids who are into music, kids who are into art, all aspects. It's a general educational tool. What's really good about it is it's focused on physical activity, which a lot of kids like.

The Local Authorities felt that these key factors were not just innate characteristics of some children but can be taught and learned by all youngsters. Through this physical and mental development, children are empowered to make more choices about participation, physical activity and sport. However, without the explicit promotion of such skills children's development is left to chance. Participants felt that the philosophy underpinning DPYPS provides an explicit and systematic focus on inclusion, ongoing opportunities and the development within these key areas, something that is missing from much of our current practice.

Everyone can get better. Everybody can become more competent, which is important. People will participate in physical activity when they're confident in their own ability to do so. I think people develop at different times, different speeds and I think, lastly, basic skills and attitudes can be learned and have an impact on development and on participation. So, for me, that was my view of the underpinning philosophy and that's why we wanted to be involved in a research project, which was looking at an educationally sound programme.

The idea of an educational philosophy of learning to learn and being motivated to learn and if we don't actually do explicit activities that will encourage or develop that, then it's left to chance. So it's the same issue. I think the lifelong participation in physical activity is pretty much consistent with lifelong learning in terms of it's an attitudinal thing. If you're not predisposed by some influences to be like that, then how are you going to do it? You're not going to do it. And we've got to work at that. I think another issue for me is also the self esteem and confidence bit that kind of underpins that idea of self determination

because that's a major issue in schools because if people think they've no control of what they're doing, then that's ... it's a freedom in terms of your expression and potential because it does not matter what you did at school then. That's a personal development issue but it's a crucial one both in sport and in school performance and education.

The fact is that, you know, I'm an educationalist, I'm a physical educationalist and this is educationally sound. This includes everybody and it's about providing good quality experience to young people.

The Local Authorities appeared very comfortable with the philosophy. In their view, it provides a sound, educational, theoretical and empirically based way forward for talent development and physical activity promotion.

I'm very comfortable with the philosophy. And I'm not going to sit here and try and think something up. I don't have any problem with the philosophy. The philosophy is sound.

The Philosophy of Current practice – Where Are We?

The Local Authorities felt that current practice had shifted out of line with the philosophy required for optimum educational impact. This had occurred over time from a lack of understanding about what is required, through external influences and the need for many schools to take any sports opportunities that were presented, such as utilising development officers in primary schools.

I think that there has potentially been a shift in how things have gone over the last 15, 20 years from what was kind of general movement skills, activity based in physical education, to sport development, the swing of things in terms of emphasis and I think that's perhaps not been the best way to do it. People have taken up not necessarily explicitly but just influence. You know, if I give you an example of a primary class teacher, they're influenced by the media and others and there's this idea that because of maybe reduction in extra curricular activity had a big impact on sport development and the number of kids participating in physical activity and sport. So the response was to have more sport.

So in some ways what we are looking for is somebody to come along with that effective curriculum, right? This is a model that works.

More sport development and sport development officers working in schools and therefore their philosophy was adapted from that. So people think, well the answer is there's less activity, so we'll give more activity and sport was the bit that filled the gap. But they didn't have that underpinning basic movement skill so kids would maybe be taught sports as such rather than basic movements.

The Local Authorities felt that, as a general rule, the physical experiences of children throughout their school life are too sport specific from too early a stage. Current

practice was seen as lacking the required focus on the fundamental skills needed for children to make progress, enjoy being active and be motivated to make the choice to participate more.

We're very sport specific focused. There isn't that generic development. And we will do the sport specific stuff a bit too early as well I think.

Participants also recognised that currently there is no explicit or systematic promotion of the mental aspects of development, and little attempt has been made to change the thinking of people involved. Mental and attitudinal development was seen as a crucial 'partner' to the promotion of fundamental skills in order to gain maximum value in our attempts to promote physical activity and talent development.

I think that's probably one of the most important things to come out of this. These two things (physical and mental skills) need to happen together to get maximum effect.

I think where it's at just now there needs to be a bit of, I suppose, development with regard to the whole sport development. I suppose national governing body philosophies are about what they're at and what they're trying to do. These elements of philosophy are not addressed at all in any coach education programmes that exist in national governing bodies, and that's what people align their thoughts to. So we're in a cycle at present where people repeat their previous experience. So if I was involved with football or whatever as a participant, my experience is then replicated by my presentation of what I experienced in a way to a new generation. There has not been a change in any kind of intervention to make that thinking different.

The Local Authorities believed that NGBs have responded to the decline in children participating in sport by targeting children earlier and earlier in order to 'beat the competition' and secure the most talented children into their sport. Unfortunately, this put many children off their sport (and sport altogether!) because many feel they are not good enough, either because they are not selected or because they find the sports specific nature of the activity too difficult. If all sports and physical education could provide a quality and fundamental experience to youngsters then, more children would be at a higher general level of ability and it is highly likely that more would participate. Specific sports would then be competing for a broader base of more competent children at a later stage in development and would need to provide good sporting experiences in order to 'win' the choice of children.

The idea for me about looking at broad-based development, getting kids involved, covering good attitudes and values associated with participation is both fundamental to me educationally and from a sporting sense and coaching sense because at a young age, you know, in my view, no matter what sport, and I can choose any sport to align myself with the bottom line would be that they're trying to decide which sport that they're going to align themselves with, depending on their experience. So the challenge is for all sports to work like this and

to create really good and positive experiences for the kids because that's where you capture them - not by exclusively impacting on them because you're the only sport that's doing it. So my view would be all sports need to do that. Kids then make their own choices about what they want to do, depending on all these different factors rather than to be ... because I think the national governing body philosophy at the present moment is ... well, let's get into schools, let's capture kids as early as possible so that we secure them for our sport.

We have tried everything else – BUT it has not worked!!!!

Participants highlighted the fact that many initiatives and support packages have been developed and utilised within their areas. However, because these initiatives do not aim to change people's fundamental attitudes and understanding about what is required, they simply have not worked. Furthermore, many do not explicitly aim to change children's attitudes to participation and sport either. Although, it is a hard process, changing attitudes was seen as the only way through which permanent change and development will occur. DPYPS provides a philosophy and mechanism by which providers and children's attitudes and experiences can be changed.

That's the hardest, you know we've had support packages, but that's no way to change things. We've had them. We've been through them all. We've got piles of them and it doesn't change anything. It's about changing people and getting people thinking in a different way and it's hard but it's worth it because it's the only way that's going to make a difference. I think people are starting to align themselves better with these kind of ... or the times are becoming a bit more ripe for change in terms of attitudes because we know that the current models are not working, both at national sport level and physical activity participation levels. The numbers are dropping, you know, it's not getting much better. Giving them more opportunity isn't the answer. You've got to change their attitudes to participating in that opportunity and that's really hard. It's really hard. But if we don't do it, nothing's going to change.

Responses reflected an awareness that attempting to change people's attitudes takes a long time. Explicit and systematic attempts to target such issues need to be given time and money to ensure that momentum is maintained and progress can be made. Long-term investment is crucial.

I think we've got a long way to go. I don't think there's any doubt about that. I think, you know, it's just chipping slowly but being consistent. I think that's always the model that's worked for me, you know, revolutions don't happen overnight. Or if they did ... do happen, they don't become very stable. I think it takes time and it takes a bit of energy and it takes a bit of continued momentum to keep it going because it's easy to get dispirited and just sometimes it doesn't work and problems happen and personalities come in and they don't really apply the philosophy in the way you want and it takes time. So you've just got to keep working at it. There's no short term quick fix solution to this. It just takes time and sometimes time is not what you have because you've got deadlines on

*programmes, you know. **sportscotland** is quite time limited. You're not going to have a big impact over that amount of time. So it needs to be clearly understood that it will take time. You're changing a whole values and attitudes system and that's really hard.*

Participants clearly felt the need to change many current approaches to support and training. Providing an understanding of the philosophy around what schemes are trying to achieve was seen as crucial. In tandem, participants' comments reflected the need to help develop people as teachers and coaches, to provide mechanisms for development, and to move away from solely content focused interventions as they often only provide superficial and short-term help. This approach takes time and is more challenging, however the rewards for teachers and children were highlighted as more worthwhile.

We tend to focus very much on the content. We should actually give people mechanisms and understanding so that when they see something going wrong they know it's wrong and they have a sort of ...an ear ... and a memory bank of 'OK ... that happened before and the practice I did was this or the piece of information I gave the kid was that'. Now that's a huge ... a huge job for primary teachers to get to that level.

It's different. It examines the philosophy behind it, and that's important. Without scaring people off you've got to do that. But it examines the philosophy and it looks at how to use these resources, how to become a better teacher, how to become a more effective teacher. That's better than ... it's better than TOPS training.

So the philosophy. Absolutely no arguments, right? You give somebody a basic movement vocabulary. Now, I think even PE teachers need to examine the way they deliver physical education, the way they teach, because we do tend to solely be about skills. And we're not very good at teaching the game, and we're also not very good at teaching kids to make decisions within games.

Coherent Development of the Philosophy is Required to Maximise Developments

Participants felt that, during the short programme life of DPYPS, no practical effect had been made on coherence with other initiatives. However, explicitly providing an underpinning philosophy coherently through a number of initiatives was seen as crucial. If this step was successfully taken, an effective and consistent experience, support and reinforcement would be provided to those children and providers involved. Additionally, the more widespread the use of such a philosophy the more people will be working in the same direction and a larger variety of children will be included.

There needs to be a change. If we agree that the philosophy is sound and it will lead to improved performance and improved numbers of performers, through perceived confidence etc. etc. there's an education job to be done.

Integration with the bigger picture. I think that's a job to be done. But it's a worthwhile job. We've just published our own local authority strategy for physical activity, sport and health. Now, we don't specifically mention DPYPS, right? And we don't specifically talk about the dual focus of learning, you know, attitudes and learning the physical competence but it sits pretty well with what we're trying to achieve and I can see a strong place for it to be included in teacher education, coach education, right? You know, I'm sitting just jotting down some ideas this morning, you know, they're not just for leisure coaches. They're for very sports specific guys.

They're all elements to it but fundamentally within these, it goes back to that philosophy, well what should the philosophy for PE be? What should it be for participation? I think this [DPYPS] is a good model to give because I don't think there is an explicit one that's been stated.

You take the other things and you put them through the sieve. Now that I can go with that because here's a quality control, that's worthwhile sharing with a wider audience.

2.2.3 Seconded Teachers

The DPYPS Philosophy is Sound

The seconded teachers involved with the DPYPS project both felt that the philosophy was sound and that the two key features of the programme were crucial to the development of young people and could break down some large barriers to participation.

If you've got the basic skills to participate, then you can participate, you know, you'll have the confidence to actually take part and try things. Whereas if you don't have the basic skills, you have that immediate block to participation and if you don't participate, you're never going to improve attainment or improve performance levels.

I think it's quite an exciting new approach. Certainly, it looks at key elements that haven't really been addressed in the past, the psycho-behavioural elements and I think these are very, very important if we're looking to develop young people.

Positive learning experiences in physical education were identified as crucial in tackling our nation's problem of ill health and lack of physically active people. Accordingly, the philosophy underpinning the DPYPS programme was seen as a positive step, but only a start, in a crucial direction.

I don't think there is much more of an important issue than the health of our nation at the moment. I think it's pivotal, you know. It's crucial to me that children are given positive learning experiences at a young age with regards to physical education. And through that, you will encourage, you will raise confidence, you will raise competence, you'll give them the skills and the tools to be able to go on and be better or even take part in

activity. And it's just so important to me that we do something and I think this programme has really helped. I think it's really helped in certain cases and this is a ten week ... it's been a ten week programme but it needs so much more, you know, and what you're going to achieve in ten weeks is absolutely minimal in comparison with what needs to happen. But it's a start.

Both seconded teachers perceived the DPYPS philosophy as well supported by the opinions of teachers, coaches and specialists who have been involved throughout the programme. Furthermore, the volume of research which drives the concepts, was seen as important, and something that is missing from many other programmes and initiatives.

I think key for me is that it is research-driven as well, you know, it's based on research which so many things aren't. And one of the things we have to look at is the responses from the people who have undergone any sort of training of the programme, so you discuss these things with head teachers and they very much see a need for it and a use for DPYPS. You speak to the teachers who were involved, they also can see it; the coaches, the PE specialists. Right the way through, the philosophy seems to hit home and be something that they're very keen on.

I see the underpinning philosophy to be in equipping young people with physical skills and mental abilities to maximise their potential in sport ... I think the philosophy is completely sound and more than stands up to any sort of scrutiny. It has a great deal of research behind it.

One of the main features is that it's inclusive and very much non-elitist. Based on current research, it addresses not just physical competence but it also develops some of the psychological characteristics which are very much key to performance and participation physically.

The seconded teachers believed that DPYPS, if utilised correctly, could provide an extremely positive learning experience to every child involved, building confidence, competence and choice.

I think one of the most important things about kids is to give them very early a positive learning experience. Just give them learning experiences that are very positive and they get a reward for them in themselves. And I think DPYPS is a way of doing that. If it's taught well and is presented correctly, following the philosophies, I think you can get some fantastic learning experiences for the kids and therefore that encourages and develops confidence. And if you look at it the important thing as well is developing not only their basic movement skills but developing their psychological skills, if you want to put it that way. Have they got the capacity to improve? Have they got capacity to say, alright my friends aren't going along to that club, but I'm going to go along because I like what I do, you know. I think that's an important thing about DPYPS as well.

The consistent perception was that the structure within the philosophy was crucial in developing every child's potential, regardless of performance standard. The explicit guidelines thus provided to teachers and coaches about what are the most important aspects of development were also important.

I think even getting a structure, a tighter structure for what we're doing. What's your overall objective? I would say the overall objective of DPYPS is to let pupils or let children maximise their potential in sport, in any kind of sporting activity. And that's what you're trying to do. So therefore when they come to maximising their potential, you'll have the elite who are better and you'll have the basic level who are, again, at a higher level but also keen and enthusiastic to take part. So therefore if you're then looking at governing bodies later on, looking at selection, you've got higher levels to select from, and you've also got different pupils who are aware of the characteristics that it requires to be a good sports person or to get involved and have these ingrained in them already.

I think it's very important and good coaches will take a holistic approach. I think a good coach will consider the whole development of the child, so that they'll not only be focusing on working in a specific area or a specific sport; they'll be also looking at how good are their movement skills? Are they good enough? Are they going to progress in that area? What's their mental approach? How do they work with others? What are their interpersonal skills? So a good coach will probably take all that into consideration. Whereas somebody who's maybe not as effective will certainly concentrate on just how good are you at playing tennis or how good are you at rugby. And I think it's important for the coach to embrace the whole package, very much like most teachers, in the whole, would.

These participants felt that a good understanding of the philosophy allowed teachers and coaches to be flexible with the content of what they teach, allowing them to adapt to the youngsters that they have. Unfortunately, they saw fellow professionals as often confined to teaching a curriculum or set of lessons regardless of their appropriateness to the children and with little or no guidance on what the key emphasis should be through their teaching methodology and content. As such, the clear philosophy and its articulation to method was a positive feature.

Well, I could go to the library and pick up a package and teach a series of lessons and what have you. The main thing for this is that it's important that the teachers know what they're trying to achieve and what the programme's trying to achieve in that they can then adapt, they can use their strengths, they can use their own teaching methodologies, they can really be flexible with it. They can choose where they're going to put it in the curriculum and that's the importance. If they've got an understanding of the philosophies, then they can be incredibly flexible in how they use it. And that's the important thing to me, as well as following the philosophies and understanding them. Whereas TOPS or other packages are, there you go, there's a programme of lessons, go and teach them.

Many involved in DPYPS have reported back to the seconded teachers asking why it has taken so long for someone to implement this kind of philosophy in schools and sports clubs.

Just generally, everybody that's come across the project has wondered why it's taken so long for somebody actually to implement this philosophy because everybody thinks it makes sense and it's worthwhile to do.

As an important qualification on the programme, one participant expressed a need for it to be kept in perspective, and a tight rein kept on its aims and objectives. Its remit is within sport development with some obvious cross-over to physical activity promotion. However claims for its use across the curriculum should not be incorporated as outcomes, just as a nice addition if they occur.

I think that the programme in itself is educational and I think that the resources are useful in other aspects of the curriculum but I think we should be careful in getting lost down the route of what else can be developed to the curriculum. I think we need to be very, very cautious and very careful on that and our focus should be developing sporting ability and I think therefore it may need to be more explicit of this objective, you know, and the contributions that these mental skills can make to improving sporting performance maybe needs to be clearer. Clearer for teachers. Anything else is an absolute bonus and we know the implications it has on other aspects of the curriculum. We know the benefits we can have. However, we've just got to be very careful about going down that path or it works on everything and it's the be all and end all of everything. Because let's think of our objectives here. Our objectives of the programme is to develop sporting ... improve sporting performance. Nail down what we're going for and anything else is a bonus.

Current Practice – Where Are We?

The seconded teachers noted that the vast majority of current PE and associated programmes are sport specific. The children often aren't good enough to cope and it can lead to negative experiences for many, leading to poor participation and development. The basics need to be taught and revisited even for those who are good or older. The earlier these skills can be introduced and the earlier we can enthuse the kids about physical activity the better.

The education system operates in a block system where specific physical activities are taught, therefore sport specific skills and practices are the focus and this includes TOPS. Often, children do not possess the movement competence to produce these sometimes very complex sport specific skills. Furthermore, quite often, pupils are taught to play just the game without the prerequisite skill development taking place first and this can lead to very negative experiences for a lot of kids. If pupils do not have the perceived or actual skill to take part in the activity, it provides a significant barrier to participation and without participation, you don't get attainment and you get problems.

I think that there's huge problems with teaching it in the system the way we do teach at the moment and, again, it comes down to individual teachers but teaching a block some way we've got sport specific. For example, volleyball. Quite often, we're trying to teach kids to dig and to volley the ball and they simply can't move to the ball in the first place, you know, they haven't got the movement competency, so we try to almost teach B without teaching A first. And we expect a lot of kids to just develop naturally their running or jumping or throwing and catching skills. But when you actually look at them, they don't have them and that therefore leads to they don't like volleyball, 'I can't do volleyball'. You get the sort of vicious circle then of non participation and that's a thing and then if you're looking for overall attainment, you don't have it. You can't get it if you're not getting participation.

I think there's certainly a requirement for a drastic improvement in basic movement skills and you can see this in secondary schools. I think we very much try to teach sport specific skills to pupils who simply aren't at a level they can cope with them.

While the seconded teachers felt that some teachers would touch on the mental and attitudinal aspects of development, they would not necessarily do so in an explicit way. Indeed, they suggested that children tend to chance upon good physical experiences and it would depend on who your teacher was or whether your school happened to have a specialist. DPYPS is a method of making these kinds of positive experiences more systematic and explicit.

They would touch on them and that's a thing a good teacher or a good coach would probably bring many of these aspects up. For instance, goal setting. You would do goal setting on a daily basis within a school. However, how much you actually sit down and teach a child to goal set or mentally image or use focus and distraction control is ... I don't think it happens a great deal.

I think it was very patchy before. It's difficult to say how much their needs were catered for before. I think it varies from school to school, from class to class how much ... on the teacher's ability, the teacher's interest, the input of PE specialists. There's huge gaps within that and therefore, you know, you can't condemn all of it because there's some excellent stuff going on. But it is very patchy and the tighter we can get it, the better.

The seconded teachers noted that NGBs did cover a lot of gaps in primary schools, but there is a need to be careful because if they are too sport specific or utilise early selection procedures it may put a lot of kids off. Both stressed a need for a philosophy that encourages children to be involved for as long as possible. Accordingly, they suggested, NGBs need to align their philosophy with this and realise that producing more children of better all-round ability at early stages will benefit them as well.

The governing bodies are doing a lot of work in primary schools at the moment and they're really covering a gap in PE, in that there's so limited

amount of PE at times in some primary schools that it's ideal for governing bodies just to say ... right, we'll come in and do a class, we can work with the class or work with the school on a programme. But we need to be very careful about how sport specific they actually are on those sessions. Because as well as enthusing a few kids, you know, they might equally turn others off by being too sport specific and teaching skills that are essentially too difficult when they've not got the basic movement. So if you can get at these taster sessions which involve a lot of movement skills, alright you can say it's rugby but it's still teaching a lot of movement skills, then you're kind of working on the two and then being very, very wary about who you're selecting, if you select at all. You know, your model should be as many as possible participating for as long as possible.

If the DPYPS produces kids who have got a much higher level of competence, both perceived and actual levels of competence, at movement skills, you're going to start the kids off at a higher level when you come in to do sport specific. And you'll maybe have them more confident at trying new sports and therefore it helps and underpins what they're doing and then also you can sort of push that on to an even higher level, so you've got the likes of your transitions programme. But you need to have awareness in the governing bodies of what's going on and what the schools do and what DPYPS is all about and maybe a slight change in philosophy behind some of the governing bodies.

Coherent Development of the Philosophy is Required to Maximise Developments

The seconded teachers emphasised that the philosophy underpinning the DPYPS programme could beneficially provide a coherent drive to many of the initiatives currently running. This would mean that a wide range of deliverers would be pushing in the same direction providing consistent ongoing experiences to children through many different initiatives.

If you look at some of the things that the Council do, you've got the TOPS curriculum, TOPS community, active primary school co-ordinators, school sports co-ordinators, you've got visiting PE specialists, sports development children's services and what we try to do is we try to work in joint teams or teams of working, you know. So we're trying to get integration and as I've mentioned before, it can link a lot of these things together so that if you've got your active primary school co-ordinators aware of the programme and pushing DPYPS as well, that can go into your TOPS community, your TOPS curriculum. It can then be supported by your visiting PE specialist. It can then be, if your sports development officers are aware of what's going on, they can also support it and try to push the same philosophies, your children's services and then into your secondary schools. So it can link a lot of different services.

DPYPS can work as very much a part of an integrated approach within the authority and it underpins what I think the authority is very much trying to do, philosophies behind it that it's inclusive, that it requires a team

approach and support from other agencies. It's not just something that should stand on its own but I think it's something that does require a team approach from all different agencies and different levels.

It's quite difficult to argue with the philosophy of DPYPS. I think when you try and pick faults with it, it's difficult to find the real faults in the philosophy. I think it could very much provide a switch of emphasis, you know, a switch of emphasis and a sort of knitting together a lot of things rather than a total re-think. It's not so much a total re-think. It's just a switching of emphasis and maybe just knitting things together and that's where I think DPYPS could come in and really play an important part.

Finally, the seconded teachers noted that although the philosophy is seen as something that could tie together many initiatives and provide coherent aims, content and methodology, in the short time span DPYPS has been running it has yet to impact on the big picture.

I think it had a damn good try at it but unfortunately in 'AREA', I don't think it did. But it's the same problem that our sports co-ordinator's are having. It's the volunteers that run these things. It's trying to get these volunteers in the first place and then trying to coordinate them between each other. Again, it's not as far as I'm aware, it's not a DPYPS programme issue. It's a local issue.

2.2.4 Teachers

The first questions related to teachers' understanding of the philosophy of DPYPS. All of the primary school teachers showed an awareness of the importance of developing generic basic skills if children are to be competent, and perceive themselves as competent, within the physical setting. The belief by teachers that there is a need to provide children with opportunities to develop these basic skills is articulated by the following quotes.

I think the skills [being taught within DPYPS] are transferable across a range of different areas of the sport curriculum. Running for example, you're teaching the basics of how to run properly which can transfer across to basketball or can transfer to football or can transfer to athletics, whatever. So yes, I think it is fully transferable and that's where I think it's good. You're not doing a block on basketball, and leading up to playing the final game of basketball; you're doing a block which may start with you doing running and then you introduce ball skills, etc. But they can all be transferred across to other areas. (Primary school teacher from the Bannockburn cluster)

I see the aim of DPYPS to be to get the children involved and improving their skills and then being able to transfer the skills to games situations ... so over-arm throwing that kind of movement. Practising that and then applying that to a particular sport and saying 'okay, what other sports ... where else do you use that?', so they are not just practising games situations and carrying the weaknesses

through lots of things. (Primary school teacher from the North Ayrshire cluster)

It takes the children back to their basic skills. We all assume by the upper stages of primary school that the children have these basic skills but unfortunately they don't. So it takes them back, reinforces them and then extends them ... those skills. (Primary school teacher from the Bannockburn cluster)

With the particular kids that we have, a lot of them have poor motor skills which, for the age they are, should be further developed but it's going back, delivering the lesson and then looking at what exactly needs to be fine tuned here and then homing in on that and further developing it. And also pointing out to them that if they're going to do football, it doesn't mean going into a hall and splitting into two teams and kicking a ball about. You have to actually do the stuff beforehand, before you can actually progress with the game. (Primary school teacher from the Bannockburn cluster)

Additionally, all of the teachers recognised how psychological factors can facilitate or impede the physical development of children:

I think the main aim of the [DPYPS] programme is to give them self confidence and be self aware and be able to help themselves develop their skills and have a confidence to do it rather than just a gym project. (Primary school teacher from the North Ayrshire cluster)

I see the aim of it [the psycho-behavioural programme] is to help children realise that everybody has their own standards and goals and that everybody can achieve their own level of success ... so that everybody can do it at their own level and that's what we felt was happening. (Primary school teacher from the Balfron cluster)

Therefore, the interview data suggests that all teachers had developed a good understanding of both the role of the psychomotor and psycho-behavioural programme within DPYPS. As a result, teachers reported being very comfortable with the underpinning philosophy of DPYPS and appeared to be enthused by what the programme was trying to achieve.

I think the philosophy's great. I'm all for it. (Primary school teacher from the Balfron cluster)

I was very, very pleased with the philosophy of the programme. (Primary school teacher from the Balfron cluster)

I think it's good to bring it [the psycho-behavioural curriculum] in with the PE because obviously this is the area you want them to develop at this stage so I would say it's all positive. (Primary school teacher from the North Ayrshire cluster)

I really liked them [the aims of the DPYPS programme]. I thought they were fantastic. It was such an easy way of teaching a PE lesson ... it was brilliant. It took the focus away from the individual sports which can put a lot of people off sport. (Primary school teacher from the Balfron cluster)

I can't see why you would have any misgivings about that philosophy. I think it makes sense. (Primary school teacher from the Bannockburn cluster)

Most definitely the programme has a good philosophy. (Primary school teacher from the North Ayrshire cluster)

*I think it's [the philosophy of DPYPS is] very laudable. I think **sports**scotland, if they cut the funding, are very short sighted. I think it has to be a long term programme. We're not talking short term solutions here. We've got 100 years of ... more than 100 years of problems to sort. (Primary school teacher from the Bannockburn cluster)*

I think what it's [the psycho-behavioural curriculum is] trying to teach is really, really good and I like it's philosophy and what's behind it. (Primary school teacher from the Balfron cluster)

I liked that idea of them being really honed in the basic skills before they applied them. (Primary school teacher from the Bannockburn cluster)

I believe in the philosophy. I think it's a good philosophy and the idea of giving children a good foundation, a good grounding in something before you take them on ... which also comes into other areas, you know, you wouldn't do fractions before children could do tables for example. So I think it makes sense. Just basically it's common sense. (Primary school teacher from the Bannockburn cluster)

Participants were also asked to reflect on how they thought the philosophy of the DPYPS programme fitted in with their philosophy as a teacher. All respondents responded positively.

I think it's [DPYPS is] basically the same as my philosophy as a teacher. I think we try and design things to suit the individuals involved in it. In Maths and Language, we differentiate their different abilities and I think this is going along the same lines. (Primary school teacher from the Balfron cluster)

...the question of does it back my own philosophy of teaching ... no question of that. In fact, we were very pleased when we heard about DPYPS and what it was aiming to do with the psychological stuff ... it sounded great. Doing it through PE is grand because obviously,

other skills were coming in. (Primary school teacher from the Balfron cluster)

I think it [the philosophy of DPYPS] enhances my philosophy as a teacher. Certainly it makes the children ... or should make the children ... think more about themselves as learners and it should, in the long-term have mainly beneficial effects. (Primary school teacher from the Bannockburn cluster)

Finally, all teachers were in consensus regarding the potential of the DPYPS programme positively impacting beyond the PE curriculum.

There are wider applications of the psycho-behavioural programme other than sport very much so. I think it goes across the curriculum totally and I've used it in other areas, and the idea of it in other areas. (Primary school teacher from the Balfron cluster)

The psycho-behavioural curriculum has wider applications [than sport] in school, in everything. I think it's all to do with self belief and self esteem and things like that and if children have got low self esteem, then it affects them right across every area. It affects your behaviour, so it affects your academic achievements. So I think it affects everything really. (Primary school teacher from the Bannockburn cluster)

I think DPYPS has wider applications than sport. Team building, working together at problems in any sort of topic. I think that comes into it and the kids, once they got started, were working really well together and I think if they can do it at PE, you know, it can lead on to everything really. (Primary school teacher from the Balfron cluster)

I think that [the psycho-behavioural curriculum] it would be very beneficial [to the school ethos as a whole] and I think that you would start off with PE and then try and break into other areas of the curriculum. You could start doing some of the paper exercises and link them to different areas (Primary school teacher from the North Ayrshire cluster)

2.2.5 Sport Specialists: Coaches, Active Primary & School Sport Coordinators and PE Specialists

The DPYPS Philosophy is Sound

A wide range of deliverers were interviewed regarding the DPYPS programme including coaches, secondary school PE teachers, PE specialists, School Sports Coordinators, and Active Primary School Coordinators. The perceptions of the philosophy of the programme were very consistent and positive across this diverse representation. DPYPS was regarded as common sense and a sound way forward, helping to develop all children in a much-needed holistic way, incorporating both the

fundamental physical and mental skills that are so important for success in sport, physical activity and life.

Well I think the rationale behind it all is really very sound. When you're reading the manual, it almost reads as being logical, common sense if you like, but it's really good, I like the way that the movement and the behavioural bit are tied together. And I think that is something again that seems obvious but the fact that it's there in front of us, you know, I don't think, I've never seen anything like that presented in that way before.

And obviously I feel the teachers have got to make the time because, it's not just about PE, it's about all other areas. DPYPS is about life. But then I'm not a class teacher, and that's the other thing you have to guard against, that you know we tend to see our bit as just the bit and how important it is but I mean the class teacher has to juggle twenty different balls.

Giving You a Structure of What is Most Important for the Kids

The aspects of inclusion and holistic development within the philosophy were highlighted as important by many of the deliverers due to first hand experience of young children being written off too early affecting both sport development and active lifestyle promotion.

I think the good thing is every child has an opportunity to participate in it. You can get them more active, they can have fun, you're not just looking at performance-related criteria, you're looking at the whole person. So it's more holistic and I think that's good. Not just assessing how tall people are and making up your basketball team. So nobody's written off and I think that's important because in the Scottish Badminton Union, for example, what happens is people are put into squads and they're written off too early.

Another interesting story I heard was, just to back up your philosophy of the DPYPS, which I think is good, is of a wee boy of six who couldn't get into the local swimming club because the coach said "How many strokes can he swim?" He can only swim one. He said "Oh no, you need to be able to swim at least three." And he's six years old! So he was not allowed to get in at all! So another coach said "Look, let him come to me." And that boy is now in S1 here and he swims in the Scottish team because he had other factors: he was highly motivated; he loved the sport; and he did the training and he stuck to it. And I think that philosophy is really good because, far too often, we write children off. So, therefore, in my classes the philosophy of the DPYPS is there for me because you can never tell when you start your gymnastics block, it's the improvement that they can get and, being able to just say "Just do your best." I think that's good.

The deliverers felt that the philosophy was the way forward for sport and lifelong physical activity participation, however it was emphasised that the philosophy needs

to be developed as a long term, coherent and consistent experience for children with a good team of deliverers supporting and driving it in practice.

And children need continuity. They need to know what's happening. But I think if you get all these factors, if you get all the factors and you address them and you have a great team, I think it would be a wonderful thing. It's a wonderful philosophy. And it does work.

Not everybody wants to have a career in sport, or wants to do sport as we recognise the term sport. But I think that what is important is that children will have confidence in themselves and the movements so that when they decide to go to boxercise or whatever that they actually know, I can do this, I have got the basics, the fundamentals in place that will allow me to go there or there or there or there.

The psycho-behavioural aspect of the programme was warmly welcomed by all of the deliverers and was highlighted as a crucial part of a child's development. It was acknowledged that systematic and explicit education of deliverers within their own Continued Professional Development as teachers or coaches was essential and would provide the foundations for a more consistent and appropriate experience for children across the board.

I think it's very important for children, at an early age, to understand the mental aspect of what they're trying to achieve in an activity and how, not only to know, but how to develop it because a lot of children get worried if they're injured. So, if they had other skills and they trusted the person who was telling them "You can do this." I would never underestimate the psycho-behavioural, the mental aspect for learning anything. I think it's important because it's a motivator as well and I think if they can deal with things like losing and winning and if it's in perspective and, it's not like a death if a child loses but I do strongly believe you have to change, you need to train the people who are the educators that this aspect is just as important as the skills. But sometimes people come to it naturally. Other people you'll need to say "Well, you have to learn this."

Many deliverers felt that DPYPS needs to be more systematically and coherently promoted from a higher level in order to ensure that teachers have enough time in their day and curriculum to do it justice.

There's not anything that people would disagree with. In theory they might question some of the practicalities of how they can fit it into their week or whatever, but I don't think people would ever have an issue with the theory of it.

Furthermore, many of the deliverers commented that they wished this programme had been available years ago, and wished that they had more time to provide such experiences to the children on a more consistent basis.

What it has made me think is, gosh, I wish I'd got involved in this years ago, you know? Or I wish it had been available years ago and I wish I

had more time with the kids than half an hour once a fortnight, you know? You are really between a rock and hard place? Do I do this in depth, do I really get into this because the kids are enthusiastic and you've got to capitalise on this, or do we scratch at the surface, which is what we try to do really.

Current Practice – Where Are We?

There is a clear theme running throughout the perceptions of the deliverers that children do not receive adequate opportunities or quality physical education until it is too late. They feel that a coherent education is essential, starting at nursery school running right through their school life. Unfortunately, in their perception teachers are not taught how to resolve these issues or how to provide a quality experience for the kids.

I think for the whole idea of DPYPS, the holistic approach, I think it's too late. They are not prepared enough at school and at nursery in these fundamentals.

I was watching some of my children today running round the hall and some of them are just flat footed. Primary seven. This is shocking. But part of that are teachers not having the confidence and not knowing how to actually teach that.

A problem highlighted within PE is the pressure from targets and the curriculum. This can provide an obstacle to teachers providing the right kind of emphasis and experiences that will benefit all the children in the long term.

It's open, S1 to S6, and some of the children that you think "My goodness, you're never going to get this." And you worry about how they'll fit into the group, and they've been amazing. But then I'm not trying to get anything out of it. I'm not going to have to meet targets or my job's not on the line if I don't have so many internationalists! (Laughs). So that is not a factor, which, in teaching, is good.

Many deliverers feel the current school PE experience to be "piecemeal" and lacking in coherence and progression. Indeed, much was seen as overly sport specific and therefore likely to be too difficult for many of the children, in turn putting them off sport and activity. They saw a real need for a coherent, developmental programme for children that can provide consistent experiences that are required for effective development for all.

It's four or five years since we've had a specialist here. Ah yes, yes but, you know, they go to curling, and we have the rugby man in, and I think well yes, uh huh, but you know, educationally that is so flawed because after a few weeks it stops. There isn't any sort of continuity and progression. What's happening to the rest of the classes directed at Primary six or Primary five or whatever, and rest of the school, you know? And that's where we are. I guess it's not producing a coherent theme. It's just a piecemeal.

This is not a criticism of the development officers at all, but they are sport specific and they will come and start at a particular level if you like, and the kids are not ready to learn at that level then there is nothing there to address these kids, who inevitably will fade away or behaviour becomes an issue or because they can't actually cope with what they're being asked to do.

While it was commonly expressed that the DPYPS philosophy should fit with school PE, many suggested that it currently doesn't and furthermore, many schools don't have any specialists at all. In the long term this needs to be resolved alongside the need to focus on the DPYPS philosophy over a more 'traditional sport specific block' system.

Well I think it should fit [DPYPS with school PE]. As I say, at the moment I've introduced it in a sort of partial way, but that was really at my pace. I want to take it further forward. The problem we have at the moment is we've not got any specialists in the primary schools. I'm hopeful that that will be resolved but that would be in the long term rather than the short term. I've really, I've felt really pleased to be part of it. As I say the sort of benefits for me have been really good, and the next stage is to look at the whole programme because I think the balance should change. I think there should be more focus on DPYPS and less on the games, gymnastics, and sport specific bit.

Coherent Application of the Philosophy is Required to Maximise Developments

Having been involved in the pilot programme for between ten weeks to one year, the general perception is that this philosophy needs to be incorporated into the big picture to ensure that as many deliverers as possible can utilise it and provide appropriate and consistent experiences to youngsters.

I just think that from our council's perspective we should just sit down and talk through how we're going to incorporate this into the existing programme, give it its place, because it definitely has a place.

I think to make that work we need to sit down with other specialists, school sports and active primary co-ordinators, development officers and just have a much more co-ordinated approach to that.

I'm struggling a bit at the moment because we've only got one active primary school co-ordinator, and also because of the way that we're working, we don't have a lot of contact with the sort of sport coordinators, and that is mainly I think, to make the whole thing much more efficient, I think we need to have a much more co-ordinated approach.

Although deliverers have noted that the philosophy and programme can act as a personal guide or 'glue' to fit different initiatives together, it needs to become far more explicit and systematically applied.

I've tried to incorporate it {DPYPS} in, as you know, I'm committed to the TOPS programme. So I have brought it {DPYPS} in there. I think it works really well alongside TOPS. I would say that I would use the programme but then enhance it by using some of the practices that TOPS uses.

The deliverers report the need to develop this philosophy as a more coherent and consistent message to a wider range of people in a more systematic way. However, it is also noted that the DPYPS programme is a unique and revolutionary programme that will need time and good support to continue to evolve and develop over time.

Just take the good bits and the bad bits out, and think, well, this is a good bit but how could we implement that more positively? I think people are important to everything, and getting the right people, it's not easy sometimes. But we're all different and we all bring strengths and we all bring weaknesses and I'm glad to see it and I'm glad to see that, at my stage, that there are a group of people thinking this through and thinking about the child. I think that's important. And that's never happened before. So you're unique there.

Indeed, several deliverers are reported to feel that the long term agenda also needs to be addressed and ultimately students who are yet to become teachers need to be educated in this way, so that slowly over time this kind of philosophy filters in and becomes the norm and the experiences that children receive will be more appropriate, more often, as time goes on.

You need to train the people who are the educators that this aspect is just as important as the skills. But sometimes people come to it naturally. Other people you'll need to say "Well, you have to learn this." And I think you need to do it with the students because then they themselves, when they're learning (at college or university) or anybody that's involved with young people has to be trained in that because it does not come naturally to everyone. And it would make you a much more elite teacher/coach. It'd make you a better person, you've got to be able to tweak into folks' minds to know where can this child go next? What'll make them tick? Why are they feeling down? But I think you need to bring the parents in as well.

2.2.6 Summary

Given the range and diversity of individuals interviewed, we believe that the level of consensus is extremely high with regard to the veracity and applicability of the philosophy. This, we feel, is one of the most positive findings. Education is an extremely initiative-rich environment these days, and teachers are often jaded with respect to the n-ext great, new idea (Times Educational Supplement, 15th August 2003). With regard to the DPYPS project, however, participants remain committed and enthusiastic about its potential for the future.

Section 3 The Content and Methodology of the Intervention

3.1 An Overview of the DPYPS Content and Methodology

3.1.1 Why was the DPYPS Programme Created?

The importance of developing and sustaining sporting success is one of the three visions of Scotland's national strategy for sport – *Sport 21: Nothing Left to Chance* (Scottish Sports Council, 1998) – to recognise and nurture sporting talent. Our earlier report commissioned by **sportscotland** to look at the issue of TID highlighted that, in the UK, the actual resources required for talent identification have been concentrated on anthropometrical measures. Unfortunately, as we highlighted in that critical review, the required resources should concentrate primarily on the psychological dimensions supported by the development of fundamental motor skills (Abbott et al., 2002). In addition, we identified that talent is dependent on genetics, environment, encouragement and the effect of these on physical and psychological traits. Accordingly, we argued that equipping young people with the appropriate psycho-behavioural characteristics of excellence and providing them with opportunities to develop, at an early age, the fundamental motor skills required for participation in a wide range of sporting activities would allow them to reach their potential in sport and physical recreation. Finally, we also contended that, by equipping young people with these competences, physical activity levels would be raised.

Based on the findings of this report, the DPYPS programme was created to give children the knowledge, motivation and skills they need to achieve their best in physical activity settings. Whilst the programme is oriented towards achievement in sport, there is a considerable 'carry over' of benefits to wider dimensions, including the enablement of a physically active lifestyle.

3.1.2 What are the Objectives of the DPYPS Programme?

The DPYPS programme is based on research which highlights that both psychomotor and psycho-behavioural factors underpin the capacity of an individual to develop successfully in sport (see Section 2 of this report). Specifically, psychomotor considerations are seen as essential skills that underpin the development of sport-specific skills whilst psycho-behavioural characteristics facilitate the interaction of an individual with the environment enabling him/her to optimise their development. Consequently, the DPYPS programme places substantial emphasis on these factors early on in the physical development of children. A description of the psychomotor and psycho-behavioural curricula employed within the DPYPS programme follows. Although, for clarity, curricula are presented separately, psychomotor and psycho-behaviours act in an inter-related way and therefore, these elements were developed alongside each other so that links could be made explicit.

3.1.3 Psychomotor Development

During the design of the DPYPS programme, the importance of early psychomotor development was a key concept. Specifically, the programme was designed to equip individuals with a broad developmental base to aid sports participation for a healthier lifestyle, and/or involvement in high performance sport. Consequently, a psychomotor curriculum across three levels of development was evolved:

Level One: Basic Moves. The Level One work cards contain suggested content to help develop basic movements that underpin a variety of sports (see Table 3.1). The cards suggest activities to promote each of the basic movements, working along a continuum; starting simply and progressively becoming more difficult (see Figure 3.1). Additionally, as Figure 3.1 also shows, the card highlights critical features and common problems at the various stages of development, enabling teachers/coaches to promote progression through an explicit focus on the appropriate key features.

Type of Activity		
Travelling	Object Control	Balance
Running	Over-arm Throwing	Static Balance
Horizontal Jumping	Under-arm Sliding	Dynamic Balance/ Weight Transfer
Vertical Jumping	Under-arm Throwing	
	Chest & Bounce Pass	
	Kicking	
	Striking	
	Trapping	
	Catching	

Table 3.1: Basic movements targeted within Level One psychomotor curriculum.

<p>The Basic Task</p> <p>Catch an object in the hands successfully in a well timed simultaneous action and in a balanced position. Key Words: Ready, reach, give.</p>	
<p>Example Extension Task</p> <p>☛ Throw the ball high; reach high to catch it. Give on contact. What direction are fingers and thumbs pointing on contact? Where are palms facing on contact? <i>Fingers and thumbs should be pointing upwards; palms should be facing each other.</i></p>	
<p>Example Application Tasks</p> <p>☛ Throw the ball at a line drawn at waist height on the wall. Can you hit just above and just below the line.</p>	
IMMATURE	
<p><u>Example of Critical Feature</u></p> <p>Arms are extended and held in front of the body</p>	<p><u>Example of Common Problem</u></p> <p>Body movement is limited until contact</p>
TRANSITION FROM IMMATURE TO MATURE	
<p><u>Example of Critical Feature</u></p> <p>Elbows held at sides with approximately 90 degree bend</p>	<p><u>Example of Critical Feature</u></p> <p>Avoidance reaction of eyes closing at contact with ball</p>
MATURE	
<p><u>Example of Critical Feature</u></p> <p>Hands grasp ball in well timed simultaneous motion – ‘give’</p>	<p><u>Example of Critical Feature</u></p> <p>Failure to adjust height of hands in relation to the trajectory, and force of incoming ball</p>

Figure 3.1: An example Level One work card from the psychomotor curriculum that suggests activities to promote the basic skill of catching and highlights critical features and common problems at the various stages of development.

Level Two: transition programme. The Transitions programme aims to take well-learned basic movements and gradually combine and refine these to produce more complex, sports-like patterns of movement. The combinations, like the programme as a whole, are designed to be progressive. Simple movements are combined with other simple movements to allow the generation of increasingly complex movement sequences. To aid the teacher/coach, exemplar problems embrace both the individual components and their combination. Additionally, as cognitive abilities (e.g., scanning & decision making) play a vital role in team game performance, these are developed in tandem with the movement skills (Grehaighe, Godbout & Bouthier, 2001) (see Figure 3.2). Figure 3.2 shows an example of an exercise that looks at object control in invasion games.

Level Three: sport specific programme. The level three programme looks at how the level one and level two psychomotor cards can provide the foundation for sport specific development. For example, kicking for accuracy and distance (basic moves cards) and scanning and decision-making (transition cards) will promote skills that are required to be proficient at football.

Summary

The DPYPS programme highlights the essential facilitation role that psychomotor dispositions have within the TID process. As these skills are developmental, however, the DPYPS programme does not advocate 'talent' identification based on proficiency on one or more of these tasks, but rather provides activities that exploit means by which these skills can be progressively promoted. Crucially, for achieving 'wider' benefits beyond performance sport, basic levels of competence on the psychomotor skills also provide the competence to maintain a physically active lifestyle into adulthood. Additionally, the DPYPS programme also highlights the essential role that psycho-behaviours will have on the TID process and the importance of promoting these alongside the development of psychomotors.

Learning Objective: to develop the transition between receiving and sending whilst travelling

Problem = catch the ball **as quickly as possible** and send **for distance**

Catch ball from feeder and use an over-arm throw, for example, to reach long receiver

Variations: Vary feed (distance, direction, pace), increase distance of target, throw to moving target, alternate hands

PROBLEMS WITH MOVEMENT COMPONENTS? - refer to Basic Moves card:

1. Sending: over-arm (B8), underarm (B11), chest-pass (B13), roll (B9), hit (B19).
2. Receiving: catching (B20) trapping (B16)
3. Travelling style: running (B1).

Example Problems	Possible causes	Solution
Ball falls short of target	Wrong foot forward Too little force behind throw	Repeat appropriate task from Basic Moves until movement solution is appropriate
Catch too low or too high	Not moving feet to get into correct position quickly enough	Repeat appropriate extension from Basic Moves task

PROBLEMS WITH MOVEMENT COMBINATIONS? - **If the individuals are able to perform each of the movement components separately then check the combinations by isolating them (send-receive, receive-travel, send-travel) and identify the potential problems**

Example Problems	Possible causes	Solution
No fluid link between catch/throw	Find foot placements difficult	Work on the feet moving quickly from a catching stance, stepping back to allow weight transfer for throw
Need to change hands between catch and throw	Different dominant hands for catching and throwing	Work to develop both sides equally. Practice with one hand behind back/ holding something to prevent its use

THE PROBLEM/SOLUTION: Get the children into pairs/groups and ask them to think of reasons why they would need to be able to send for distance (e.g., *only free team-mate is far away, to get the ball away from own goal/basket quickly, to score*)

Figure 3.2: An example Level Two work card from the psychomotor curriculum. It suggests activities and highlights critical features and common developmental problems.

3.1.4 Psycho-behavioural Development

As highlighted in Section 2, a range of psycho-behavioural factors has been associated with individuals who successfully develop into elite performers in sport (McAffrey & Orlick, 1989; Gould, Damarjian, & Medbery, 1999), or indeed across performance domains (Talbot-Honeck, & Orlick, 1998; McDonald et al., 1995). Figure 3.3 highlights these factors.

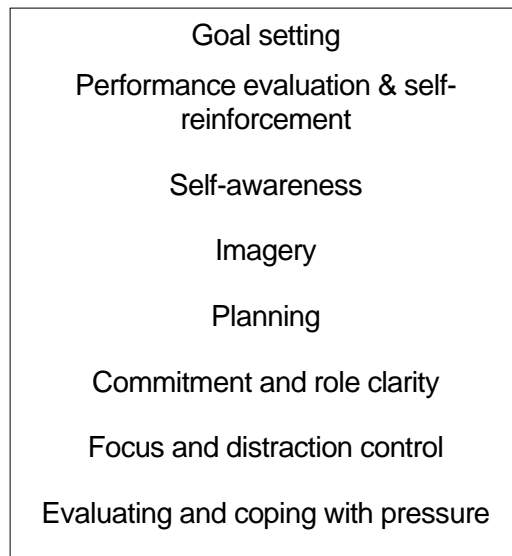


Figure 3.3: Psycho-behaviours associated with successful development in sport.

The structure and content for the psycho-behavioural curriculum within the DPYPS programme emerged from this work and includes a series of practical exercises to help promote these behaviours. Recognising that students interpret psycho-behavioural concepts at their own level of growth and development, the activities are presented developmentally both across and within three levels to allow them to be matched to students' capabilities:

- Level One: Encourages children to realise their level of competence and to self-reinforce.
- Level Two: Encourages children to begin to take responsibility for their own development.
- Level Three: Encourages children to aspire to excellence by achieving autonomous development.

In order to understand how the psycho-behavioural curriculum would work in practice, exemplars of imagery activities at each of the three levels are presented below.

Level One imagery. At the foundation level, the imagery section presents practical tasks that promote the use of imagery and highlights how imagery, if used alongside practice, can help build confidence and improve performance (see Figure 3.4).

Using Imagery to Improve Confidence and Performance

Part one
Pupils look at the star shape below and ‘image’ following the route to draw the star successfully in one movement. The pupils are told to have a go drawing the star and reflect on how imagery helped.

Part two
Pupils watch a video of an athlete who is imaging running around a slalom course (the Illinois agility run) and then reflect on the athlete’s use of imagery.
The pupils then image successfully completing the slalom course below before running the slalom course and reflecting on whether imagery helped them.

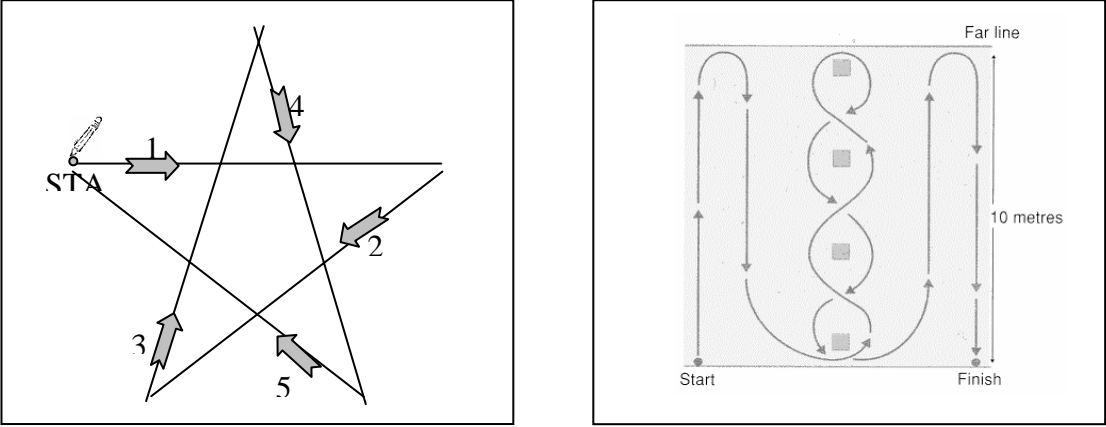


Figure 3.4: Example of a Level One psycho-behaviour activity designed to promote imagery.

Level Two imagery. At Level Two, the imagery section presents practical tasks that promote the use of controlled imagery during practice and competition. For example, one of the objectives of this level is to highlight to children the power of imagery before encouraging them to consider how imagery could be applied to a sport or hobby (see Figure 3.5).

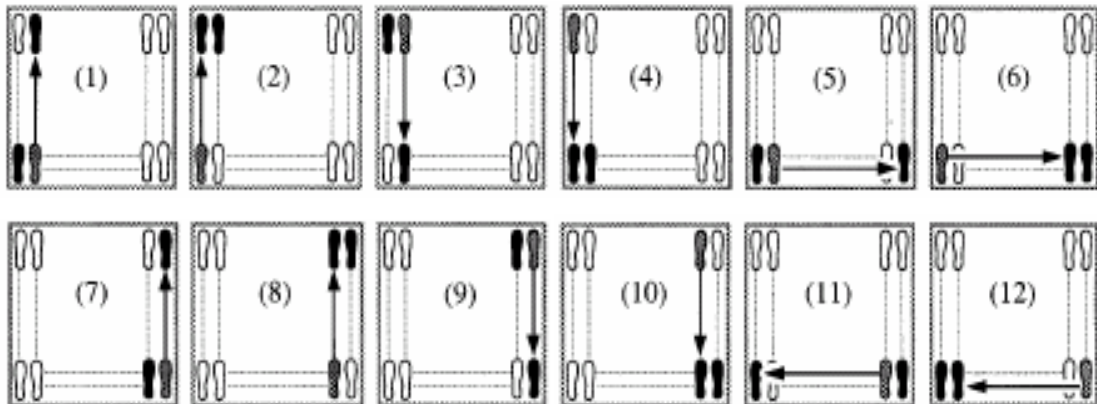
USING IMAGERY TO HELP YOU LEARN MOVEMENT

Memorise the dance sequence below

Start with both feet together

- | | |
|---|--|
| 1 Step forward with your right foot | 7 Step forward with your right foot |
| 2 Step forward with your left foot | 8 Step forward with your left foot |
| 3 Step back to starting position with your right foot | 9 Step back with your right foot |
| 4 Step back to starting position with your left foot | 10 Step back with your left foot |
| 5 Step to the right with your right foot | 11 Step to the left with your left foot |
| 6 Step to the right with your left foot | 12 Step to the left with your right foot |
- End with both feet back at starting position**

It's easier to learn this sequence if you rehearse how the sequence would look and feel. You can do this by imaging the sequence as shown below.



Use imagery to learn and then perform either the dance sequence highlighted on the back of this worksheet or your own dance sequence.

Figure 3.5: A sample Level Two psycho-behaviour activity designed to promote imagery.

Level Three Imagery. Level Three is a sport specific level that provides coaches with guidance on how to promote the psycho-behaviours developed at level one and two within their sport specific context. As an example, coaches reflect on the behaviours athletes in their sport need in order to show they use controlled imagery (i.e. what will we see your athletes doing during training and competition to show they have these skills?) (Column 1, Table 3.2). Systems and coach behaviours that can be employed to promote imagery use within athletes are then developed (Columns 2 & 3, Table 3.2).

Athlete Behaviour	Coach System	Coach Behaviour
When learning a new skill, the athlete mentally rehearses the skill before physically trying the skill.	<p>a. Use video/ demonstrations to provide a prompt for imagery.</p> <p>b. Give my athletes time to incorporate the new skill into their imagery script.</p> <p>c. Allow the athletes to spend time imaging as well as doing the new skill.</p>	<p>a. Reinforce the role of imagery.</p> <p>b. Emphasise that to learn effectively that you need to focus on relevant cues.</p> <p>c. Praise athletes who spend time mentally preparing for their attempt.</p>

Table 3.2: A sample of how imagery might help an athlete within a specific sport and potential systems and behaviours that a coach can use to promote this application of imagery.

Summary

The DPYPS programme places considerable emphasis on the development of psycho-behaviours that underpin both successful development in sport and the adoption of a physically active lifestyle. It is essential to the success of the DPYPS programme that it is recognised that the psycho-behaviours should be promoted alongside the psychomotors with links being made explicit rather than the two curricula being conducted in isolation.

3.1.5 Implementing and Piloting the DPYPS Programme

The DPYPS programme was piloted within two areas of Scotland, North Ayrshire and Stirling. Within North Ayrshire, the programme was piloted within one secondary school and five feeder primary schools. Within Stirling DPYPS was piloted within two clusters, Bannockburn and Balfron. The Bannockburn cluster had one secondary school and five primary schools involved whilst the Balfron cluster had one secondary school and six primary schools involved. Sport specific coaches from each area were also invited to a workshop that set out to explain the programme and to provide them with the knowledge to continue the philosophy of the programme into their own sport specific context. It was hoped that this process would promote a coherent system throughout sport development processes. The method of programme implementation at each level is highlighted below.

Primary School Implementation

All children within a chosen year (normally Primary 7) were involved in the DPYPS programme and received one psychomotor and one psycho-behavioural session a week. The psychomotor sessions replaced the traditional PE session received within the primary school for a period of at least ten weeks. The psycho-behavioural sessions were incorporated into the Personal and Social Development (PSD) programmes within the schools and ran for at least ten weeks. In the majority of schools, both the psychomotor and psycho-behavioural elements of the programme were taught by the same teacher. We hoped that this would enable the interaction between the two curricula to be fully exploited. However, in two schools, due to timetabling issues, the two elements of the programme were led by different teachers.

Those teacher(s) from each school who were identified as the individuals who would be delivering the DPYPS programme, were provided with four days of in-service training to learn about the philosophy of the programme and to be introduced to the methods and resources for both the psychomotor and psycho-behavioural curricula (see Section 4). Although it was expected that the primary teachers would primarily be using Level One resources, they were also provided with knowledge of how to extend these activities and use Level Two resources if they thought it was appropriate. As well as receiving this training, ongoing support was also provided to these teachers throughout the piloting of DPYPS. Specifically, a specialist PE teacher was seconded to the programme to coordinate it within each area (i.e., North Ayrshire and Stirling) and to help with the planning and delivery of the psychomotor sessions. Initially, both the primary school teacher and the seconded teacher planned and team-taught the psychomotor session each week. However, as the primary school teacher became increasingly competent in, and confident of, using the DPYPS resources the seconded teacher gradually withdrew their support until the teacher led the planning and the delivery of the psychomotor sessions. The psycho-behavioural curriculum was planned and delivered by the primary school teacher from the beginning of the pilot although support was again available from the seconded teacher if required. All primary school teachers focused on the development activities within the Level One psycho-behavioural curriculum.

Secondary School Implementation

Year one and year two children within the three secondary schools involved in the piloting of DPYPS, were provided with an opportunity to attend a DPYPS club. The club involved attending two sessions a week, one where the focus was on psychomotor development and one where the focus was on psycho-behavioural development. These two sessions were either conducted at lunchtime or after school, and lasted between 40 and 60 minutes. The secondary school DPYPS clubs were run by the specialist PE teachers that had been seconded to the DPYPS programme and were designed to run for a minimum of ten weeks. As these children had not been involved in the DPYPS programme during primary school, a combination of the Level One and Level Two psychomotor resources and the Level One psycho-behavioural resource were employed by the seconded teachers.

3.1.6 Other Initiatives with Parallel Aims

Education, youth sport and physical activity promotion are all currently initiative-rich environments. Accordingly, given the diversity of approaches, resourcing levels, philosophies and methods, it seems sensible to have key initiatives at hand (see Appendices), offering a context for consideration of DPYPS and some basis for its critique. Where possible, we have used **sportscotland's** own website as the source for information. Where necessary, this is alternated or supplemented by information we have collected, usually through direct contact with the programme providers. Detailed and critical consideration is not the role of this report. For the present purposes, however, readers should consider these various initiatives, in comparison/contrast to DPYPS against various characteristics, including resources, empirical/theoretical support, consequent philosophy, and the logic of the objective – methodology – content – evaluation chain. Two things are very clear, however. There is a lot of money and a dearth of co-ordination in this crucial area; a feature, which our wider research seems to suggest, is a British rather than a purely Scottish phenomenon!

3.2 Consumer Perceptions of the Methodology Adopted

3.2.1 Overview of the Data Collection

A qualitative research method was employed at the conclusion of the pilot project to investigate the perceptions of those individuals who had been involved in the coordination and delivery of the DPYPS programme. This section relates to comments made by these individuals regarding the methodology adopted within DPYPS.

Procedure

The interviews were conducted collaboratively by the research team. Each interview lasted between 40 and 90 minutes, and all the interviews were completed within a one month period. No data were collected prior to establishing rapport and trust with the interviewees. This was accomplished by being candid with the interviewees and reassuring them that the purpose of the interview was not to evaluate their performance, but to gain an understanding of their perceptions of the DPYPS programme and how it could be improved. The interviews, which were semi-structured, were tape-recorded and transcribed verbatim.

Data Analysis

Following the transcription of the interviews, the raw data for the three pilot regions were arranged in text units, and were then analysed using qualitative inductive methods based on open codes, emerging themes, and emerging categories (Miles & Huberman, 1994). The emerging codes were then arranged into themes that were based on the converging responses of a number of participants to minimise the effects of personality and other individual differences, thus leading to the identification of common patterns. As before, consistent themes are presented under sub-headings for greater clarity.

3.2.2 Local Authorities

Content Seems Appropriate

The previous section demonstrated that the Local Authorities were very happy about the parallel development of psychomotor and psycho-behavioural elements. In terms of actual content of these resources, it was seen as critical that they provided a developmental and flexible curriculum with content to allow a wide variety of children to be catered for regardless of level of ability. Furthermore, it was noted that it was imperative to show the teachers how these cards developed concepts into progressions to allow them to understand the thought process of teaching physical education.

If you don't teach them that, it's like saying 'can you write that sentence?' but I'm not going to tell you what the letters are. You have to have the basic movement vocabulary..... They need psychomotor skills.

Also show them some practices that would lead up to those cards, some progressions. So instead of just giving them a resource, you actually take them into a thought process. So I think that's where we were looking for the resources in the project to be a useful vehicle for doing that. It can't just be the resources on their own. It has to be good in-service in whatever form.

The Local Authorities acknowledged that the style of presentation that DPYPS utilised was harder to work with than a pre-prepared lesson curriculum. Furthermore, they commented that the actual skills were not new, but that the design was. It was this design that was key. The benefits of developing people as more thoughtful and more knowledgeable teachers was worth the effort and it is acknowledged as a key method of getting effective results.

It's hard to work with. And it does take a lot of time to develop but giving people that sort of tool is better than sending them away with cards and saying 'it's up to you to find that. It's up to you to come in with the practices that will lead into that'. If you make them better, if you make them more thoughtful, if you make them more knowledgeable then you will have a better outcome.

We tend to focus very much on the content. We should actually give people mechanisms and understanding so that when they see something going wrong they know it's wrong and they have an ear, and a memory bank of 'OK ... that happened before and the practice I did was this or the piece of information I gave the kid was that'. Now that's a huge job for primary teachers to get to that level.

Although it was seen as a big job to educate primary teachers to this level, it was recognised that if the teachers had been through the process then they will be able to start to cater more effectively for the children's individual needs. This is due to an

understanding of the developmental content and teaching methodology within the programme.

I think teachers, if you've been doing this for a length of time or you've been involved in the planning and realise the amount of variations that can actually come into the development of one skill area. I think if they've been through that process, they must then realise that kids are achieving at different levels and they will be able to cater more for the individual.

The Local Authorities felt that it gave the teachers a backdrop of understanding on which to develop their practice and feel confident that they were doing the right thing for the right reasons. It enabled them to tweak their lessons to emphasise the things that were most important for the children.

I think it gave them confidence about what they were doing because sometimes you feel a wee bit challenged because what they were doing was right but they were not doing it in the right way.

The Local Authorities acknowledged that pre-prepared resources were useful but that teachers needed to 'go beyond' them intuitively in terms of methodology and progression. The DPYPS curriculum acts as a resource on which this 'missing component' is made more explicit. Of course, naturally this results in more complex and demanding resources, and may look 'impossible' until teachers are taught and supported through them.

During the TOPS training of trainers that is actually accentuated. Because they realise that what they have in front of them are guys who run about a lot and are enthusiastic about their subject, and will want to just teach the cards. And they highlight the fact that your job is more than that. You have to go beyond that, but what they don't have is the back-up, the actual resource back-up that you have, complex as it is. But it is a much more thoughtful resource. It's a horrendously difficult resource for somebody to come upon for the first time.

The need to develop this knowledge base and teaching methodology, however time consuming, was seen as crucial if we want to develop teachers' abilities to cater for their children and provide quality experiences. Pre-prepared rote lessons do not allow this level of development and learning. Of course, while they are extremely useful as an additional resource, unless the curriculum or teacher is already effective, they become far less effective.

In primaries and secondaries at the moment what they will tend to use is a pre-prepared pack, like the Borders pack. Which is lesson by lesson, so what you have is right, that's my lesson. There's my class. Right. That'll do. I'm doing that lesson today. Now, for a third of the class that's appropriate. For another third of the class, it's too easy. For the final third of the class, it's too difficult. So you're only ever just hitting the middle ground. And what you have

to do is actually have a resource that will allow you to be a bit more individual in the way you teach kids. The way you teach classes and class teaching has to become less whole class orientated and more individual target orientated. I have to give TOPS their due. I don't know what the project or the people involved in the project themselves think about TOPS but, having worked with TOPS, TOPS are aware of the limitations of their initiative. They know their limitations and they don't make any claims to be anything other than an additional resource. It's a sticky-on to the curriculum. And it won't be very effective unless the curriculum is effective. They realise that, and I think we all realise that.

We take what we learn from TOPS, you know, their presentation, their cards are people friendly, user friendly. They're colourful, you know? And to use some of what they've got ... I have to say that yours is an educationally sound project. It's educationally sound resources. They don't make claims to do that.

Regardless of the inherent need for the DPYPS cards to be more complex than a pre-prepared set of cards, it was noted that there is still a need to simplify them as much as possible to aid teachers in their ability to plan and utilise them in as easy way as possible.

I think they're a bit busy in terms of too many words. I'm more of a visual person and that's just me. I think they're presented in a more accessible way, so it's a refinement issue. It's difficult to make specific comment about the detail because I haven't used them directly. I've scanned through them and I understand the majority of them without any problem but I think because you're steeped in it and you know a bit more about it as being from a PE background, then that becomes easier for you. But someone who is a class teacher who is busy, who's just come from a challenging situation in the class and is going to pick that up to deliver that directly, well that's a feedback you're going to have to get from them.

As discussed in the philosophy section, the psycho-behavioural resource was instantly seen as useful for the children and their ability to learn effectively. Additionally, the resource itself is less complex than the psychomotor cards and they were more suited to the primary teachers' prior knowledge and classroom teaching style. Indeed, as explicit learning outcomes were made apparent, teachers were able to expand and extend the ideas as and when their children required.

Kids don't know. Sometimes it's hard to get better. And to actually review their own ability, in a realistic way, and say 'well wait a minute, I really am no good at this at the moment. So my long-term goals ... well what I thought were short-term goals might in fact be long-term goals'. And if you can get kids to actually sit down and do that, you might get a bit less frustration with not being good now and failure. So no, I think teachers themselves saw that as an immediate benefit of being involved with this.

I think if you individualise the programme and you get kids to take a bit more responsibility through the psycho-behaviour input, they then take some responsibility for their own learning.

I think the teachers were very confident in the psycho-behavioural programme. We've said already it was a ready-made resource, decisions were made for them, and some would then take that resource and expand on it.

Methodology

The Local Authorities felt that DPYPS looked to develop explicitly the knowledge base of the teachers, both in terms of content and also teaching methodology. This was seen as a much needed and crucially important factor to the quality and usefulness of this programme. It is something that other programmes need to take on board by presenting it explicitly and giving it the time it needs in education courses.

My view is that, in the kind of first level coaching posts in a whole range of sports, that we're all focused on the technical information about that sport. There's no methodology, there's no issue around the methodology of how you present and deliver and learn. It's more about – here's a series of practices you can engage numbers of kids with, by engaging these practices you might get this outcome or not. My view is that it's not probably the case because the inputs are not as explicit or as comprehensive as they need to be. There really needs to be a more sort of fundamental administrative organisation of methodology input to allow better basis for development. And the only way people learn that is just by osmosis I think.

I think the methodology bit is really crucial to it. I don't think it's just about the programme in terms of the content of the programme being the practices and the cards. It's the interaction about the philosophical issues about how you keep them involved, how if we're saying we want to get them to be self determined, we want to get them to be motivated.

DPYPS examines the philosophy and it looks at how to use these resources, how to become a better teacher, how to become a more effective teacher. That's better than TOPS training.

The aspects of pedagogy that deal with the contextual needs of skill learning was also noted by the Local Authorities as a very beneficial part of the DPYPS programme. Again, it is something that teachers and coaches tend not to know very much about and it is often completely missing from in-service training and educational packages. However, it is very important in the transfer of skills to game situations. Hence it is crucial not only for talent development but also for encouraging participation.

There's a danger, and it's just perhaps in the implementation part rather than the philosophy. People term basic movement skills as kind of dry and boring

rather than fun and exciting because kids want to participate in an exciting activity and they see that happening through a game or a sport because we've all had the experience of when are we going to get a game rather than practice? They see practice as boring and repetitive and dull. They see the game as, romantic, exciting, dynamic. So the task is and the challenge is to make it game-like all time.

It's difficult, the organisation of it. It's not neat and I think that's sometimes a problem for people. People like order and when it's not as ordered as you might want it to be, it can be problematic. I think also organisationally, there's a big challenge in terms of teachers particularly in primary schools to have that game participation and input. Their understanding of that is quite low.

The DPYPS Model Needs Ongoing Support

The content and the methodological input from the DPYPS programme was seen as extremely useful in both a practical and a theoretical way. However, the Local Authorities felt that without ongoing support and in-service education that is drip fed consistently over time this or any programme will not be sustainable.

I think having somebody seconded to do it is crucial. You could never have done anything like that in another way because the pressure's on to do other things and the position I hold, I have to delegate that to someone who is fine doing that ... and that worked fine.

That won't be happening in every PE lesson. It's very seldom the fault of the primary teacher, and primary teachers are overworked, over-burdened and don't have time to prepare properly. If they had some systematic support ...

From a wider perspective, the Local Authorities felt this kind of support could also be provided by the development of coherence amongst initiatives and in-service training. In this way, far more people are around to provide support to each other and to promote the philosophies, content and methodologies in a more consistent way to the children.

I think these are big barriers and I think there's a consistency as well. I think from a local authority point of view, it would be sport development officers, it would be Active Schools Coordinators, it would be specialist teachers and delivering through that way. I think it's going to be massively difficult to ask teachers to give these and I can't see that happening in real terms. The programme in terms of support is just absolutely vital, you know, I just think most programmes, if they're not supported, they'll not work and this won't be any different.

The Local Authorities felt that the support provided needs to take on a specific role, particularly regarding the amount and type of support for the primary teachers in particular. It may be that too much support may have hindered the development of autonomous independence of teachers in some schools. Indeed, it has been noted that

the role of the seconded teacher would need to be made explicit, with appropriate training for techniques such as effective reviewing and supervision.

Too much support. And then they became very reliant on that support and maybe the teacher said to themselves, "I'm not even thinking about this because [Seconded Teacher] will come in and we'll do our planning session" and "[Seconded Teacher] will help you plan it, so you didn't actually think about it until [Seconded Teacher] came in to do that session." The role of the seconded teacher is somebody that should be there to help them review their own thinking and development and not to do the thinking for them.

3.2.3 Seconded Teachers

DPYPS Provides New Ideas in PE

The seconded teachers felt that DPYPS was the first PE programme to cover mental skills training explicitly in any depth at all. Indeed, even PSD style curricula didn't really impact on the fundamental mental skills and attitudes that underpin for example, learning, development, confidence and self-determination.

As far as a PE point of view, I've certainly not come across anyone that specifically deals with psychological characteristics. In terms of Standard Grade PE and the Higher PE, a certain amount of talk is given to effective development but, realistically, it's non assessable and therefore it's pretty much ignored. So therefore there's not a great deal in it.

There's Council guidelines but again the guidelines are very vague and the head teachers themselves decide which package to buy into. Before they would do things like maybe a citizenship thing and it mentions vaguely something about how everybody has different strengths and weaknesses but it's like one page out of a book that's got 250 pages in it. They skim across the surface of a few of them but they're definitely not catered for in the way that DPYPS did.

The seconded teachers highlighted the content of the DPYPS programme as particularly appropriate in light of the poor standard of fundamental skills and lack of awareness of physical capability particularly apparent in secondary schools. Therefore the double stranded DPYPS programme provides particularly pertinent content.

I have to teach third year girls how to skip because they don't have the co-ordination and I just think it's absolutely atrocious. Boys generally can't skip anyway but just basics that you would assume that kids have. Somewhere along the line, they're not getting it.

The seconded teachers highlighted many positives of the resources. These included the variety of sports shown on the supporting materials such as video. The CD-Rom allowed

teachers to make their children's worksheets appropriate for them, particularly in terms of language comprehension. The psycho-behavioural resources appeared to provide enough prompting material to allow the teachers to expand and develop the ideas further in discussion with the children.

The videos were good because the kids got to see different sports because they turn on the television and it's like football, football, football and some horse racing on a Saturday. Whereas there was a little bit of rhythmic gymnastics and a bit of rugby etc. so I think that was good. Kind of more wide ranging than pigeon holing sport really.

I think they were very appropriate for the age group at which they were targeted, like the Primary 7s would start on level one and the secondary kids level one/level two, as well as the fact the teachers got a CD Rom. So if any of the language was different, they could change it anyway, so it was good. The videos helped.

If you read the first couple of prompting questions, your brain starts to tick over itself because once you've asked the first couple of questions, you start to ask the questions that are underneath, so it's good for both the teachers and the kids to move on a bit.

DPYPS Fits with Current 5-14 Guidelines

The DPYPS programme was considered to show strong links with the 5-14 curriculum, whilst at the same time providing a flexible curriculum to deal with different standards of children and a very good transition into the needs of standard grade PE.

5-14, the way it's put in our school, does the observe, record, describe and evaluate but when you only have 55 minutes to try and do a lesson, these things ... they do get done but I think using DPYPS is a better way of getting the kids to reflect on what's happening and plan and things like that.

The next similarity is I think it could play a significant role within the framework of the curriculum. It's got a big place that it can meet a lot of objectives within the curriculum and therefore you can only see it as a whole educational programme. I think one of the things it does is it really empowers the children to reach their full potential in sport and therefore these are the goals that the 5-14 curriculum are striving for and these are the goals that DPYPS are striving for. So there's a big match-up there.

I think there's extensive links to achieving targets within 5-14 and I've demonstrated those before in a document but I think one of the things that we look at is the levels of the children that we're working with, different levels of children and this is a key in PE and the programme caters for

different levels. It's important that pupils are working at their own level and the programme has the flexibility so kids can work at their own level.

Simplify the Cards and Provide a More Professional Touch

The seconded teachers believed that the psychomotor card system initially appeared complex and difficult to the primary teachers. However, once they were supported and were shown how the system worked and how the cards translate into practical situations the teachers liked the way the resources allowed flexibility. They were able to use them with more ease than they initially thought.

Big variation. Some of them were, let me get in there, let me try it on my own. Other ones were, no, you need to do it and we'll watch you for the first 5 weeks. Just confidence I think more than anything else. The actual resources themselves, once they got used to them, they liked them.

As a PE trained person, I found the resources very helpful, they were progressive, you could easily see development from one stage to the next. The primary teachers' perceptions were of horror the first time they looked at them but once ... it's like everything new, you've just got to sit down and have a look at it and then they could see there was a development from Level One to transitions. I had to give them a little bit of time to pick out where you would put different things but it took time. After a while, they were used to them.

The other one is that flexibility can also be a little bit daunting for some teachers I think, in that it doesn't prescribe lesson one, lesson two, lesson three, lesson four, lesson five. It gives a pack of cards in which you can pick and choose out of what you're going to do and that immediately has certain implications for some teachers that can be quite daunting at times thinking, what am I going to do this week? I'm just going to pick a card out and do that. So there is a little bit of planning implication but with the teachers that I've dealt with, that was cured very quickly and got over that very, very quickly indeed and they actually found the flexibility a real strength.

They knew more than they thought they did. A lot of them, took the cards in with them when they had their lesson, so they had B1 and B2 and then A1 and A2 and they realised that when they were actually teaching it and they thought through their lesson. They didn't need to stand and see the card all the time.

However, even though the majority of the teachers became comfortable with the psychomotor card system, the seconded teachers reported that the resources would definitely need a professional touch if they went nationwide. Examples of suggested upgrades included video footage of skills and activities in action, a more simple

numbering system and a more simple and professional outlook to help with the time it takes to use the cards, particularly as a planning tool.

The quality of them as well, obviously if it went nationwide you need a more professional touch to the resources and videos and stuff.

I think the numbering system provides the link between basic moves and transitions. However, it's not the clearest initially and I think that needs to be looked at. Once you get used to it, it's not. It seems straightforward but it needs to be very obvious and it needs to be clearer.

You don't need the whole package put onto video. You simply don't need that. You need clips of little parts of the package because many of the activities and games you can use.

It definitely opened up new avenues for them. PE became different. It just opened itself up to all sorts of possibilities. I think that's what held them back at the start. All but one of the schools, possibly even all of them are all going to continue to use the psycho-behavioural resources definitely and as much as they can, at least maybe the lessons that we have made up together, rather than the actual pack because it is time consuming to use the pack.

The Flexibility and Developmental Nature of Resources

The seconded teachers felt that the developmental curriculum presented by the cards was a real strength. It was understood that the basics could be introduced very early on in development and that even at a sport specific level they could easily be pulled up and utilised effectively. The systematic, developmental nature of the cards was considered essential to provide a balanced educational package, especially for teachers without the pre-requisite PE knowledge.

These skills need to be learned as early as possible and that's why a developmental curriculum comes in, that you start introducing these concepts early on and gradually you get more complex and more in-depth in these concepts.

Especially when it comes up to your transitions level, you know, your scanning, your decision making, your pre-scanning. That's very, very important and you can break that down into numerous sports. If you look at your decision making and you have one practice from DPYPS and you can put that into a basketball practice, into a football practice, into any invasion game. It's the same with most of the practices we have.

When you talk about structure, it's developmental. That's absolutely essential. There's no point in just having a stand-alone project that doesn't go anywhere. It's developmental all the way through the stages. So at the

moment if we've got a Primary 4 class, we can make the programme fit them equally as well as it does to those in Primary 7. You can set it to a level that the pupils are at and that's very important. Flexibility is a strength to the programme in that you can very much pick and choose out of the pack what aspects you're going to work on and what you're going to develop and that's important when it comes to your skill learning.

The seconded teachers reported that the psycho-behavioural cards were seen positively, more so in North Ayrshire. They were well presented, clear, developmental and much needed.

Wonderful. I'm not trying to be funny. It's really good. It sets out everything really well because it's not a new concept but something new that teachers have to do in their PE connected work. It's really good that it's presented the way it is. It's very clear. The teacher's cards are good where they've got a copy of what the kids are doing in front of them, so they don't have to have two bits of paper. Well presented. Again it's developmental, so you can have one kid pushing them a little bit and another one staying the way they are, so I really like them.

Methodology and Context of Learning

The seconded teachers highlighted the essential role that the development of teaching methodology had in the programme. This methodology is driven through an understanding of what the philosophy is trying to achieve and it allows deliverers to input and incorporate knowledge they have from their own experiences and learning in keeping with what is most important for the children.

When I actually teach the programme, I add in a lot more than is actually on the cards. But the reason I do that is because I understand the philosophy behind it and I use them in accordance with that philosophy. And one of the best things I've found I do is I highlight to teachers in games that they're already comfortable with and use a lot how they can use DPYPS if they highlight and emphasise different things.

Indeed, the seconded teachers highlighted that, since content can be picked up from anywhere, the DPYPS programme allows teachers to utilise content or methodologies they are already comfortable with and still apply appropriate emphasis to the lessons that they take. This allows other programmes to be utilised alongside DPYPS and provides a sound base from which to work.

I could go to the library and pick up a package and teach a series of lessons and what have you. The main thing for this is that it's important that the teachers know what they're trying to achieve and what the programme's trying to achieve in that they can then adapt, they can use their strengths, they can use their own teaching methodologies, they can really be flexible with it. They can choose where they're going to put it in

the curriculum and that's the importance. If they've got an understanding of the philosophies, then they can be incredibly flexible in how they use it. And that's the important thing to me, as well as following the philosophies and understanding them whereas TOPS or other packages are: 'there you go, there's a programme of lessons, go and teach them'.

I've been encouraged because some of the members of staff found some of the TOPS cards to give to the kids a little bit better, so I just encouraged them to use them, but it was only a part of DPYPS. It was a good add-on to DPYPS rather than a course on its own.

I think you develop a greater understanding of what the programme's all about when you can pick and choose what you do, as opposed to picking up a series of lessons on basketball off the shelf. But what this does is it gets you to think about how you're going to present that basic skill, the context you're going to put it in and one of the best things I heard from one of the staff is that next block they've to go on to move on from DPYPS into basketball but they'll be using the same philosophies of DPYPS although it's called a basketball block. They'll still be doing basic moves, they'll still be running, jumping, throwing, catching. But it'll be in the context of basketball. Because of that flexibility, it gives that ability to do that.

The seconded teachers highlighted that methodological issues are extremely important in order to encourage skills to be effective within a games context. This includes issues around decision making and teaching in context as well as practice structure that is set up by the teachers. DPYPS explicitly hits these areas and provides an understanding of how to teach and why.

When it comes to the transitions package, it's important to develop basic moves into the context of games and I think that's where the transition is excellent. Emphasis on importance of decision making and scanning and you've got even the pupils who have got a high skill level, high competence in basic moves who will struggle in game situations because they don't have this almost a cognitive process of decision making. And that's where your transitions programme comes into its own.

It's an important feature with your research on skill learning and retention, your random versus your block and if you can pick out and randomly select the skills that you're going to work on and keep emphasising them and keep highlighting them, then I think that comes in part of your block versus random practice.

The seconded teachers feel that without an understanding of the methodological issues then teaching becomes a descriptive, one size fits all process where children do not necessarily get what they need to develop and move on. There is certainly no progression or individual attention involved.

The Borders Council physical education pack. It takes you through lesson by lesson and it's very descriptive, which is also a good thing. Lesson number one, lesson number two and the stuff that's in there, the practices are good but the teachers just follow them no matter what, even if these kids aren't ready to do this practice, I don't think the teachers take that on board, that's next on the lesson plan, so they do it.

The fundamental skills and concepts presented in the DPYPS curriculum are not new, rather it is the emphasis on the methodology and philosophy that represents the important original contribution. This provides teachers with the knowledge they need to make informed decisions and cater for individual children in order to provide a sound, appropriate and developmental experience in schools.

I think I've said this before as well ... basic moves programmes, it's not a particularly new concept. It's nothing new. As a PE teacher, you see certain things like that, I have seen them in the past. But what is new is it's put together in an effective way and in a challenging way, and the card package is very, very good and it's good to use and I think that's the different thing people talk about. 'What are they, how do you teach them?' And that's the important thing for me. They've been put together in a good way.

The Integration Between Psychomotor and Psycho-behavioural Elements

The seconded teachers felt that the dual curricula of the DPYPS programme provides the most effective way of improving the confidence of children in a physical setting.

That confidence comes from the psychomotor stuff and the psycho-behavioural, a combination of the two. If you can integrate those, that would be more effective.

They felt that further integration of these two concepts is a step that will have benefits for the effectiveness of the philosophy. Indeed, for a specialist PE deliverer this may be easy, it is a more challenging concept for primary teachers. The seconded teachers felt that more input, resource or in-service support that targets this area would be useful and beneficial for the programme.

From a personal point of view, I think it's very easy to identify the links with physical areas and the psychological characteristics of development and excellence. I think it's easy to link those into the physical areas. And one thing I would say about the psycho-behavioural, it seems that the teachers have found some difficulty in this and it may need to be made clearer and more explicit as to how these links are made. And, again, it may be links written with the psychomotor work cards as well as the psycho-behavioural. Or the development of a CD Rom, where the links come in.

I think it has had a massive impact on my teaching, in that I think I'm very much aware of the psychological characteristics and I would be highlighting these more blatantly in my teaching than I maybe have done previously.

Practicalities of Incorporating DPYPS in Secondary Schools

The set up of the programme in secondary schools produced a range of results from no interest at all to so much interest that classes had to be split into different times of the year. The set up and 'selling' of the programme needs to be examined and targeted explicitly as part of the programme if consistent interest is to be developed in the future. The most effective way would be to incorporate such a programme in a more coherent method with curriculum and other initiatives. Regardless of the broader implications, one concept that may be a factor is involving the parents in what the programme is about.

It was a new concept for the kids, so we held a parents information session and I think we got about 60 parents. A lot of the parents came and a lot of their kids actually came to the DPYPS programme because they (the parents) showed an interest. They're not used to thinking about their attitudes and their behaviours and using these imagery concepts for example in their physical activity. And we didn't do another parents day for the next cohort. Letters were sent out but no information session, possibly that was one difference.

3.2.4 Teachers

The Perceived Importance of Teaching Psychomotor Skills to Primary School children

All teachers thought it important that children are provided with the opportunity to develop the psychomotor skills that are targeted within the DPYPS curriculum. As one of the primary teachers commented:

If you build a house, people never think about the foundations of that house. But without really strong foundations, which these basic skills are, you will build a house which is very weak and lacks structure. And the same goes in sport. We are teaching children in Primary 6 and Primary 7 to play games, to do gymnastics, whatever and when you watch them run, they don't know how to run. They don't know how to stop. They don't know how to change angles. They don't know how to jump properly. They don't know how to walk. But we're trying to teach them more advanced skills and they don't have the initial stages and that's where we need to be targeting. (Primary school teacher from the Bannockburn cluster)

Similarly, all teachers recognised the psychomotor skills being developed within the DPYPS programme are skills that provide children with the basis to be able to participate in range of different sports.

I guess that's where this programme comes in with the transfer of the skills. It's the skills that you're putting in that can be used in badminton and it can be used in athletics and it can be used in football or tennis or whatever it may be. So that's the key to this, I think. Your aim is not to have an excellent class of footballers at the end of it. Your aim is to have children who are able to use part of what you've taught in a range of different sports. (Primary school teacher from the Bannockburn cluster)

Further, all teachers thought that the primary school was an appropriate place for children to develop these skills.

If you don't address it [the basic skills] here [in primary school], a lot of them aren't going to get it anywhere else and if they're inactive children, they're going to be inactive adults and that's really the whole philosophy behind it, isn't it? Trying to improve the health of Scotland. If they've not got the skills, they're not going to have success, so they're not going to try, if you know what I mean. If you're not taught how to do a thing properly, then you're never going to be comfortable trying it. (Primary school teacher from the Bannockburn cluster)

However, 100% of the North Ayrshire teachers, 100% of the Bannockburn teachers and 67% of the teachers from the Balfron cluster also highlighted that they thought that children would benefit from introducing the psychomotor programme earlier on in the primary school.

We need to teach children [the psychomotors] earlier. I think primary school is the right place to teach these skills but I'm not convinced that upper stage primary is the right place to teach it. If we teach the basic skills necessary for development, we could start them in lower school, teach them in middle school and refine them in upper school before they move on to secondary. I think we need to realise that if you teach young children the basic skills, then the children at a higher level can build on those. If you assume that they get to Primary 7 and they don't have the skills, you re-visit the skills, you spend a year teaching them the skills and then they move to S1, where they will not be touched again. I know what the PE programme is in S1, certainly in the High School our children go to, and it does not touch basic skills. They are assumed to have those. That is a big fault that they don't have those skills. (Primary school teacher from the Bannockburn cluster)

In support of the ability to move the psychomotor curriculum down the school, two teachers reported using the activities successfully with children from further down the school, one with Primary 5 children and one with Primary 6 children.

Last year I had a composite class of Primary 7, 6 and it worked equally as well in the Primary 6. I think the programme should start further down the school. I think if the programme was started further down the school obviously by the time it got to Primary 7 I would be moving onto something else. Probably it could go down as far as Primary 5 because they are starting to become better and you want to get there before they start making mistakes rather than trying to fix them just to teach them properly. (Primary school teacher from the North Ayrshire cluster)

The belief that the psychomotor curriculum could be introduced earlier in primary school coincided with, and may have been partly as a result of, a consensus by the teachers (100%) that psychomotor curriculum was developmental and therefore able to cater for the differing needs of the children they had in their PE class.

The cards [psychomotor cards] made it clear again that different levels of ability exist, people at the start [of the development continuum] and people in the middle [of the development continuum] and the programme enabled you to work with the different levels [of ability]. Also you could extend the tasks with people who were really competent within the skills. (Primary school teacher from the Bannockburn cluster)

The targets for the 5-14 curriculum are extremely woolly but I would say what we're basically doing with this programme [DPYPS] is effectively starting off working with level A and then eventually working up to level D and E with the programme but, because it's so flexible, you can target children who are at different levels. (Primary school teacher from the Bannockburn cluster)

I have found the psychomotor activities to be quite flexible because it's a composite class of Primary 6 and Primary 7 working together that we have so obviously we have to differentiate between them. (Primary school teacher from the North Ayrshire cluster)

You can see that there is a progression coming through ... it is adaptable to the needs of your own particular group of children. (Primary school teacher from the Bannockburn cluster)

I think, because of the simplicity of the psychomotor curriculum, it means that the children can develop whatever they're doing at their own level. In other words, for the less able children they are still able to access that. And my most able children were very much involved in what they were doing throughout the lessons. (Primary school teacher from the Balfron cluster)

Many of the teachers (64%) highlighted that the recognition of the importance of teaching children the basic skills to enable them to be competent in a range of activities,

was something they had developed as a direct result of being involved in the DPYPS programme.

I had not really considered actually revisiting all the basic skills [before being involved in DPYPS], but my philosophy now is that we have to cover that [the basic skills] before we cover other things. I hope the funding actually comes through and continues because I think your programme will have an effect on our nation's wellbeing and health. (Primary school teacher from the Bannockburn cluster)

What the DPYPS programme has actually taught me is that you don't have to over complicate things. That, in actual fact, it's simple. You can break it down into lots of little simple activities but these activities are important in themselves to actually develop the skill. Not just lunging straight into the game when you haven't actually worked on any of the skills to enable them to play the game. (Primary school teacher from the Balfron cluster)

It wasn't actually till I started doing this programme [DPYPS] that I realised that it was keeping possession that won the game because you couldn't score a goal unless you had possession. So it is about teaching children that really what you want to be doing isn't trying to score a goal or shoot a basket just from anywhere, but that it's keeping possession that matters in order to make the opportunity to score a goal. And that was like a basic tactic that hadn't even occurred to me. So I had never even tried to teach the children that, that possession was the key thing. And the programme has also broken down this tactical stuff into steps just like it has the basic skills. (Primary school teacher from the Bannockburn cluster)

I think right from the training course it gave me an awareness of how important honing the basic skills is, because previous to this [programme], I don't think it would have occurred to me at all. In the past years I would have children, say, doing hockey or netball when they couldn't throw a ball, so I think it's given me an awareness of how the basic skills weren't being taught and you needed to be teaching them. So I think that's one of the biggest things for me. (Primary school teacher from the Bannockburn cluster)

Probably as a direct result of recognising a need to teach the basic skills to children, and having a specialist teacher help with the delivery of PE, all teachers (100%) thought that the psychomotor sessions delivered within the DPYPS programme had made a significant contribution to the needs of primary school children, and compared favourably to the previous PE system employed in the schools.

PE caters for children's needs much better than it did before [the DPYPS programme]. I wouldn't say it's perfect. To make it more perfect

you would give the programme to someone who understands more of the PE structure. I would be interested in giving the programme to a primary PE specialist and let them actually evaluate the effect of it. There are some PE specialists who I know would like to get hold of your programme. (Primary school teacher from the Bannockburn cluster)

Absolutely, I think children's needs are being catered for better. I wish it was continuing for us because I definitely do think it has helped them and my worry is that ten weeks and it stops and then it [PE] could easily slip back again. I mean, I obviously will try to maintain the progress made with the programme, but it could, in many cases, slip back again and the work that's been done could be forgotten about. (Primary school teacher from the Bannockburn cluster)

I've thoroughly enjoyed it [the DPYPS programme] and I know the kids have enjoyed it and I've got to say that this has been the best PE that certainly this school's had. (Primary school teacher from the Balfron cluster)

I think the kids here have got a good grounding in PE anyway but I think being involved in this programme has improved it even more. So I think it [PE] has got even better with going back to basics. (Primary school teacher from the Balfron cluster)

We tended to do blocks of activities before because it matched the four terms so you did gymnastics for a term, then you did active health whereas you are mixing it all up together and I think maybe that's what's more interesting for them. (Primary school teacher from the North Ayrshire cluster)

I think the skills [being taught within DPYPS] were being taught [before DPYPS] but I don't think they were being taught very well. I think the individual sport was being taught more ... so the rules of football were being taught and, yes, you had to pass during an activity but you were told you had to pass. If you had asked any of the kids [before they did DPYPS], they'll have known they had to pass. But if you ask them now, they will be able to tell you why they have to pass, how they pass, what they do when they pass, where the head is. We can go in a bit deeper in what these skills are ... so it is just making them more aware and not just saying right, this is the skill but ensuring they know why they should do it and when to use it and it is important for them to be able to do that. (Primary school teacher from the Balfron cluster)

*I think what the programme **has** done, is given children quality. Quality PE lessons. Which means obviously, at the end of the day, that the children are learning new skills, building on skills they have, and also they are pleased with what they do rather than a sort of dissatisfied*

situation. I'm not saying I wouldn't do a good PE programme for the year, I would put a lot of thought and time into it and I've been quite satisfied with what I did, for example, last year with P7. But I'm not a trained PE teacher and I can't teach that level of skill. (Primary school teacher from the Balfron cluster)

Within the school, we use two things called TOP play and TOP sport. All the staff involved in these programmes have had about an hour of training, which is ridiculous. It involves a pack, not dissimilar to what you've got. But, although it focused on skills, it did not focus on basic skills. So, for example, in Primary 7 we would do touch rugby and hockey. Many of the children didn't even know how to walk and do the most simple things. They could not control a ball walking with a hockey stick and that, for me ... that's going right back to the basics. I've got a four year old who can do that, we taught her how to do that. She can walk with a ball whereas I'm talking about 11 year old children who found that a struggle. (Primary school teacher from the Bannockburn cluster)

Before this programme, we didn't address so much the actual broken down skills. If you take the TOPS sport 5, you do a run of basketball but it's very much basketball. It was hailed as, right, we're doing basketball, it was ball skills of some sort but they were not broken down. (Primary school teacher from the Bannockburn cluster)

The teachers also expressed a general consensus (93%) that the DPYPS programme enabled them to hit their 5-14 targets and that the links were apparent.

I would say you touch on every single part of the 5-14 [PE] curriculum, so I would say that your programme is geared to the right level. (Primary school teacher from the North Ayrshire cluster)

I'm fairly happy with how it [the psycho-behavioural curriculum] is linked to the 5-14 curriculum. (Primary school teacher from the Bannockburn cluster)

It [the psychomotor curriculum] covers what we have to cover within 5-14, the areas we have to cover. But I think it's up to an individual teacher to take the information out of it and fit that in with the programme perhaps that already exists. (Primary school teacher from the Bannockburn cluster)

One teacher highlighted how they felt that being involved in the DPYPS programme had facilitated them achieving the 5-14 targets:

The resources allow me to achieve my targets far more easily than before. Because, before, I would look through the 5-14 and think "Right,

what am I teaching?" And I knew I was teaching a sport rather than a skill, you know. And it was like, well, what skills come into that sport? So it's far easier and you can just say 'I'm doing that and doing that' and it's easy to see where it fits in with the 5-14 targets. (Primary school teacher from the Balfron cluster)

However, two teachers who were team teaching the psychomotor and psycho-behavioural programme within one of the North Ayrshire schools commented:

We found it quite tricky to marry up 5-14 and PE [the psychomotor curriculum]. We found we could have done it but it would have taken a while. We have to forward plan everything we do and when it comes to the PE we have just been putting in we are following the DPYPS pilot programme and have put in our worksheets and a little about DPYPS and what it is. We have got away with that so far and that's fine. Nobody at the school has been asking for anymore but in a few years time if the inspectors came back we are laying ourselves open in a way. So if that could be sorted out [the 5-14 links made explicit] and linked up then it would be useful.

Additionally, one teacher highlighted they would like the programme to be expanded so that it hits the 5-14 targets within dance, an area currently not incorporated into the programme:

The only thing is of course there are other areas of 5-14 that come in, like dance, that wasn't covered. So, for example, traditionally you do a block on dance at Christmas, for their Christmas parties and things. I know it [the programme] is about basic skills, but it would have been good to have a unit about dance, so that you didn't feel you were leaving the programme for a block. Because, there must be some basic skills needed there [in dance] as well. But, apart from that, it [the programme] tied in pretty well [with the 5-14 targets]. (Primary school teacher from the Bannockburn cluster)

Perceived Importance of Teaching Psycho-behavioural Aspects to Primary School children

All teachers (100%) recognised the value of incorporating psycho-behavioural development within the primary school curriculum.

The skills within the psycho-behavioural curriculum should be taught because it comes into all areas of their social and personal skills. That was the great thing about the goal setting. Goal setting wasn't new to them in the respect that we've been doing it for years with their class planning, but I think it was good for them to see how you can use goal setting in every aspect of their life. The imagery one, that was new, so that was good for them to see how that worked. I'm not aware of having

taught self imagery before, so that was a good concept, something different. Self awareness, again that's something that comes up in their health programmes, in their personal and social development. (Primary school teacher from the Bannockburn cluster)

I remember the training course where we looked at the difference between a good athlete and a world class one and it's purely what's up here (pointing to head). And, what's the difference between a child who is a keen athlete and a child who isn't; it's something up here (pointing to head). Now, it's [the psycho-behavioural curriculum is] one way of targeting that. And we need to target it because there is no point in us putting money into creating a great physical environment for the children if they're not going to use it. So, yes, this programme is a mode we can use to target that. (Primary school teacher from the Bannockburn cluster)

As with the psychomotor programme, the inclusion of the psycho-behavioural programme into the school curriculum was perceived as positive. All teachers (100%) perceived that the skills being taught were skills that should be taught to children. Almost all of the teachers highlighted how the psycho-behavioural curriculum within DPYPS complemented the emphasis that occurs within their primary school on personal and social development. However, teachers highlighted that the degree of emphasis on 'psycho-behavioural' type skills that typically occurs within the personal and social development curriculum within the school is largely dependent on the individual teacher.

It's more up to individual schools and individual teachers what they're actually doing and how much PSME [personal, social and moral education] stuff occurs. There has been no set programme in place but in recent years we've seen much more things like circle time. And these things need to be targeted at primary school, it's too late by the time they go to secondary school. The DPYPS takes it from a slightly different angle [from PSME] because it's mainly sports based, and that also kind of engages the boys a little bit more because it's something that they're generally more interested in. And it's quite often the boys that are the ones that are disinterested in PSME stuff. (Primary school teacher from the Bannockburn cluster)

One teacher highlighted how it would be of value to dovetail the psycho-behavioural curriculum within the personal and social development (PSD) curriculum:

I think it's important that they have that knowledge and ability [to use the psycho-behaviours] and I think in the long term it [the psycho-behavioural curriculum] needs to be looked at and dovetailed with the PSD curriculum, so that the two run together. Because a lot of what's in it [the psycho-behavioural curriculum] might be stuff that's addressed through circle time session, for example, or could be addressed through that [a circle time session]. So the two [circle time and the psycho-

behavioural curriculum] can link in together. (Primary school teacher from the Bannockburn cluster)

The majority of teachers (93%) highlighted the importance of having a programme that could be adapted to the differing developmental needs of children within a class and highlighted that this flexibility was a positive element of the psycho-behavioural curriculum.

The flexibility was very important in both the psychomotor and psycho-behaviour resources. If there hadn't been that flexibility, it would have been very, very difficult, so that was a definite plus. (Primary school teacher from the Bannockburn cluster)

However, one teacher felt that some of the pupils within P7 could have coped with activities that stretched them a bit more:

I have actually got quite a good Primary 7 group. My top group are very able, and I think from the philosophy aspect [the psycho-behavioural aspect], they probably could have taken on a bit more. Possibly for my P7s it [the psycho-behavioural curriculum] aimed at the middle and the lower end [of ability]. (Primary school teacher from the Bannockburn cluster)

It may be that some children at Primary 7 will be able to complete some of the activities from the Level Two psycho-behavioural curriculum that has been developed. In fact, as with the psychomotor curriculum, there was a general consensus (100% of the North Ayrshire teachers, 100% of the Bannockburn teachers and 67% of the teachers from the Balfron Cluster) that children would benefit from being introduced to the psycho-behavioural element of the DPYPS curriculum earlier on in primary schools. This earlier introduction to the psycho-behavioural concepts should then enable the Primary 7 children to focus on the activities contained within the Level Two curriculum:

It [the psycho-behavioural curriculum] could have been used quite effectively in a Primary 5/6 class. (Primary school teacher from the Balfron cluster)

I'm not sure that the content just now would work down the school but it could be adapted. A lot of it is simple enough for down the school and they would enjoy it too and there is a lack of that sort of thing in school and it [the psycho-behavioural development] works in with health as well. (Primary school teacher from the North Ayrshire cluster)

I think they [the psycho-behaviours] are life skills and I think it [their development] should have been started before, earlier in the school. (Primary school teacher from the North Ayrshire cluster)

Using a Seconded Teacher to Facilitate the Implementation of the Programme

The role of the seconded teacher in facilitating the implementation of the programme was seen as key by all primary teachers (100%).

I found it [the support from the seconded teacher] invaluable. I think, for me, that was more a competence issue because he's a specialist ... he's a PE specialist, so I would watch what he did. I found that much easier to watch him doing a lesson and then I followed on with the lesson the next week. Otherwise I might have found it difficult, just because PE isn't my speciality subject. So it was a kind of a competence thing. (Primary school teacher from the Bannockburn cluster)

I think because I've spent weeks and weeks and weeks reviewing someone doing the programme ... I think that's where you learn. I mean, picking up a card, and we have got similar types of cards [from other programmes], it's difficult to actually imagine what is meant. But now I can pick up cards and go, "what do they mean?, Oh yeah, that's what they want, that's what it means" and that's where [having the support of the seconded teacher is] the programme has come into its own - teacher observation of this programme over a period of time has been one of the highlights for me. (Primary school teacher from the Bannockburn cluster)

It was an absolute highlight to have somebody who's a specialist in PE, and I've taught for years and years and I've seen loads of key specialists, some great, some mediocre, and he was really good. (Primary school teacher from the Bannockburn cluster)

I would think it's [the in-service training is] enough if you have got support [from the seconded teacher] at the start of implementing the programme. I don't think you could do it without support at the start because there is so much material and what we didn't do was see a class in action. I think that would be a helpful thing because we were going in blind and although the seconded teacher was there it took quite a while to get a picture in your mind of how the layout went. Although you have got the material it's still a huge big area. (Primary school teacher from the North Ayrshire cluster)

I don't think I could have gone from the two days training [for the psychomotor element] to actually implementing the programme, if I hadn't had ... [the seconded teacher] ... for support. I would have needed longer at the training and more practise in using the cards but that's just me personally because I feel that's not an area of expertise for me. (Primary school teacher from the North Ayrshire cluster)

It is important to highlight the possibility that many of the positive comments regarding the impact of the psychomotor curriculum were facilitated by the perceived benefit of having a specialist PE teacher deliver sessions within the school:

The seconded teacher is excellent with the children. He has great class control, he's fit, he's positive, and he's absolutely fabulous. So I think they've actually chosen somebody really good to support the programme. But I think the other thing is, it just highlights the sheer inadequacies of what we have at the moment, which is no PE specialist whatsoever, which is a whole range of staff trying to do PE. (Primary school teacher from the Bannockburn cluster)

The difficulty in distinguishing the impact of the programme from the impact of having a PE specialist is evidenced in the following two quotes:

One example [of someone who's benefited from the programme] is a child that has a fear of PE and new situations, she always has done and always gets upset or cries. So there was a moment there when ... [the seconded teacher] ... was actually teaching forward rolls and before she'd a huge fear, tummy upsets. But she came away really happy and reported to her parents that she could do that [forward rolls] now. She's never done this sort of thing in her life before ... never talked about PE and she would use avoidance all the time but the DPYPS programme and having the extra support has made a difference. (Primary school teacher from the Balfron cluster)

I think it [the DPYPS programme] has worked really well - the children have thoroughly enjoyed it. We had a really good helper of course ... she's been very good, the children have responded really well to all the lessons that they have had. (Primary school teacher from the North Ayrshire cluster)

Whilst the support provided by the seconded teacher was considered a crucial element for the successful implementation of the psychomotor element of the DPYPS programme, the majority of teachers (93%) reported being comfortable delivering the psycho-behavioural angle of the curriculum.

I think that most teachers, because of the PSD [personal and social development] and health education programmes, would be okay with the psycho-behavioural side. (Primary school teacher from the Bannockburn cluster)

However, one teacher did highlight that they would have liked greater support on delivering this area:

I think it would be good if someone were to come in as well [to take some of the psycho-behavioural classes. It was great ... [the seconded

teacher] ... being there, but if someone had come in and done some of the mental stuff with them too ... I tried to do as much as I could but it would just be good for someone to have come in and put an emphasis on that part of the programme as well. (Primary school teacher from the Balfron cluster)

The following section looks at the extent that teachers explicitly highlighted the links between the psycho-behavioural and psychomotor curricula and provides support for the value of an expert initially working with teachers to facilitate the delivery of the psycho-behavioural element.

Linking the Psychomotor and Psycho-behavioural Elements of DPYPS

An essential element to the DPYPS programme is the need to make explicit links between the psychomotor and psycho-behavioural curricula. The quotes below highlight how two teachers recognised this essential link.

You have always got children in the class that are quite quick to make the link between the two [the psychomotor and psycho-behavioural curricula] and once they give you the answers [to questions about how the specific psycho-behaviour relates to sport], the other ones quickly understand. (Primary school teacher from the North Ayrshire cluster)

I think depending on the way you deliver it the programme will influence the way it's [the psychomotor and psycho-behavioural curriculum] linked together. As long as the purpose of what you're doing is made clear to the children ... Because they [the psychomotor and psycho-behavioural curricula] are delivered on separate occasions, you would need to make sure that the kids don't see it [the psycho-behavioural programme] as being a stand-alone programme not connected to the PE side ... but then that's all in the explanation and giving them a clear purpose as to why they're doing this. I see the link between the two clearly because I've done the training, but one of my colleagues taking the pack away and looking at it might not be quite as clear. (Primary school teacher from the Bannockburn cluster)

However, the remaining teachers reported that they had not recognised the need to make the links between the two curricula explicit to the children during the piloting of DPYPS.

I think possibly one of the things I missed was the importance of the link [between the psychomotor and psycho-behavioural curricula]. Although I was doing one and the other, I really wasn't making the link explicit ... I think if I'd done the in-service immediately before the programme, I would have been much more geared up for that. (Primary school teacher from the Balfron cluster)

I could see the philosophical links [between the psycho-behavioural and psychomotor curricula] but I think possibly one would have to make a conscious link as one was doing the cards. When you were doing it in the gym, you would probably have to say to them “Well, remember we were doing such and such about imagery? Do you know what it means?” I don’t feel as if I’ve done that [made the links between the psycho-behavioural and psychomotor curricula explicit]. I think possibly that is something that I probably didn’t do enough. (Primary school teacher from the Balfron cluster)

Sometimes I find it quite hard to link the curricula [psychomotor and psycho-behavioural curricula] and certainly I don’t think the kids have linked them at all, not yet. (Primary school teacher from the Bannockburn cluster)

I think it [the psycho-behavioural curriculum] links quite well to what you’re trying to get across when you’re actually doing the PE lesson. But, I never sort of did PE and then straight away did the psychological stuff. No, I didn’t do it like that. (Primary school teacher from the Balfron cluster)

A number of reasons could have contributed to the link between the psychomotor and psycho-behavioural curricula not being made explicit to the children. Firstly, the interaction of the two curricula may not have been adequately stressed during the in-service training for DPYPS. Whilst an attempt to highlight the important interaction between the two curricula was made during the introduction to DPYPS, it would appear important to ensure that this interaction is revisited at the end of the training after the teachers have been provided with information about the two curricula. The value of incorporating an activity where teachers are required to plan and deliver both a psychomotor and psycho-behavioural session and highlight how links between the two curricula could be made explicit for children should be considered for future training. Also, it may be of value to provide examples of links between the two curricula on the psychomotor and/or psycho-behavioural cards. Finally, the importance of the link between the two curricula should be highlighted to the seconded teachers to ensure they also stress the interaction of the two curricula during their involvement within the programme.

It is likely that the lack of interaction between the psychomotor and psycho-behavioural was accentuated in the three primary schools where different teachers led the psychomotor and psycho-behavioural elements of the DPYPS programme. This is highlighted by the following comment:

We didn’t really do that [link the psychomotor and psycho-behavioural curricula] because we both did it [taught the psychomotor and psycho-behavioural curricula] and we did it completely separately, we didn’t really discuss the links. I just picked areas that I thought ... or the lessons [psycho-behavioural lessons] that I thought would work well with

the children and the PE [the psychomotor delivery] was done separately [by the other teacher]. (Primary school teacher from the Bannockburn cluster)

Many of the primary school teachers (36%) reported that they had not been able to place equal emphasis on the two curricula. Although the tendency to place greater emphasis on one of the two curricula was attributed primarily to the time pressures faced within the primary school, it also highlights that the importance of making explicit links between the psychomotor and psycho-behavioural curricula had not been fully recognised. The following quotes underline the extent that time was seen as a barrier to implementing effectively the programme and provides some examples of the pressures faced by primary school teachers.

It's just time [that is a barrier]. It's trying to fit it [the psycho-behavioural curriculum] in when you've got everything else to fit in. It's probably been a bad term since the summer for us because the village is 700 years old and there were celebrations and everybody had to do something. And that took up about six or seven weeks and something's got to go. You can't really drop your basic language and maths and that type of stuff. And then all of a sudden you're at Christmas. Once we get into the New Year I've put in my plan to emphasise more of the psychological stuff. (Primary school teacher from the Balfron cluster)

This year it [DPYPS] came upon us and it was great but it did come in to us after everything else had been planned and there wasn't a hassle with that but the psycho-behavioural stuff probably suffered, having already got a PSD [personal and social development] programme in place, putting this on top of that as a stand-alone almost because I had other things planned. (Primary school teacher from the Bannockburn cluster)

I haven't always fitted in two sessions because we've had ... you wouldn't believe what's been going on this term. We've had the DPYPS programme but we've also had all these things that have cropped up that I didn't know I was going to have in my class. We've had six weeks of table tennis with a table tennis coach, we've had so many weeks of touch rugby with a rugby coach, we have at the present moment got a coach in for football skills. This has all had to be fitted into the curriculum. You can see the problem. (Primary school teacher from the Balfron cluster)

At this time of year it's hard to get as much time on these things [the psychomotor and psycho-behavioural elements] because there's so much else in with it, especially in Primary 7. You're trying to do it along with other things as well, like pantomime. It's easy for it to slip and it has since October. (Primary school teacher from the Balfron cluster)

I think because it's a pilot, then when you take it on board you do accept you've got to make modifications over the way the time is used and that's fine and we chose to go down the physical route much more than we did the mental aspect of it. (Primary school teacher from the Bannockburn cluster)

I think PE, or the expressive arts in general, are an area which can very easily be pushed aside because schools have to reach targets in maths and language. The emphasis is not given to the other areas [expressive arts areas] that it should be because the pressure is on the class teacher, head teacher and on the council to achieve the targets. So if a child needs extra help in maths we don't send them to PE, or we'll scrub art this week or we'll forget drama. So If everybody was being entirely honest, I don't think the PE curriculum's covered properly in many schools and it's because of the pressure in other areas. (Primary school teacher from the Bannockburn cluster)

One teacher highlighted how they thought that the children had not benefited from their involvement in psycho-behavioural curriculum and attributed this to the lack of time they had had on the activities:

I know that both classes I've tried it with did not enjoy it [the psycho-behavioural curriculum]. Within our curriculum in Primary 6 we have got a PSD [personal and social development] circle type programme which I have watered down considerably to fit the psycho-behavioural material in. If I could do it differently, and I'm not allowed to do it differently, I would do it much more intensely. That programme [the psycho-behavioural programme] has been touched once a fortnight and that's not sufficient. From my personal point of view I think we could do the programme [psycho-behavioural programme] virtually on a daily basis and that's what I would like to do, and it might start to have an effect then. But within our timetabling arrangements, we don't have that option and I cannot do that so the kids are only doing it once a fortnight and they don't get used to it. (Primary school teacher from the Bannockburn cluster)

As well as time constraints, another issue that was consistently mentioned by teachers was that they were not trained specialist PE teachers. Consequently, many (64%) teachers highlighted the importance of having primary PE specialists working in primary schools to ensure children have positive and appropriate PE experiences.

I just feel, at the end of the day, you're asking primary teachers to be experts at everything. I'm supposed to be a French expert, an ICT expert, a PE expert and an art expert as well as everything else. Now, that's fine, I happen to be reasonably fit but I'm not a PE specialist and I'm in my late forties. But there are people who are totally unfit and teaching. There are people who are older than I am teaching. What is

the expectation here? You cannot expect people with a wide variety of skills and ages to tackle the entire PE curriculum adequately and to be fair to the children, because that is not fair to the children. Some people are frightened of actually teaching PE in the upper school. They're worried about the class control element, they're worried about children doing what they're told not to do and breaking an arm. They've got their own inadequacies because they're coming from a no fitness base themselves. (Primary school teacher from the Bannockburn cluster)

If we had specialist PE staff in our primary schools from day one, those skills (basic skills) probably would have been taught. But because we're relying on class teachers, many of the skills are lost (Primary school teacher from the Bannockburn cluster)

We're lucky [in this school] that we have a PE specialist who does come in but it's half a day every fortnight, so what does that say [about the emphasis given to expressive arts]? That kind of sums it up. (Primary school teacher from the Bannockburn cluster)

Basically we have a problem within our schools ... we spend four years training PE specialist teachers to come into primary schools and they do excellent work in our schools but this is a school which has not seen a PE specialist in five years. Teachers who are non PE specialists often find being given a pack [of resources] is not as stimulating for the children as getting a professional in to do the job and it's not ... some people say that's laziness on the part of the class teacher, but a class teacher is a non specialist in PE. There are five main curriculum areas and PE is one fifth of that curriculum. So what you're actually doing is you're leaving the PE open to ... basically, if a teacher is not enthusiastic about PE, then you're going to have a problem with your programme. Any programme, not just this one. (Primary school teacher from the Bannockburn cluster)

However, many of the teachers (78%) highlighted how they felt more confident about delivering PE lessons since their involvement in the programme.

I just feel far more willing to teach PE myself. A lot of the time you leave it to the specialists that come in but I would hope that they would bring in this kind of teaching rather than sport specific all the time, because the kids are constantly going to get these sport specific experiences ... it's nice to get the different activities, so that if there's something that a child doesn't like doing, they're not being forced to do it all the time. I just feel more confident in teaching PE and I didn't lead the sessions but I was very aware of how easy it would be for me just to do that. (Primary school teacher from the Balfron cluster)

The confidence [it has provided me as a teacher] I think has been a big thing. The programme has highlighted to us what the children are actually capable of doing and what they're not, where they're going wrong. The children quite often go in and it (the activity) is pitched too high and we don't have the experience to break down a skill. For example, when ... [the seconded teacher] ... was showing them [the children] how to run and we had to watch how high their knees were going. As a teacher, because we're not PE specialists, we don't look for that and we could see they can't run but we don't know how to make them run faster. But it was broken down within DPYPS and you could sort of actually look at ... OK, this is what they're doing wrong and that's what they're doing wrong, or they're good at this. (Primary school teacher from the Bannockburn Cluster)

3.2.5 Sport Specialists: Coaches, Active Primary and School Sport Co-ordinators and PE Specialists

The DPYPS Programme seems obvious but I've not seen its like before

When the deliverers saw DPYPS, many felt that, whilst the content seemed obvious, they had never thought of it in that way before.

I think that is something that seems obvious but the fact that it's there in front of us, you know, I don't think I've ever seen anything like that presented in that way before.

DPYPS Provides a Mechanism for the Hows, Whats and Whys of Teaching PE

The deliverers felt that DPYPS provides a model on which teachers, specialists and coaches can work. It provides explicit guidelines for aims, content, methodology and progression. It allows people to utilise a mechanism that enables them to go to lessons and know what they are going to be teaching and why.

There were one or two class teachers said "Oh I've never seen it done like this before". And you know, I've just explained to them where it's come from and said to them, you know, remember I want you to do it, I'd like you to do it like this. And that's been fine. I think as long as I can give them a model of how to take it forward, I think that's part of my job.

I read all your programme instructions and we've been working on them. So the main vein running through it is just simple skills building up to be the whole art of rugby. Or, for our part, it's rugby. Other sports too, I know. The breakdown, the make-up of all the moves, you know, running, watching, scanning, passing, jumping, pushing, whatever and there's all the ways you can build on that, like breaking it down, making a skeleton and then making the whole jigsaw.

It's got better. So from my point of view in terms of what we're trying to do with kids, beginning of the season about meetings, about what we're trying to achieve rather than just to be a situation where we're in there and we teach whatever we teach, it's provided a better understanding.

The deliverers felt the programme also provides the whole picture and does not confine itself to single aspects of development as other education packages are prone to do. Furthermore, DPYPS gets to the real crux of what needs to be done and provides explicit guidelines for what needs to be done and how that works.

Coach training is just purely skill-related. How do you organise your practises, for example how do you progress from individual to teamwork? This took in the whole person.

I think that this is enhancing all the resources that we've got in place already. I think this is actually looking at what I would call the nitty gritty of what is the efficient form of a skill? How do you take that skill and then move it onwards?

The philosophy and benefits of the programme needs to be sold to children and teachers alike, in order for people to understand why it is important to concentrate on these specific factors and also to ensure that people are willing to give enough time to the programme.

I've got fourteen boys and four girls and thinking of other classes in particular in the cluster then I know that people said, well they just think, they want to know when they're playing a game when they're doing this and they can't ... the children themselves find it hard to see how this skill relates to a game. And I suppose it's how you sell it to them ... more than anything else but that's quite a tricky bit and I guess it's finding time to fit in the behavioural side.

The deliverers emphasised that the psychological aspects of development are crucial for the children not only as concepts in their own right but in providing an individual level of attention and development as well. This needs to be made explicit and reviewed in the same way that teaching physical skills are.

'How do you feel about that?', 'What do you think you're going to try next week?' So if I have a Primary 1 class and know exactly what I'm trying to get physically, okay, why not give me a sheet and say well, this is what you're trying to achieve psychologically.

I think that's where the teacher is actually taking note of the fact that that child is standing there looking at the ball knowing that somebody that they think is better is nearby. It's getting that self esteem and confidence better.

I was thinking back last week when we were playing Invergowrie when they got near a line, they did not have that little gritty determination to make it the last two metres. They would cut back in, they would just blower it and for him, it's ... 'I don't want to make a mistake here so I'll play it safe, I'll just recycle the ball, I'll ruck it, I'll put it down and ruck it, you know, then it'll not be me'. Unless you tell them that in a personal one to one, he's never going to get that information.

I think you need to contrast maybe what you see elsewhere as well. It's just the attitudes and how you present information on what you're trying to achieve with the kids because in general we don't bellow at the kids and shout at them. That's not necessarily replicated elsewhere. There are some bad practices elsewhere. You see on a personal and a group basis we take a bit of pride in that, that we're a bit different.

It's like when somebody scores a try, I always think when I say something, you know, that was good to score a try but it's set up by the fact the team worked together. One took the ball passed it out and got it down the wing and you know that was good teamwork. It's natural to reward the one that put the ball down but because it's a team game there were bits before the person scores, so it can help them as well. One of the big things for me is talking to them individually. Just in a by the way, just having a quiet word with them makes a difference I think, because it's personal to them, and it does not need to be a public thing, private is just as good.

The deliverers felt that the nature of the psychological skills needs to be made explicit and information needs to be provided about what is appropriate for children at different levels. That is the information missing from many guidelines. DPYPS is the first to provide such help.

You say 'How do you feel about having lost that game?' Because there is a tendency, if you don't have specific guidelines, that a part of you will come into that. No I can't really say to a child 'Don't be competitive - it does not matter if you don't win.' But 'how do you feel about it?' You know? I've got to be able to know what's good for the psychological development as well as the physical. I know what I can make a Primary 1 child do physically. I know they can't bounce a basketball through cones. I know that. I know their physical development. But I do not know what I can tell a child for the mental side of the sport. I only have what I know and what I've learnt. So there's no guidelines for that but there are guidelines for physical. You're not going to get a child to do a handspring in Primary 1 so what do I tell a Primary 1 child about playing in this little game we're playing here?

I haven't experienced anything that was organised. I've never seen a course organised to help. The nearest you'll get to it is if you're involved

with learning support or behavioural support because they may have courses that say right come along to the course for dealing with children with challenging behaviour, which I'm going to in February. And that lets you tweak into somebody's expertise and their knowledge but I have never seen that in sport. DPYPS is the only time that I've been offered that opportunity to sit down with somebody like yourself and I must say I loved that bit.

However, it was noted that it is difficult to provide individual support when there are lots of children in the lesson, but as long as deliverers have bought into and understand the philosophy then they will be aware of what is important and will make the most of opportunities when they arise. Even if it is emphasising that to speak to every child individually once a term is an opportunity missed if not made explicit.

I would be very surprised if any PE teacher does that. You know, how many teachers actually can say 'how do you feel this gymnastics is going for you?' 'Okay, I can see you can do a forward roll and stuff like that. Right, where do you see yourself going? Where do you see yourself going next year? Or are you happy with that?' So you can be doing so much damage to these children. So what you gain physically, you're losing emotionally. It's not a partnership. But that's not their fault. I think if you're an athlete and you do the javelin and you have your coach, that's different. But I can only speak as a teacher. When you've got 33 people it is actually impossible, I'll be honest. And, although you come away from the course saying right I can try to speak to a child, you're only talking about having the opportunity to speak to maybe eight children in a month. Now, how do you leave 32 and speak to one child? I understand the philosophy, if I just had the time. Maybe that sounds as if I'm sort of opting out it but ... Yeah, there'll be children in my class that I've never spoken to. And that's bad! But I think that was one of the things that came out of the course, was I can do that every so often. With my standard grade class I'm able to do it because the numbers are smaller. Right, I've got 24. And so, therefore, I can speak to them and I see them three times a week. That's different. These philosophies I am aware of them. Very aware of them. And I try with the classes. I try with all my classes. I try to go round and I'll say, you know 'That was really good today.' It's your antenna, it's got to be up all the time. And it's up to the individual person.

Simplify the Cards and Provide a More Professional Touch

One comment that was universal from the deliverers was that the resources of the programme need to be made more professional and simple to use if it is to be a programme that gets extended nationally. For example, although it is recognised that TOPS is a more simple resource anyway, the cards they have are extremely user friendly and appealing. Something more like this is what is needed.

I think it does require making it look pretty and user friendly and also giving bodies to it initially anyway and support people.

Once you work in the system and make sure you've got it, sorted it out and I suppose, like most things if this programme was to roll out and money was poured into it, then it would be flashy and it would come out in a form that would be easy to go from one section to the next and whatever. But as it was, the general idea of it was quite straightforward.

I found the cards OK but I got myself organised and put them into my folder here so I've got them there. I struggled a bit with the numbering, B1A and then, you know, I just wondered if you had a page number would that help?

I've been involved in the TOPS and it's fantastic. And it's user-friendly. And there's equipment and everybody just mucks in. And the skill ... and the little practices are simple, not too complex, and the teacher in the primary can have a look at these cards that have been made up and she can gauge what cards to give to a class. And I think that's very user-friendly. I really do.

More Integration Between the Physical and Mental

The integration of the psychomotor and psycho-behavioural aspects of the programme was seen as a very important concept by the deliverers. The more this could be made explicit and practical the better.

I think the rationale behind it all is really very sound. When you're reading the manual it almost reads as being logical, common sense if you like. I like the way that the movement and the behavioural bit are tied together.

I don't think there's anything else really that has that kind of level of very specific looking at this person do a forward roll and comment on it or whatever. You would maybe do that in a gym hall, you know, and they will look at their peers and comment on it or whatever but not so much in an actual discussion in the classroom. It's a good thing in one sense because they probably then would focus more upon it and you might actually get more of a discussion and a better response. But in the classroom, the difficulty is that if it's something they have to do, they don't then get the chance to try it out and see if they can make it better there and then.

Summary

Once again, a great deal of support is apparent for the DPYPS approach. As indicated throughout the planning and implementation of the programme, its complexity limits clear distinction between elements. In short, it is the entire recipe that needs consideration rather than the individual ingredients.

Some points are clear however. The resources need improvement, both in 'smartening up' and in simplifying the presentation – not a particular surprise given the pilot nature and resource limitations of the programme. There are also implications for further development of the in-service training, a factor which is addressed specifically in the next section. For us, the potential role of DPYPS as a 'unifying' force between myriad initiatives is a positive highlight from participants. Their support for the content and methodology is also welcome; support for the role of pedagogy in effective teaching is particularly worthy of note.

Section 4 Resources and Professional Development/Training within the Intervention Package

4.1 Development of the DPYPS Resources

4.1.1 The Rationale Underpinning Development of the Psychomotor Resources

The psychomotor resources within DPYPS are founded upon the belief that generic skills are insufficiently developed in most children and that specific teaching is necessary to remedy this important lack. There are also issues with the way in which more able youngsters are developed through participation in sport. From a young age, children are encouraged to specialise in one or two sports, often both in and out of school, with little consideration of their developmental needs outside their sport specific prowess. Even those enlightened sports which specifically address a broader educational agenda, often fail to cater fully for the individual child's needs in a comprehensive fashion. In short, although there are many benefits to early participation in one sport, there is also a number of disadvantages.

For example, case studies of elite sports performers have indicated that many started in a different sport to the one at which they finally excelled. By limiting the education that individuals get at a young age, we are potentially closing the doors to alternative sports at a later stage. In fact, we may even be acting to limit the individual's performance in that particular sport. There is a great deal of evidence which supports the benefits of transfer of skills from one environment to another. The risks of producing 'two-dimensional' players is really not worth the benefits which (supposedly) accrue from specific training and coaching.

A similar picture emerges from the participation perspective. For example, research has shown that teenage girls are more likely to drop out of, or avoid, sports clubs/physical activity sessions. The conventional argument is that these activities are not popular with these students. However, merely changing the curriculum and offering less competitive team games and more dance (for example) often fails to achieve the expected magical transformation! In contrast, we believe that this lack of participation is often due to the students' poor perceived movement competence, or to put it more simply, they think they look stupid doing the activities! This embarrassment would obviously be reduced if, at a young age, co-ordination and generic sports abilities had been developed, and confidence in these abilities engendered.

4.1.2 The Content of the Psychomotor Resources

The psychomotor resources introduce a range of developmental motor activities that provide children with the opportunity to develop competence (perceived and actual) in a range of physical skills. The physical skills promoted underpin successful involvement in physical activities. The curriculum follows a developmental line in three stages, moving from the development of basic components (the 'words'), to a transition stage which develops the ability to combine these moves in meaningful ways (the 'sentences and

paragraphs'), to a final stage in which skills are deployed in game or activity-specific environments (the 'stories'). Additionally, the conditioning (and knowledge of how to condition) the body is promoted throughout the curriculum by also emphasising the main components of fitness (agility, flexibility, strength, speed, stamina and power) (see Figure 4.1).

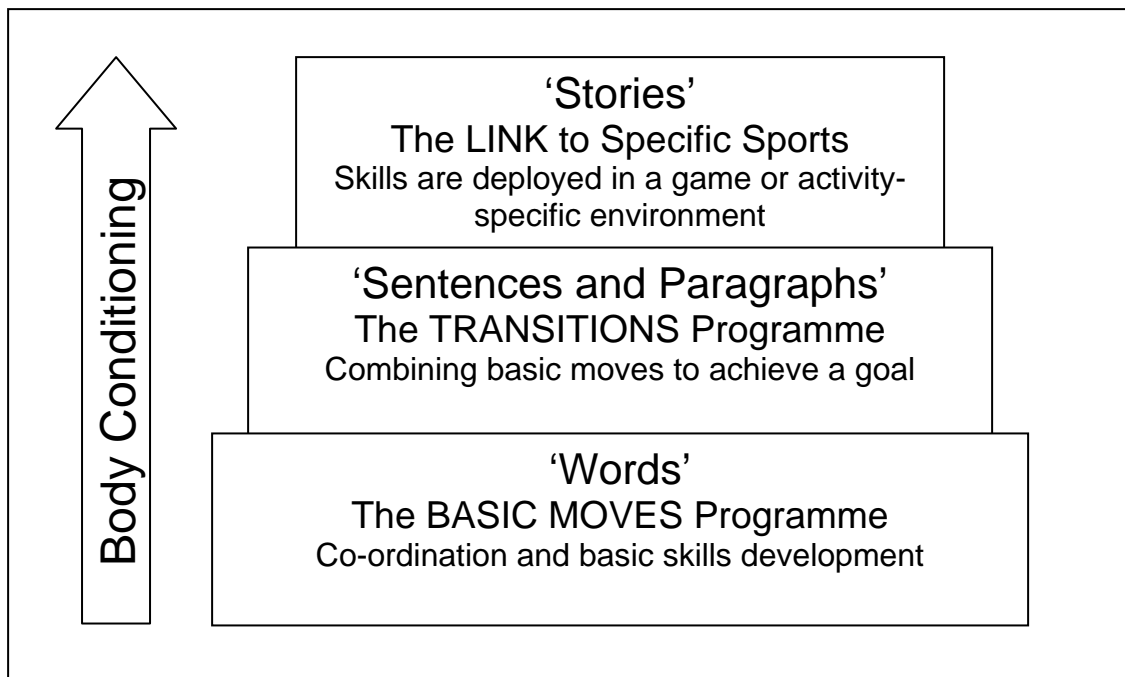


Figure 4.1: The three stage psychomotor developmental curriculum employed within the DPYPS programme.

Therefore, the DPYPS psychomotor resources provide activities that aim to equip individuals with a broad developmental base in order to aid sports participation for a healthier lifestyle, and/or involvement in high performance sport. The three-stage system offers a comprehensive package targeting:

- The development of co-ordination.
- The development of the basic movements which underpin sport specific activities (e.g. running, catching, throwing).
- The ability to combine these basic skills to achieve game/performance-related objectives (i.e. invasion games, central net sports, striking and fielding games, and sequencing skills).
- The development of game-related cognitive skills, such as decision making and scanning.
- The development (and knowledge of how to develop) the main components of fitness (agility, flexibility, strength, speed, stamina and power).

Level One: ‘Words’: The Basic Moves Programme

The Level One psychomotor programme targets co-ordination and performance at basic skills such as throwing, kicking, catching and travelling. Co-ordination is a complex motor skill necessary both for skill acquisition (learning) and skill perfection. Co-ordinated individuals have been shown to acquire new skills quickly, and perform them with greater efficiency.

The best time to train co-ordination is during the early years when individuals learn everything quickly; a multi-skill programme creates a solid foundation for subsequent elaboration, unlike the specific skills training that many individuals currently experience. Pre-puberty is often referred to as the ‘rapid gain phase’, at this time children who are involved in a wide range of activities make greater gains in co-ordination than those who participate in one sport. Research has also shown that many elite performers began their sporting life in entirely different sports from the ones at which they later excel. By pushing generic training at a young age, we are broadening the sporting directions that individuals can take, whilst also promoting the potential ability to generate and execute new and original solutions to movement challenges. The resources provided suggest activities to promote each of the basic skills, working along a continuum that starts simply and progressively becomes more difficult. Each work card contains instructions to give the children and teaching points (*in italics*) so that teaching can be focused on the factors pertinent for the specific activity. Additionally, there are also pointers as to how to vary the activities to accommodate a range of abilities.

Level Two: “Sentences and Paragraphs’: The Transitions Programme

Once the basic skills are firmly ingrained in an individual, more complex movement patterns can be introduced. Therefore, the Level Two psychomotor programme is a transition level, which consists of tasks that encourage individuals to combine the basic skills to achieve some game/performance-related objective, such as blocking an attacker. Consequently, the *Transitions* programme aims to take well-learned basic skills, then gradually combine and refine these to produce more complex, sports-like patterns of movement. Note that moving onto this stage too early can result in a breakdown of the fundamental movement patterns. For example, a child may be able to throw a ball against a wall with an appropriate technique, but move them into a game situation too early and their throwing ability is likely to degenerate. Continuing to place the individual in a game situation will eventually lead to a well-learned and consistent BUT faulty movement pattern.

The *Transitions* programme, like the DPYPS programme as a whole, is designed to be progressive. Simple movements are combined with other simple movements; and developed to generate increasingly complex movement sequences. In this level, the tasks also aim to develop cognitive abilities (such as scanning and decision making) in tandem with the movement skills. It is important in this level that teaching points are used as a last resort to allow individuals to use their knowledge from Basic Moves as a foundation to enable them to explore and learn more complex sequences in their own

time and way. At this level, activities are set up to encourage participants to generate appropriate movement solutions and general guidance tips replace teaching points.

This level also includes a specific emphasis on games, pertinent because of the popularity and centrality apparent in these activities for younger students within our societal context. Crucially, and perhaps a reason why this activity seems to lose this popularity as students enter puberty, performance in games depends on more than just executing a series of skills. The games environment is constantly changing and the games player must know which skill to select and execute at any given time, under extremely tight time pressures, even at a fairly low level of play. Often this means that the player must be able to adapt the skill depending on the dynamics of the situation. These skills are not acquired simply by mastering a series of techniques, but rather when the player understands the changes that are taking place within the environment, the actions they should perform in accordance with those changes, the effect their actions will have on the environment, and how their actions relate to their objectives and the team objectives. Decision making, and scanning and skill execution all play a vital role in team game performance. Therefore, knowledge development should take place alongside movement development when games are the focus (Grehaigne et al., 2001).

Curriculum guidelines are given to clarify the age at which certain skills should be reasonably well developed, however, the most important factor is that sessions are geared around ability rather than chronological age. Some individuals will progress decidedly slower than their counterparts, but it is essential that they are not rushed, but rather allowed to develop through the levels at their own pace. Tasks are split into categories (invasion, central net, striking and fielding, and sequencing activities), skill groups (object control, travel and balance), and sets. Within each set there are four tasks which gradually build in complexity.

Level Three: 'Stories: The Link to Specific Sports'

The Level Three psychomotor programme is aimed at teachers and coaches providing sport specific practices to children. We have continued to develop resources based around a generic approach to the development of decision making in invasion games. The limited deployment of some of these methods, achieved in partnership with Stirling County Rugby Football Club, seemed to have a positive impact with coaches and meta-coaches.

A specific issue for the further development of this level relates to the generally poor coaching skills apparent in many of those who attended training. These individuals are obviously highly committed and enthusiastic. However, their limitations in coaching skill, particularly pedagogy, were apparent at an early stage, and severely limited the training and development we achieved with them. We would welcome further discussion on the development of this aspect, which could, we suggest, benefit substantially from this approach.

4.1.3 The Rationale Underpinning the Development of the Psycho-behavioural Resources

The psycho-behavioural strategies promoted within the DPYPS programme are based on recent and current research from around the world that has investigated the processes adopted by those who successfully develop in sport, as well as those who become consistent world-class performers in a range of achievement environments. Interestingly, and very positively for educationalists, current research highlights that the same psycho-behaviours are consistently found to underpin achievement whatever area of challenge is examined, be it sport, music, business, being a top surgeon, or ballet. Therefore the psycho-behavioural curriculum suggests a series of practical exercises that will help promote the behaviours that underpin successful development and performance of children in sport. The successful completion of these exercises alongside the DPYPS psychomotor curriculum should encourage and facilitate children to strive towards achieving their potential. Consideration is also given to how these skills can be employed in non-sport settings to facilitate the journey towards achieving potential within other contexts (e.g., academia, music).

4.1.4 The Content of the Psycho-behavioural Resources

As highlighted within Figure 4.2, the psycho-behavioural curriculum provides resources for the promotion of a range of behaviours across three levels of development:

- Level One: Realisation of Competence and Self-Reinforcement
- Level Two: Begin to Take Responsibility for Own Development
- Level Three: Aspiring to Excellence: Autonomous Development Achieved

Level One: Realisation of Competence and Self-Reinforcement

The psycho-behavioural resources at Level One focus on the development and employment of five factors that help children realistically evaluate their level of competence and to begin to self-reinforce their progress:

- Self-awareness
- Performance Evaluation
- Goal Setting
- Imagery, and
- Focus and Distraction Control

Delivery of the Level One curriculum will ideally occur at either Primary 6 or Primary 7 but can be employed with older age groups if the children show limited development of these five fundamental behaviours.

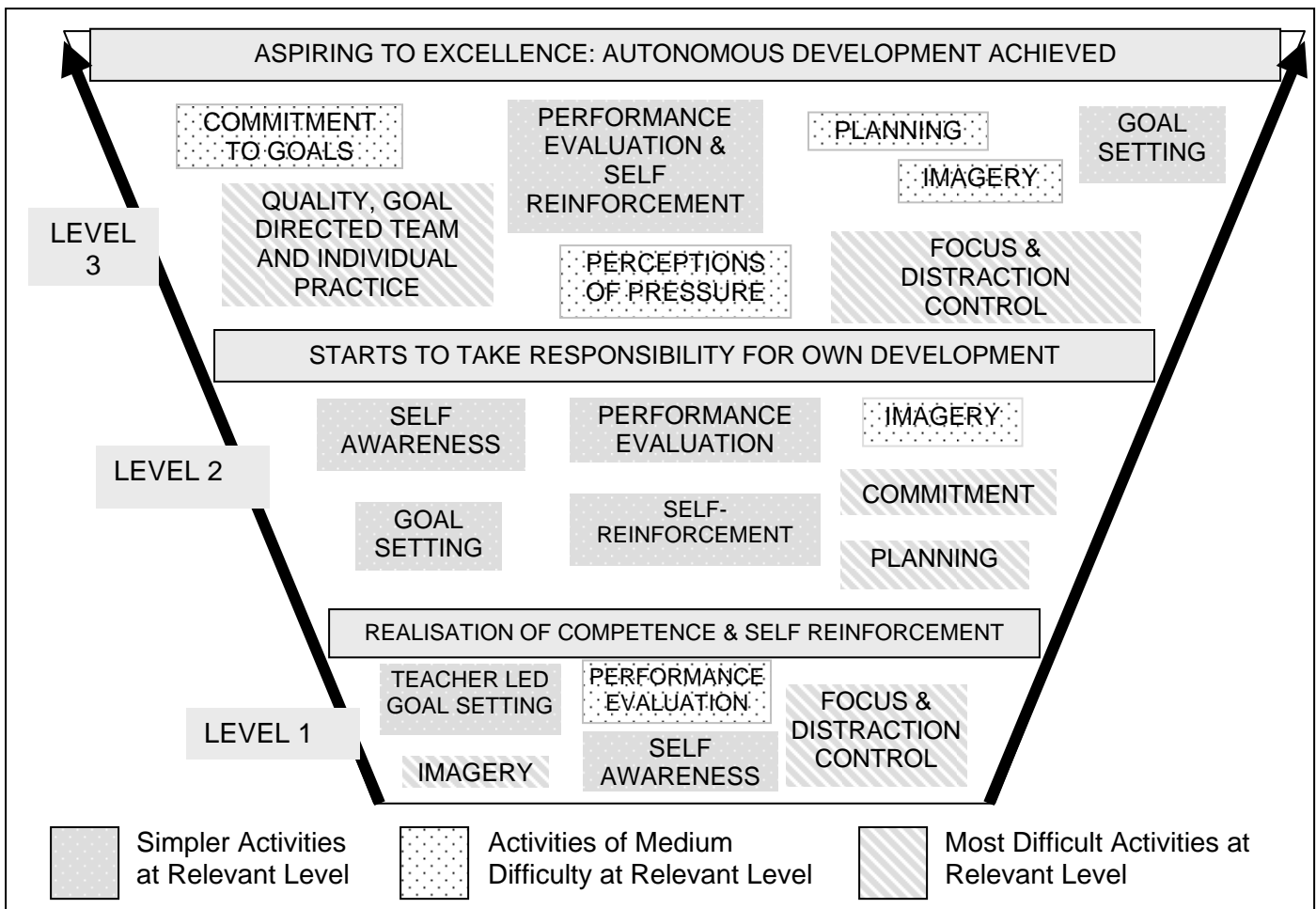


Figure 4.2: The range of psycho-behaviours promoted across three levels of development within the DPYPS programme.

Level Two: Taking Responsibility for Own Development

Level Two further develops the behaviours acquired at Level One. Due to the interrelated nature of the behaviours, tasks often promote two or more of the concepts at the same time. The aim of Level Two is to encourage the child to begin to take responsibility for their own development. The psycho-behaviours promoted are:

- Self Awareness
- Self-Reinforcement
- Goal Setting
- Performance Evaluation
- Imagery
- Planning, and
- Commitment

Level Two tasks are most likely to be used with those children who have successfully completed Level One tasks. However, children who progress quickly when initially introduced to psycho-behaviours (Level One) could be presented with some of the more complex Level Two activities.

Level Three: Aspiring to Excellence: Autonomous Development Achieved

At Level Three, consideration is given to how we can provide children who are training within specific sports with the best chance of becoming successful elite athletes one day. In general, this level aims to promote a coherent system for producing successful senior athletes. It is a long, hard process to develop the skills to enable someone to get into a position to progress and succeed when the opportunities come. For example: getting into the school team, then the county team, then regional team, then national team, then to get into a position to give yourself a chance to succeed at the top level (e.g., to win the Ryder Cup or score the winning penalty in the world cup final). In addition to this, athletes need to be able to cope with the inevitable ups and downs, the injuries, bad luck, the media, educational/work pressures and other uncontrollable factors that will inevitably happen along the way, and still be able to put in the many hours of practice that are required to develop into a successful elite athlete. That is where we believe the effective application of psycho-behaviours are so important. Of course, psycho-behaviours are also important factors for ensuring that someone can consistently perform to the best of their ability, at any level. Due to the importance of these skills for both development and performance, we argue, inferring from current research, that it is a lack of consistent, coherent emphasis of mental skills from an early stage that is a major stumbling block for the development of talent in our country.

Consequently, the workbook, containing a series of practical ideas to help guide the thinking of coaches and also drawing on their knowledge and experience, helped to produce some practical solutions to promoting the desired application of psycho-behaviours within a specific sport. The workbook therefore is not only designed to guide individual coach thinking but, importantly, aims to provide a foundation upon which a more consistent and coherent coaching system can be provided to athletes throughout their career. The aim is to bring together as many 'coaching brains' as possible into the same line of thinking, with the same style of structure in mind. The workbook is NOT designed to provide a magical and new solution to coaching but it aims to provide a common understanding of talent development and therefore A coherent process by which coaches, at any level, can work to ensure a common method of effectively recognising and developing talent.

Therefore, Level Three contains a series of activities that enables a coach to identify and promote the optimal application of a range of psycho-behaviours within a sport specific context (e.g., netball, football). The seven behaviours promoted at level three are:

- Goal Setting and Committing to Goals
- Performance Evaluation and Self-Reinforcement

- Imagery
- Planning
- Focus and Distraction Control
- Perceptions of Pressure
- Quality, Goal Directed, Team and Individual Practice.

What are the Specific Objectives of the Psycho-behavioural Activities at Level One?

The Level One psycho-behavioural resource provides a range of activities designed to promote specific elements of each of five behaviours being promoted.

Self Awareness

At Level One, the self awareness section emphasises the value of the student as an individual. The following learning objectives are introduced:

- To recognise that everyone, including themselves, has special strengths.
- To recognise that it is okay to have different feelings.
- To recognise that strengths at one task may be weaknesses at another.
- To recognise that a person's achievement may be perceived differently by different people.

Performance Evaluation

At Level One, the performance evaluation section shows children that the way in which they react to their performances in achievement settings is an important part of sport involvement. The following learning objectives are introduced:

- To encourage children to realise that different people react differently in achievement settings.
- To encourage children to think about how they react to their own achievements and how this influences their feelings and behaviour.
- To encourage children to develop an awareness of context – that the same outcome may be perceived differently under different circumstances.

Goal Setting

At Level One, the goal setting section promotes the use of goals and shows how children can employ them to influence positively their development and performance. The following learning objectives are introduced:

- To help children understand the role of goals.
- To use goals as stepping stones in order to monitor progress.

Imagery

At Level One, the imagery section presents practical tasks that promote the use of imagery and highlights how imagery, if used alongside practice, can help build confidence and improve performance. The following learning objectives are introduced:

- To understand the concept of imagery.
- To learn how to image successfully.
- To use imagery to improve confidence and performance.

Focus and Distraction Control

At Level One, the focus and distraction control section presents practical tasks that emphasise the importance of attending to relevant cues. The following learning objective is introduced:

- To facilitate a child's ability to recognise which cues should be attended to in different situations

What are the Specific Objectives of the Psycho-behavioural Activities at Level Two?

As highlighted earlier, many of the psycho-behaviours that are promoted within the DPYPS programme are strongly interrelated. For instance, if an individual is unable to evaluate realistically a performance and the factors that contributed to a performance, they are unlikely to set themselves realistic goals. Consequently, many of the activities introduced at Level Two recognise this interaction and promote objectives that underpin the effective employment of more than one of the psycho-behaviours as shown below:

Self Awareness and Self-Reinforcement

At Level Two, self awareness and self-reinforcement concepts are linked. The following learning objectives are introduced:

- People may usefully be selected, based on their particular blend of (strengths and weaknesses) characteristics.
- Different emotions are okay ... Irrationally positive or negative emotions are not.
- Getting really good at something involves strengthening strengths but often also strengthening or even eliminating weaknesses.

Goal Setting and Performance Evaluation

At Level Two, the goal setting section encourages children to use mental, physical and technical goals and to use these both to increase commitment and to facilitate the evaluation process. The following learning objectives are introduced:

- To use three levels of goals to evaluate progress.
- Different emotions are okay ... Irrationally positive or negative emotions are not.
- What impact do 'others' and 'you' have on how you feel about a performance.

Imagery

At Level Two, the imagery begins by providing activities that show the importance of priming imagery before progressing to consider how imagery can positively facilitate both cognitive and motor imagery. The following learning objectives are introduced:

- To understand the importance of priming imagery.
- How effective is your visual imagery?
- How effective is your movement imagery?
- Using imagery to help you remember a verbal and a motor task.

Planning and Commitment

At Level Two, the planning and commitment section begins by highlighting that the rate of improvement that an individual will achieve in a given area is likely to decline with progress and the importance of allowing for these 'decreasing returns' when setting goals. Activities then go on to highlight the importance of placing an appropriate emphasis on the range of factors that are likely to affect performance if maximum progress is to be achieved. The following learning objectives are introduced:

- To understand the likelihood of decreasing returns when planning goals.
- To recognise that a range of elements impact performance.
- Developing commitment by placing an appropriate emphasis on the factors that impact performance.

What are the Specific Objectives of the Psycho-behavioural Activities at Level Three?

Currently, there appears to be an inadequate focus on the effective employment of psycho-behaviours within TID programmes. Therefore the aim of the workbook at Level Three is to cash in on the existing knowledge and experience of UK coaches, plus findings from our ongoing research programmes, in order to develop a more systematic and coherent way of incorporating psycho-behaviours into coaching and TID

programmes. This workbook, in conjunction with subsequent workshops with a broad range of coaches, aims to provide several benefits:

- Giving coaches the knowledge to be able to be independent and creative in the development and effective application of psycho-behaviours by athletes in their sport.
- Provide less experienced coaches with insight into effective coaching through discussion between top coaches.
- Help athletes in the short and long term by providing coherent integration of mental skills through the coaching practice.
- Emphasise a focus on individual development as opposed to team or short term success.

4.1.5 Resources Provided to Deliverers

Deliverers of the DPYPS programme are provided with relevant packs of resources and attend an in-service training programme. Level One deliverers (primary school teachers) and Level Two deliverers (secondary school teachers) are provided with a manual and a Level One and Level Two psychomotor and psycho-behavioural resource pack. It is important to highlight that the manual, whilst it provides some information to help in running the DPYPS programme, is designed to be used in conjunction with thorough in-service training in order for the programme to achieve its aims. Included in the psycho-behavioural packs are work cards for the teacher providing details of objectives and activities and accompanying worksheets for the children. The psychomotor activities are detailed on work cards aimed at the teacher. Coaches are provided with a workbook that enables them to identify (a) the method by which they would like the key psycho-behaviours to be employed within their sport and (b) systems and behaviours they can adopt in order to promote this use.

4.1.6 Location of the Materials Against Other Resources Available

Once again, to facilitate context and offer a basis for comparison, we offer a brief description of other resources parallel to those within DPYPS.

From a psychomotor perspective, the other main programme is TOPS. This card and equipment-based resource facilitates the development of sport-related tasks. Training is offered for the use of these resources, which provide sessions and practices for various age groups. There is a variety of differences between this approach and the one used in the DPYPS programme. Specifically, the research underpinnings of the programmes are, at least as far as we can discern, very different. The Basic Moves programme (which forms the foundations of our psychomotor intervention) is based on ongoing and published research, with a clear empirical rationale. We are unaware of the similar basis for TOPS. The original TOPS programme had no curriculum, although the later revision has. Finally, and most crucially, TOPS offers a series of sessions whilst DPYPS provides activities within a logical structure, encouraging users to be more professionally

autonomous. Of course, TOPS has certain strengths and advantages over the DPYPS scheme, and a structured integration of the two would seem to us to offer an excellent way forward.

The use of psycho-behavioural aspects in context as used by DPYPS is completely unique. Previous texts have offered self-tutorials for young athletes; the work of John Hogg (1997) in swimming is the best example of this. Other programmes (for example the 'Life Skills through Sport' approach developed by Steve Danish and colleagues, (1997) have used physical activity and sport psychological skills as the basis for personal development. However, our development of the psychological characteristics of excellence through, and in association with, physical skills is original, particularly at the young ages typical within DPYPS.

Finally, the parallel emphasis of pedagogy which runs through the provider training, is based on UK Sports Institute (UKSI) sponsored research with both elite and development coaches.

4.2 'Consumer' Perceptions of the Resources

4.2.1 Overview of the Data Collection

During the interviews conducted at the conclusion of the DPYPS programme, teachers were asked to reflect on the appropriateness of both the resources they had been provided with and the training they received. Data collection on this aspect was limited to the teachers, as they were the group mainly, and almost exclusively, involved with their use. This section provides an overview of the comments made by the teachers regarding the psychomotor and psycho-behavioural resources.

Procedure

The interviews were conducted collaboratively by the research team. Each interview lasted 40-90 minutes, and all the interviews were completed within a one month period. No data were collected prior to establishing rapport and trust with the interviewees. This was accomplished by being candid with the interviewees and reassuring them that the purpose of the interview was not to evaluate their performance, but to gain an understanding of their perceptions of the DPYPS programme and how it could be improved. The interviews, which were semi-structured, were tape-recorded and transcribed verbatim.

Data Analysis

Following the transcription of the interviews, the raw data for the three pilot clusters were arranged in text units, and were then analysed using qualitative inductive methods based on open codes, emerging themes, and emerging categories (Miles & Huberman, 1994). The emerging codes were then arranged into themes that were based on the converging responses of a number of participants to minimise the effects of personality and other individual differences, thus leading to the identification of common patterns.

4.2.2 Psychomotor Resources

All teachers reported that they liked the psychomotor resources which had been provided.

I think the actual materials which we've got, the PE section, the physical side of it look absolutely exceptional and they have been worked with for the last 10 or 15 weeks and they are excellent. (Primary school teacher from the Bannockburn cluster)

Following through from these universally positive comments, a range of reasons was provided for these positive comments concerning the psychomotor resources:

- The resources cater for different levels (100%).

I think the [psychomotor stuff] is very clear, it's easy to follow and you can see that there is a progression coming through ... it is adaptable to the needs of your own particular group of children. (Primary school teacher from the Bannockburn cluster)

It [the psychomotor curriculum] starts off rather simple for them [Primary 7 children] but then they take over and they adjust it, you know if you are asking them to do a sequence or something they bring in far more complicated work than a child that's maybe in Primary 4. (Primary school teacher from the Bannockburn cluster)

- The resources help evaluate the motor abilities of children (40%).

I liked it [the psychomotor resource]. I loved the cards because they gave you guidance on how to evaluate skills, which of course is really important for me in my assessment. They gave you pointers on what to look out for, say, in running, sort of common pointers in running that were incorrect and what to do about it. They gave you guidance on extension tasks and how you could apply them. (Primary school teacher from the Bannockburn cluster)

There were a lot of skills that were really broken down on the cards, like the running. How do you improve someone's running? You watch them and they don't run well but you don't know how, as a teacher, to break it down and improve it. Whereas, on the [psychomotor] cards, it actually says what you should be looking for, so you then know, oh they're doing this wrong. We've never really been taught, if you even think back to your own childhood, did anyone ever tell you how to run or jump? You could either do it or you couldn't. (Primary school teacher from the Bannockburn cluster)

- The activities within the psychomotor resources can be linked to sport specific development (27%).

It's great. I've started planning for next term and I've started to look at the cards [the psychomotor cards] that I'm going to be using. I'm also going to link that into the athletics we are going to be doing next term. (Primary school teacher from the Bannockburn cluster)

As a teacher you can see what sport the [psychomotor] activities within DPYPS relate to even though the games and things are completely different ... I thought that was very good. (Primary school teacher from the Bannockburn cluster)

I love TOP play and I love the cards. They are very user friendly but they tend to concentrate on the application of the skills, assuming that children have got the basic skills. So in that respect, I think the DPYPS programme was better because it focused on getting competency within the basic skills. So having both programmes is good for me because it means that you can use the two things together. (Primary school teacher from the Bannockburn cluster)

- The psychomotor cards were easy to use (34%).

The actual cards themselves, as a teacher I find them extremely easy to follow. (Primary school teacher from the Bannockburn cluster)

I thought it [the psychomotor curriculum] was absolutely excellent. Absolutely excellent. I liked the simplicity of it. (Primary school teacher from the Balfron cluster)

The psychomotor cards are easy from a teacher's point to use. They are amendable which is good as some of them are too simplistic. (Primary school teacher from North Ayrshire cluster)

The [psychomotor] lessons, you know, are good. They're easy to follow, the cards are good. The ideas that ... [the seconded teacher] ... has given me just by watching him are good, all the lessons he did are straightforward. (Primary school teacher from the Balfron cluster)

- Activities detailed within the psychomotor resources only require basic equipment (20%).

I don't think anything can be improved with the resources ... what I've looked at so far, I'm quite happy with them. Everything seems to be pretty straightforward. Also, the equipment is easily accessible, there's nothing that you can't get hold of to use. It's basic things like footballs

and that type of stuff, which every school has. So far, I don't think there's a problem. (Primary school teacher from the Balfron cluster)

The psychomotor work cards were something I really liked ... they cater for everything and all the equipment that we need is there in school. (Primary school teacher from the Balfron cluster)

You weren't asking us to do anything that we did not have equipment for, and that was important. (Primary school teacher from the Balfron cluster)

- The resources provide a structure and focus for physical development (80%).

I just think the cards [within the psychomotor curriculum] themselves give a structure for the teacher to use, to fall back on, particularly if they've got a few skills themselves in PE. It gives you a new resource and keeps you focused on the elements you are supposed to be focused on. (Primary school teacher from the Balfron cluster)

These are actually quite good [the resources]. But, before that, I had no resources at all. (Primary school teacher from the Balfron cluster)

From my point of view, it's a structured programme which I can follow. (Primary school teacher from the Bannockburn cluster)

Every single thing [in the psychomotor curriculum] has got a purpose. Although they are doing this thing and it's fun they are still using the skills. They are still striking and throwing and you know they all match to the task they have been given. (Primary school teacher from North Ayrshire cluster)

- The combined focus on cognitive and basic skills development (27%).

It [the psychomotor programme] is just making them [the children] more aware and not just saying 'right, this is the skill' but ensuring they know why they should do it and when to use it and it is important for them to be able to do that. (Primary school teacher from the Balfron cluster)

The programme has also broken down the tactical stuff into steps just like it has the basic skills. (Primary school teacher from the Bannockburn cluster)

Additional evidence of the teachers' approval for the psychomotor resources is the intention of all teachers (100%) to continue to use them as part of their PE sessions even after the conclusion of the DPYPS programme:

I'll certainly continue to use them for future classes, whether it's at P7 level or younger. (Primary school teacher from the Balfron cluster)

I will quite happily continue with the work that ... [the seconded teacher] has been doing. I see a road now. Before, I saw a brick wall. (Primary school teacher from the Bannockburn cluster)

I definitely will continue to use the resources. Coming back to the fact that I now have an awareness of how important getting the basic skills is. So I would definitely use it [the programme]. I really appreciate that we got the opportunity to participate in this programme because I think the philosophy behind it makes a lot of sense and anything that helps develop your children's skills is definitely worthwhile and I think it really did help develop the children's skills. (Primary school teacher from the Bannockburn cluster)

I would continue to use the resources even if the programme was discontinued ... because it's a reference ... we were always talking about trying to find a new resource and we've looked at various things but they all tend to be much of a muchness and I think that if you can allow children to enjoy something you have got them halfway there already. So I am being very positive but I've not actually found anything bad about it [the DPYPS programme], I've really quite enjoyed doing it with them. (Primary school teacher from the North Ayrshire cluster)

Whilst teachers were generally positive about the psychomotor curriculum, useful suggestions were also made on how the resources could be developed further. Suggestions related to the density of the material provided on the cards (27%) and the value of having a visual resource that complemented the work cards (7%).

The only thing I did feel was they were too densely organised. They're definitely not what you would call user friendly, you really have to study it and with an already overloaded curriculum and lots of things that I need to prepare for, that was a downside. So if the cards were less densely organised and more appealing. But I know it's a pilot and the presentation is something that can be improved on. (Primary school teacher from the Bannockburn cluster)

Say you were doing gymnastics, you could maybe do with just highlighting the various skills that are being developed on a video and then showing the potential, the end aim. You could do the same with ball skills, for example. It was useful seeing ... [the seconded teacher] ... work because I could take notes which I can understand better than reading a card of activities. (Primary school teacher from the North Ayrshire cluster)

The development of a visual resource to complement the work cards may have also helped a teacher who stated that:

Some of them [the psychomotor] cards were good and some of them didn't break down the activities enough. When you've been on the course and you've gone through a task, it was easy to see what the cards meant, but when you were actually using them, it wasn't always as easy to work out what the actual activity was or how you were to do it. It takes a while to work out what they actually mean. (Primary school teacher from the Bannockburn cluster)

Relatedly, 36% of teachers highlighted how it takes considerable time to get used to the range of resources and therefore preparing a lesson can be a time-consuming process.

I think the resources are great and they've been useful but I've found it really time-consuming. It was ok the first ten lessons when you have help with that and you start to understand how to work it out but after that when you have covered all the sort of skills and then you go back and want to go over the throwing, striking and all the rest of it, you have such a lot of resources I think it takes longer to actually get used to it. Don't forget we are only doing it once a week and someone who is doing it all the time like a PE specialist is doing it every day and they can bring different things into it whereas at the moment we are sticking to what it tells you. We have not got the confidence to say we'll just get rid of that and we'll put that in. (Primary school teacher from the North Ayrshire cluster)

4.2.3 Psycho-behavioural Resources

All but one teacher reported that the children had reacted positively to the activities provided within the psycho-behavioural curriculum (93%).

I haven't come across anything the children haven't enjoyed doing [in the psycho-behavioural curriculum] and haven't been ready to discuss. (Primary school teacher from the North Ayrshire cluster)

In the one case where the teacher reported that the children had not responded well to the psycho-behavioural activities, the teacher felt that the children had not had time to get used to the activities:

I know that both classes I've tried it with did not enjoy it [the psycho-behavioural curriculum]. Within our curriculum in Primary 6 we have got a PSD [personal and social development] circle type programme which I have watered down considerably to fit the psycho-behavioural material in. If I could do it differently, and I'm not allowed to do it differently, I would do it much more intensely. That programme [the psycho-behavioural programme] has been touched once a fortnight and that's

not sufficient. From my personal point of view I think we could do your programme virtually on a daily basis and that's what I would like to do, and it might start to have an effect then. But within our timetabling arrangements, we don't have that option and I cannot do that so the kids are only doing it once a fortnight and they don't get used to it. (Primary school teacher from the Bannockburn cluster)

Even though this teacher did not feel he had been able to carry out the psycho-behavioural activities successfully with the children in his Primary 6 class, he still saw the value in promoting the concepts highlighted within the psycho-behavioural programme and intended to give the psycho-behavioural activities another go:

The PSD [psycho-behavioural] side of it, I've not exactly been enthused about, but I'm going to give it another go. (Primary school teacher from the Bannockburn cluster)

A range of positive observations were made regarding the psycho-behavioural curriculum that included (a) it tied in with the personal and social development curriculum, (b) it was flexible, (c) the content of the activities was good, and (d) the concepts promoted within the curriculum had wider applications than physical education and sport.

- Links with the personal and social development curriculum (PSD) (93%).

The psycho-behavioural side fits in really well into lots of areas in PSD [personal and social development]. The goal setting, for example, because we use goal setting in our PLP [personal learning plan], they have to set themselves a goal every block. We work in blocks here. So, it's good to see that strategy coming through in lots of areas in their lives, so I like that side of it. (Primary school teacher from the Bannockburn cluster)

One of the big issues is time, time is a real premium in the primary school because the curriculum is absolutely overloaded. So the strengths were where it tied in with things we're doing in PSD anyway, like goal setting. (Primary school teacher from the Bannockburn cluster)

- Flexibility within the psycho-behavioural curriculum (47%).

I was really pleased with the psycho-behavioural resources. If there hadn't been flexibility in it, it would have been an absolute nightmare. But it was clearly said at the training that we could adapt the activities and there was flexibility. So that was good. (Primary school teacher from the Bannockburn cluster)

The good thing about it [the psycho-behavioural resource] was we were told there was flexibility, thank goodness and you could adapt what you

were using. You didn't have to do everything. (Primary school teacher from the Bannockburn cluster)

- Content within the psycho-behavioural curriculum (80%).

Some of the stuff we used was great, for example, the three sit-ups [a goal setting activity]. All the children got the idea behind that and that was a laugh, they really loved it, the fact that the next group came up and were determined to beat the time of the first group. So they could really see what was going on there, which was good. I really loved the imagery stuff as well and they enjoyed that. (Primary school teacher from the Bannockburn cluster)

Getting the children to look at themselves or analyse the behaviours of others, you know, there were characters that they had to analyse and there was a confident person, a nervous person. That was actually quite good because they weren't judging themselves. They were starting from judging someone else and then putting it back to themselves, how would I feel in that situation and how would I react. And I think they got quite a lot from that and quite surprising answers from some of the children. (Primary school teacher from the Bannockburn cluster)

- Wider applications (93%).

We were very enthused about that [the psycho-behavioural curriculum]. We saw that as the stronger side because it lies toward the subject areas. So, again, it gave a structure to work with. (Primary school teacher from the Balfron cluster)

We had a big discussion after doing the imagery task and we were talking about using self imagery in all sorts of situations, not just sport and every child volunteered a time when they could use it, or when they had used it recently. So, for example, we were having a 'stars in your eyes' competition and one of the girls said that to make herself less nervous what she did was she stood in her living room and imagined she was getting applause and everything and then when she actually was on the stage, she said she imagined she was in her living room. So I thought that was great. That's what it's all about. (Primary school teacher from the Bannockburn cluster)

Additionally, all teachers indicated (100%) that they would continue using the psycho-behavioural resources following the completion of the pilot programme:

I felt I didn't do enough [of the psycho-behavioural curriculum] but I would still be willing to pick it up. I'm still excited about it, if more gaps come in, I'll come back to it. (Primary school teacher from the Balfron cluster)

I think for the classroom stuff [the psycho-behavioural resources], I think it's something we might build on ourselves. Build up our own bank of resources. I would try and find other video clips, things that are going on in sport just now as well, like the rugby that's just happened, things like that. But I think there's a good basis there [in the psycho-behavioural curriculum]. (Primary school teacher from the Balfron cluster)

Whilst 47% of the teachers highlighted that the flexibility provided within the psycho-behavioural curriculum was a positive feature, one teacher discussed how the number of activities provided within the curriculum, which enabled this flexibility, was an initial concern.

I think maybe there was a bit too much on that [the psycho-behavioural] side, just for me speaking personally. So I found it a bit off-putting because I actually panicked a bit and thought 'I'm never going to get through all this' even though we were clearly told there was flexibility. So maybe just provide us with less. (Primary school teacher from the Bannockburn cluster)

Additionally, two teachers (13%) felt that there could have been less content on some of the work cards:

Some of them had quite a lot of work on them, you know, and maybe it could have been broken down into a few more sheets or a few more lessons as there was quite a lot sometimes involved in one sheet, quite a lot of discussion with them. But most of it was explained very well so before you started you were able to decide really what key points you wanted to do and decide the bits that you'd take out. You could adapt the lessons so you could maybe have a longer discussion or you could take it [the concept] into something else. But, it [the psycho-behavioural curriculum] didn't need much preparation to do, you could go ahead and do it. (Primary school teacher from the Bannockburn cluster)

Possibly related to the extent of activities that teachers were provided within the psycho-behavioural curriculum, one teacher suggested that an indication of how long should be spent on developing each of the objectives being promoted would have been valuable:

There was no time scale [provided with the psycho-behavioural resources], it didn't say 'it's recommended you do this three times a week'. From my point of view, I think that would be handy. (Primary school teacher from the Bannockburn cluster)

4.3 Professional Development Programmes

A professional development programme preceded the implementation of the DPYPS programme for each of the pilot clusters. Two development programmes were designed, one which targeted the primary school teachers that would be delivering the DPYPS

programme in each of the primary schools and a second for individuals involved in coaching within the pilot regions. Within the Stirling Council cohorts (Bannockburn and Balfron), active primary school co-ordinators and specialist PE teachers linked to the schools involved within the pilots were also invited along to the training days. The professional development phase of the DPYPS programme was seen as an integral element in facilitating the programme to achieve all of its aims since the resources were designed to be used in conjunction with a thorough in-service training.

The professional training days consisted of experts from the field of psychomotor and psycho-behavioural development leading a training workshop that looked to provide the programme leaders with knowledge on not only how to teach the games but also:

- The **philosophy** that underpins the programme.
- How the cards link together to form a **progression**.
- How to use the progression to **fit their class size and abilities**.
- The flexibility within the programme so that individual teachers can use the programme in ways that fit their **own methods and teaching styles**.
- The potential for **wider applications** of the programme.

The in-service training was conducted over a four-day period. In keeping with the 'organic' philosophy of the entire project, all partners contributed to the refinement of the training packages. Thus, based on experiences from North Ayrshire, adjustments and additions were made to the training for the Stirling clusters. It is, perhaps, sod's law and human nature that only some of these changes were positively received!

4.4 'Consumer' Perceptions of the Training

4.4.1 Overview of the Data Collection

During the interviews conducted at the conclusion of the DPYPS programme, those individuals who had attended the training phase were asked to reflect on the value of the training. This section provides an overview of the comments made by 'teachers', 'coaches' and 'other consumers'.

Procedure

The interviews were conducted collaboratively by the research team. Each interview lasted 40-90 minutes, and all the interviews were completed within a one month period. No data were collected prior to establishing rapport and trust with the interviewees. This was accomplished by being candid with the interviewees and reassuring them that the purpose of the interview was not to evaluate their performance, but to gain an understanding of their perceptions of the DPYPS programme and how it could be improved. The interviews, which were semi-structured, were tape-recorded and transcribed verbatim.

Data Analysis

Following the transcription of the interviews, the raw data for the three pilot regions were arranged in text units, and were then analysed using qualitative inductive methods based on open codes, emerging themes, and emerging categories (Miles & Huberman, 1994). The emerging codes were then arranged into themes that were based on the converging responses of a number of participants to minimise the effects of personality and other individual differences, thus leading to the identification of common patterns. Presentation follows the patterns established in previous sections.

4.4.2 Local Authorities

Many Teachers have had Very Little Previous PE In-service Training

The Local Authorities commented that many teachers had not received much previous in-service training. Indeed, the fact that DPYPS looked to develop primary school teachers' ability as PE teachers through the philosophy and methodology as well as explicit developmental content was seen as a positive advantage over other training available from similar initiatives:

You know, DPYPS examines the philosophy behind it, and that's important. Without scaring people off you've got to do that. But it examines the philosophy and it looks at how to use these resources, how to become a better teacher, how to become a more effective teacher. That's better than TOPS training.

Participants felt that DPYPS provides a framework for effective practice and as a quality assurance measure for any in-service training.

I also think the programme as it stands, or the philosophy behind the programme, it's a good measuring point. It's a good vehicle in fact for in-service delivery. It's a good focus for in-service delivery. I go out now and I do TOPS training. And we do TOPS, we teach them and so it's very easy just to go through the cards.

I think the course was well presented. I think it gave everybody a boost to what Stirling Rugby Club Junior Section has been trying to do anyway which was good because they've said some of that previously and I think the fact that that was being reinforced by somebody externally was good. From that point of view, I think they also know from their own personal experience that what was being said was true, so this is not theoretical. It was ... 'yeah, you're right, this is right, that's it exactly. See when that was happening, I can explain what was happening there. I now have a framework, I now have a model to apply to what was happening which I didn't understand'. So I think it gave them confidence about what they were doing because sometimes you feel a bit challenged because what they were doing was right but they were not doing it in the right way.

Both respondents felt that the time for discussion was an advantage to the DPYPS training. However more emphasis on how the content, methodologies and philosophy converts to practice would be even better:

I thought the in-service day with Stirling was the best by far and I think there were a few reasons for that but one reason for it was that everyone was doing rugby, everyone also knew each other, everyone also was coaching together, so they had some good discussion. So I think in terms of the first day talking about how do you interact with kids and how do you promote these characteristics, these mental skills, it worked better because there was discussion about it. There was ... oh, tell us examples about how that worked.

The one thing I would say is the more you can link it to practical, the more they've got the opportunity to actually work with the resources.

The Local Authorities felt that one way to provide a transition into the flexible nature of the packs and allow the teachers and coaches to see the cards into practice is to provide a set of pre-prepared lessons based from the cards.

So it's getting that right balance and getting the timing of that right but maybe showing how it could be integrated within, just take as an example from a 5-14 scheme where there was a programme of study and saying, 'well, let's just look at that, here's where the different elements could fit in'. Just think of a bigger example than that. Maybe that could be another development of the programme in short time speed.

The Local Authorities noted that, in line with the organic nature of the programme, the in-service did develop and become better as the programme progressed and matured.

People got more time actually to work with the resources and develop and understand the resources. And I think well that's good. And that's probably something you would want to come out in the findings. That the in-service got better.

The programme provided a sound background to what was needed, but the Local Authorities felt the crucial thing, especially for the coach development, is how do you maintain and support the programme and the coaches who were involved.

I think the issues are about maintaining the rugby club education now. What it did give them was a theory and then a practice and the practice matched the theory. Most coaching courses, there's no theory. It's just this is it, this is what you get and this is what you do and there's not a lot of discussion about and it was very much a series of practices on these coach courses. I think there's some challenges now to take that forward. I think the issues are about, well what do they do next? What they've been

trying to think about in the club and still have a bit to go in that but from their perspective, they'll just do it anyway.

It was noted that, for DPYPS to have an ongoing and permanent impact on the coaches, continuous drip feeding of support and in-service would be required.

That's how development goes, you know, it's not a one-off. It's not going to change the world by having a couple of nights. And if they could have small inputs like that dotted throughout and continuous, it's continuous development. There isn't one thing that's going to make a difference because you're going to keep developing, they're going to get really good. And they continue to keep getting really good and next year they might have some different people in and it'll all be starting again, because that's life and volunteer coaches. That's the way it is. But if they get some key people who have got a good philosophy, who have good thinking and they're experienced, then they're the mentors for the new parents.

The Local Authorities believed that a follow up in-service incorporated in addition to the support from seconded teachers would have been beneficial for the teachers:

Initial in-service was great! But give them another one later on. Once they've had a chance to use it then that becomes a much more interactive in-service. I think that would have been useful.

*Furthermore, another lesson learned was to have meetings between the local areas, **sportscotland** and The University of Edinburgh. Such communication was valuable to clarify roles, issues and provide feedback on how the programme is going on a continuous basis.*

*Let them go and have a go now, but I think we then left it to the seconded teachers to be the support at that point. I think it would have been useful, how useful was our recent meeting [with **sportscotland**, clusters and the University of Edinburgh]? It was great but it should have happened ages ago.*

As a way forward for DPYPS and in an attempt to solve the general problems of lack of good in-service, one way forward may be to utilise the specialists who have been involved in this programme and set up more in-service training.

A number of opportunities exist for coach development and teachers who are working with kids in schools sport development as well as teachers in PE. There's lots of room for good in-service. Not necessarily for Edinburgh University per se. Let's take the people who have worked with this programme and who are practitioners, you know, and developing in-service providers who are also practitioners. This is possibly one way forward with the material that you have.

4.4.2 Seconded Teachers

Many Teachers have had Very Little Previous PE In-service Training

The seconded teachers highlighted that very few of the teachers had actually had many PE in-service training programmes in the past. Indeed, many of them had not had any for two decades. This was a considerable problem for the quality of PE provision.

Only one of them took part themselves in physical activity and only one of them, the same person, who was the youngest member of staff, has had any in-service training since they left teacher training college. The rest of them have all been teaching for 20-25 years without any.

Only one of them has had PE in-service in the last 22 years, which is quite scary.

The seconded teachers felt that other in-services that have been offered have not appeared to have had a big impact. However, they did incorporate the provision of good resources, which enabled schools to benefit from extra equipment.

Everybody's encouraged to go on the in-service training because if you go on the in-service training, you get your bag and then the whole school can use your resources. I think again it's more an issue of who the teacher is. Across the different primary schools, you'll get different reactions. I think they do like it because they're user friendly but I wouldn't have said it's had an enormous impact at all.

The DPYPS In-Service was Well Received

The DPYPS in-service was received very well and key factors such as the philosophy, methodology and explicit content were covered. However more practical application in the in-service training itself would have helped.

Again, the philosophy is great, come and give me the ideas, methods and resources, let's try it, how do I use this with my kids. And we sat and we learned how you would use planning and evaluating in your sport and each individual coach had their own stuff and we worked with them.

The more practical applications you can have, the better your in-service days. Like coaches' in-service, looking at the methodology. The psychomotor did require a lot of follow up work and I kind of neglected the psycho-behavioural work with the thought that the teachers would find that relatively easy.

People need to sit down and work it out. It's a huge trade off between having enough theory so that they understand the underpinning philosophies of what they're trying to do, but yet having enough practical

applications so they can go away and teach it relatively easily. The last or follow up day really could hit home about how the philosophies are underpinning everything you do, how the transfer between parts of the package, and that could be a day for doing that. I think if you had an in-service day with the teachers just now who had undergone the programme, they would get so much more out of it and so would be able to adapt it a great deal.

Seeing whole lessons actually done for them where they can sit back and look and then maybe take in a little bit themselves. But it's huge because, I mean, 'the PE specialist from the University of Edinburgh' came down and did a bit of basic moves and even though we had four days, but even more would still have helped more. But again, it's not to do with the programme. I think it's just they just didn't have the experience of teaching such a wide range of skills.

However, the seconded teachers felt that feedback was used to improve the in-service training on an ongoing basis.

In-service developed as it went along. Well, for me, certainly the psychomotor, we gave more practical application and actually more practice.

Planning, leading. That's something we changed. In the first one, they had a demonstration from 'the PE specialist from the University of Edinburgh' on the Basic Moves programme and that was all the practical applications they had. Whereas when we did the second one, we had an entire day of first of all planning, second of all I led a session and then third they got to lead in small groups, you know, plan and organise a lead a session. I think that really worked well.

I think that would give them big scope for a CD Rom as a support package as well and I think the last thing about the in-service was even the two in-services that I did within Stirling Council, they evolved as we went along. So we actually made them better. By the last in-service, it was better than the first one and I think we know now that we've got a better idea of what needs to be in them and what the teachers need out of them through working with the teachers and through asking them and feedback.

Some Disappointment in Coach Training

The seconded teachers felt that the coach training was a disappointment at the beginning, and although the coaches who were there reported gaining a lot from the experience and commented that it was the best in-service that they had had, the ability to follow up and support these coaches was extremely difficult. Several attempts folded through an inability to get dates when everyone was free or enough interest could be gained.

It's so difficult to support any of that. It's very, very difficult. It's so difficult to even contact them again, you know, and I've to contact them. That's the problem and that was, I think, a weakness in it was maybe naïve to think that councils have a massive body of coaches that you could tap into and look straight at. But that's a coaching fault I think more than a programme fault.

Me, personally, I couldn't go to these clubs to see how things were going on. It was a phone call or a message left or a fax or an email that never got replied to. So it was quite difficult to gauge. It was more of a trust ... they left inspired, so the assumption was made that this would go. It was impossible really to keep track of what's going on.

I was very disappointed in the coaches, just the actual response from the clubs that we got. The coaches that came along to the in-service thought it was great stuff but again the follow-ups for it were kind of insignificant really.

I think that's been the weakness of the programme, and I wouldn't blame that on the programme. I would blame it on coaching in general, in that Stirling Council has a very, very good policy on coaching but actually to get coaches together and to present material to coaches and talk them through a new programme, you either hit the wrong coaches or it just ... it was difficult.

The target audience of initial in-service training may have been inappropriate. The seconded teachers felt that the programme would have been better targeted at coaches at a higher level, and that dissemination could have occurred better that way.

I think the level of coaches that we had in the initial, certainly the initial in-service and I know it's very derogatory but I don't think they were at a level where they really took in what we were doing, they could obviously see the practical applications but I don't think they were at a level where they would particularly evaluate what they were doing anyway. And I think banging in at a higher level might be a better idea.

One successful progression occurred through the development of the in-service leading towards providing in-service to a club or specific sport in order to educate into an environment where there is already a natural support system and basis where people would be able to discuss and develop ideas after the in-service.

Like a rugby club, somebody could have, or two clubs that are close to each other. I don't know how that would work. The swimming club's quite big and the tennis clubs. I don't know. It tends to be the same people so maybe the swimming and tennis clubs could have had one night and get everybody. But then again, they were all asked, they were all asked what days they wanted to come and I got about five responses.

Other advantages about the Stirling Rugby, obviously they're all part of the same club and there was one coach in particular driving a lot of that and it seemed that they were going to try and use that structure as a kind of philosophy for the whole club; the structure of the coaching in the club.

And again, it's one club together and it's a group of five or six coaches in the same area, so they can support each other, they can ask each other. It's easier for Edinburgh University team to go out and support them. If you've got like the last time, where it was 16 coaches from every sport under the sun from bowling to I don't know.

This ability to be able to support the coaches and teachers appeared to be crucial in building upon the initial excitement and enthusiasm that the in-service days provided. Without that support practice tended to revert back to old patterns.

They all left very inspired and thought it was really good but four weeks down the line, unless there was kind of drip feeding on the stuff they do, they kind of lose it. So it started off huge big blast and then it just kind of tailed off a little bit.

Support for the Teachers – More Psycho-behavioural Support Required?

The seconded teachers highlighted that the support for the teachers tended to be heavily biased towards the psychomotor programme simply because that is where the weakness lay in the teachers practice and additionally the teachers appeared very happy and comfortable with the nature and content of the psycho-behavioural resource. However, particularly in Stirling, this aspect of the programme may have benefited from more support and review from the seconded teacher.

However, I think I should have spent equal amount of time on both. I think it would have helped if I had have pushed the psycho-behavioural a bit more.

The Structure of the In-Service Training

The structure of the in-service was something that could be improved, not just to improve the effectiveness of the training but also to allow for the problems of getting cover for teachers for the required days. A more effective model that was suggested was two initial days up front, followed by a one day follow up a month later. The follow-up appears to be an important factor to motivate the teachers and allow them to get used to what is expected of them before they can come back and discuss any more informed issues.

This idea of a follow up day after a month will also help, almost force, the teachers to try out the psycho-behavioural more.

More drip-feed the in-service. The bit at the start ... the four days was good and then go back maybe in, I don't know, three months time, just for a kind of catch-up session, 'how are you getting on?'.

The teacher in-service training, very good content, I thought the content was excellent, philosophies, very, very difficult to argue against, you know. Four days for me was far too long and not in that the stuff didn't last four days or it was too long in that way. Four days is too long for cover implications, practical implications I'm talking about.

My initial ideas would be two days. A day of psychomotor, psycho-behavioural. A day of each. Half a day spent on the theory, half a day on practical application. Then give it a month of putting those skills into practice with the additional support of the psychological aspects and the psychomotor for a month. Then a re-assessment day.

4.4.3 Teachers

The results detailed here examined the teachers' perceptions regarding the training. Although many of the teachers highlighted that the training was a challenge, all participants highlighted that they had enjoyed the training and had found it useful.

We enjoyed it [the in-service training]. We came back to school and we were absolutely full of it to the rest of the staff. They probably really got fed up with us because we kept talking about what we were doing and this new faith and we were almost throwing it, shoving it down people's throats but that was because we could see where it was going and it did make sense to us and there was a right balance between doing the psycho-behavioural stuff and the physical stuff. (Primary school teacher from the North Ayrshire cluster)

I thought your in-service was excellent ... I felt I went away with a very positive attitude and I think it provided me with everything I needed to implement the programme. (Primary school teacher from the North Ayrshire cluster)

I thought the training was super because I don't know if you're aware of this from talking to teachers but a lot of training isn't actually valuable at all and you feel it's been a terrible waste of your time. So the ones that are good really stick out. (Primary school teacher from the Bannockburn cluster)

It's quite a challenging training I thought. It was very good, I enjoyed it thoroughly. I think we learned quite a lot because we actually did it [the activities] and knew what the children had to do. (Primary school teacher from the North Ayrshire cluster)

Additionally, although participants were not directly questioned about the extent that their opinion was valued during the development of the programme, 31% of those interviewed mentioned how they enjoyed being part of a programme that was still evolving where their opinions were respected and acted upon constructively.

I think it was delivered well and it was delivered in such a way that you were able to contribute and you felt as if you were being part of it. You weren't ... you weren't being told, and I suppose that's the advantage of this being a pilot, you weren't being told 'this is the way it is and it has to be done like this'. (Primary school teacher from the Bannockburn cluster)

I thought they [the in-service training days] were really, really good. They involved you as well, it wasn't just about you guys preaching to us what you wanted us to do. It was useful and it was practical. So, I thought it was good. (Primary school teacher from the Balfron cluster)

I think it was well delivered and I think it was done in a formal/casual way, where people were able to share with each other and to talk about their own experiences and to put forward their ideas and what came out of it for us was we had different teachers there, class teachers, PE teachers, people like yourself. So there was a wealth of experience coming in from different areas, so you were able to think 'oh right OK, that doesn't work for me but it might work if I do what you're suggesting here and adapt that'. So, yeah, I thought it was ideal ... (Primary school teacher from the Bannockburn cluster)

However, teachers from North Ayrshire, whilst they fully agreed with the philosophy and aims of DPYPS, reported that they initially struggled to take the resources with which they had been provided and organise a lesson. This difficulty is clearly expressed by one of the North Ayrshire teachers.

The first lesson I planned it took me two or two and a half hours. That's a long time when you have got the rest of the curriculum to do! It took that long because you were worried all the time that you were doing the right thing. I would say more help on lesson planning [during the in-service training] would be useful. (Primary school teacher from the North Ayrshire cluster)

As a result of this feedback and information received from the seconded teacher, greater emphasis was placed on lesson planning during the training phase in the Bannockburn and Balfron clusters. No similar concerns were expressed by the teachers from these two clusters. In fact, all teachers highlighted how they thought both the method and the content of the training was appropriate and had equipped them with enough information to enable them to pilot the programme with the support of the seconded teacher.

I can't think of anything that could have been improved. To me, you had the key people there: the person co-ordinating it, the PE specialists, the

class teachers and yourselves. I mean, you did bring in people who had experienced the programme before [from North Ayrshire cluster], which was an advantage. So, for me, I thought the delivery was ... or the four days targeted exactly what we should be doing. (Primary school teacher from the Bannockburn cluster)

Two of the teachers from the Balfron cluster highlighted that the timing of the training which was prior to the summer holidays, was unfortunate as they felt they would have liked to have started the programme immediately after receiving the training.

The one thing I was going to say was I think my in-service training, I know it was before the summer holidays, but I felt there was too big a gap between it and the implementation of the programme, in as much as it was over a summer holiday. So I felt I would probably have been better doing the in-service training in August and going straight into the programme within two weeks. (Primary school teacher from the Balfron cluster)

Additionally, one teacher highlighted how, whilst they found the training useful, they would have appreciated a greater practical element to the training:

I found it interesting, it was much more relaxed than any other in-service PE training I've had, a much more enjoyable day. It was much more stimulating. I've never had PE in-service like it in fact, never. ... Although, it could have been more practical and less theoretical. (Primary school teacher from the Bannockburn cluster)

It should be noted that this teacher was only able to attend the first training day which primarily focused on the theoretical underpinning to the programme. Other teachers stressed the importance of highlighting the theoretical underpinning of the programme and commented favourably on the weighting given to the theoretical and practical elements during training.

I think that [providing us with a philosophy behind the programme] ... that was the key to it. So, the philosophy behind DPYPS, which was very clearly set out from the beginning, influenced the way that I took it forward. (Primary school teacher from the Bannockburn cluster)

I think it was just right because the first two days were people working on the programme and with knowledge about it and expertise, giving us the idea behind the philosophy of it and then the next two days were practical. I remember we were at Bannockburn High and we were actually doing the running and, you know, seeing how the cards would work, the motor cards. (Primary school teacher from the Bannockburn cluster)

Further, four of the teachers highlighted it was the best PE in-service training they had attended.

Before she [the specialist primary PE teacher] went along to the in-service, she was, and an awful lot of us were, quite sceptical ... The fear was either that we would have heard it all before or it would be poorly presented or it would not really relate directly to what I'm doing in class. And she came back and said it was one of the best in-service trainings she's ever had. She was coming back from the training days and saying that she really felt strongly about it and she wanted to get it right and she was trying things out before we even started [the programme]. (Primary school teacher from the Balfron cluster)

There was no comparison with other training I've received ... It's streets ahead of what I've experienced. All I've experienced in PE training has been council-led training on the TOPS programme but the delivery of that, in my opinion, was not good. (Primary school teacher from the Bannockburn cluster)

4.4.5 Sport Specialists: Coaches, Active Primary and School Sport Co-ordinators and PE Specialists

Many Coaches or Teachers have had Very Little Previous PE In-service Training

Many of the deliverers highlighted that not many people had had in-service training before and lots of the things presented through the DPYPS programme were new concepts.

A lot of the training days, I know it's only practical the two days but it was, teachers going 'Oh right'. 'Oh I didn't know that's how you would teach that' because it's not something they do. They don't have much CPD for teachers about, you know, learning skills or whatever. Yeah. So it's almost like down to that particular teacher.

The deliverers felt that the in-service was well received, but as it involved changing philosophy it would need considerably more training.

I thought it was excellent. I thought ... I mean, I loved it, both days. And you could see your weaknesses as well as your strengths. And if you just had time to consolidate them all the time, you know? But I think I would need to have extra training. I would need to, you know, have somebody at the end of the day. But, again, you would have to get this into your colleges, people that are coming out that are involved, they have to change their philosophy. And that is a major task.

The deliverers in general felt that the major improvement to the in-service would be to show more practically how the programme looked, converting the cards into what they would actually look like in practice.

I thought, mm, this is interesting but kind of just for interest's sake. I don't quite see how this fits with these particular classes that I know people have. I suppose a lot of teachers are very quick in saying, 'Right OK, that's great but what am I going to have to do?' And I don't know what the best way to do that is, I don't know if you're better to start with the practical bits or if you're better to do a bit of both.

But actually reading it over and actually translating what does this mean? How am I going to apply this, what was this going to, what will this look like in the gym? How will I divide this up? That bit was OK. I'm not sure how the class teachers think about that though.

It was highlighted that a positive point was that there were some passionate and knowledgeable people out there trying to push these concepts forward. The deliverers felt it was important to have quality people presenting the ideas and concepts and supporting the programme.

I think one of the things that is good is how passionate you are about the DPYPS and I think you've given 200% to it and I think that comes across. And I think if you're there, you're inspired, so you're saying 'Right, I can do this.' You know? I think you truly believe in what you're doing. And I think if you don't truly believe in what you're doing and then, it's not an end in itself then it's problems. But I think that's been good where ... it's comforting to know that there's folk like you out there. So it will work if we've got loads of you out there.

The more closely the coach in-service training was developed with a close group of like-minded people, in the same club or sport, the better it worked. Indeed, this way of 'club' development is crucial and will allow many volunteer coaches to get some guidance and training without having to dedicate too much of their personal time to training.

If you had Russell Hogg and me (two coaches at badminton club), who had taken the badminton working together on DPYPS, you can work in partnership. If somebody's not comfortable with something we say 'OK, but we need to do it and we need to address it'. Because we know each other we are comfortable with that and we could support each other.

The issue about that is voluntary sport's a bit like that. Anybody who puts their hand up gets to do it. I think what we're saying now is that 'well it's a bit more than that'. There needs to be a support mechanism to allow people to do it in the best way possible and also some training for them that's not too much of an imposition on them. People can't do that or don't have the personal time to do that. To do it on a week by week basis is the best way. This is the best way to do it.

4.4.6 Summary

The organic nature of the programme is well demonstrated by comments in this section. Both resources and training were adjusted in the light of feedback from earlier participants. Pleasingly, participants reported satisfaction with both resources and training. Indeed, the overall impression appeared to support the efficacy of the DPYPS approach over other initiative-based or even conventional training and/or support packages.

Section 5 Impact of the Intervention

5.1 Children

5.1.1 Overview of Data Collection and Analysis

This section of the report aims to assess the extent of any behavioural or attitudinal impact of the DPYPS programme on the children involved. Participation levels and self-perception instruments have measured this over a variety of time scales, ranging from ten weeks to one year, with DPYPS involvement ranging from ten to 20 weeks. For reference, baseline participation data was reported in the initial interim report, with any directly relevant data repeated here. The data were collected through the 'Young Persons Physical Activity Questionnaire' and the 'Young Persons Perceptions Questionnaire' (presented to **sportscotland** by the University of Edinburgh), and evaluation was carried out at three stages throughout the year, namely, December 2002 before the beginning of the programme, mid-term in October 2003 and finally post DPYPS in December 2003. This allowed a variety of cross sectional analyses, acute and chronic tracking to be done at a variety of age levels.

As we recognised at the beginning of the DPYPS programme, changing behaviour, in conjunction with attitudes, is the ultimate goal for any participation promotion initiative. However, it is also the most difficult thing to change, and the short time scale that was afforded to the DPYPS pilot programme was recognised as too short to hope for such a significant impact. Furthermore, comments by the Local Authorities, Specialists and Seconded Teachers also highlighted that to change participation and perceptions was an unrealistic expectation considering the short term nature of the pilot. However, some interesting and unexpected data have emerged and are presented below.

Due to practical reasons, the cross sectional analysis for the children involved purely at secondary school was not appropriate and would therefore fail to provide meaningful information or add value to the tracking data. There were several reasons for this. The delayed commencement of DPYPS in the Stirling clusters meant that they were not in a position to utilise this style of evaluation at all, regardless of how well the programme ran. The Stirling clusters were only involved for one ten week block between October and December 2003 and therefore there was no comparison available between cohorts over the time scale of a year.

While the North Ayrshire cluster did run the programme over the year, unfortunately there were several problems associated with the cross sectional analysis at the secondary school that diminished its meaningfulness and value as an evaluation comparison of whole year groups. The first reason relates to the fact that the secondary school response to the club was ad hoc. The S1 and S2 groups who chose to take part had one ten week block of DPYPS each. The S2 group were trained between January and March 2003, and the S1 group between May and June 2003. The club did not run in the subsequent school year from October to December 2003 for practical reasons. Secondly, over the whole year there was a small uptake to the programme (S1 – 30, S2 - 20). These issues, combined with the ad hoc nature of the programme in secondary schools renders the cross sectional year group analysis far less meaningful and therefore adds no value on top of the individual

tracking data, which will be presented later. Indeed, even to split the cross sectional analysis into groups of those who took part and those who did not (DPYPS versus control) would leave the problem where it would not be possible to differentiate between the effects of DPYPS programme and the characteristics of those who chose to take part.

These problems notwithstanding, the baseline data of P7 and S1 North Ayrshire children in December 2002 will be compared in a cross sectional manner. New cohorts of P7 and S1 in December 2003 had all received either one ten week block of DPYPS as P7 between October and December 2003 or two ten week blocks of DPYPS as P7 from January to June 2003. Therefore, every child took part in at least one block of work and can therefore be compared with the cohort before it who did not take part in any DPYPS training. However, it must be recognised that one caveat of this data analysis is that there are no control schools involved to compare against – unfortunately, there are simply no others in the area.

Some caveats also need to be addressed when interpreting the tracking data. There were two forms of analysis over the two areas. The first looked at the immediate acute effects of the programme. In this analysis, both of the areas had P7 cohorts who had received a ten week block of DPYPS training with data collected immediately before and after the programme. The second form of tracking was following children across year groups. This only occurred in North Ayrshire for the reasons outlined earlier and occurred for each age group involved, P7 to S1, S1 to S2, and S2 to S3. It is important to note, as the DPYPS baseline report and past research shows (e.g. Sallis, 1993), the trend towards a natural decline in participation and perception rates from year to year. Therefore, while one would ultimately look for an increase in participation and attitudes over time to show improvement, this must be considered within the context of the natural decline that occurs as children get older. Additionally, within participation, specialisation often also starts to increase the older the children get (Bloom, 1985; Cote, 1999). However, while there are some sport specific differences (Rowley, 1992), research does highlight that this is not beneficial for children's overall development if this transition happens too early (Carlson, 1988). Therefore, at the young ages a decrease in levels of specialisation could also be considered a positive outcome.

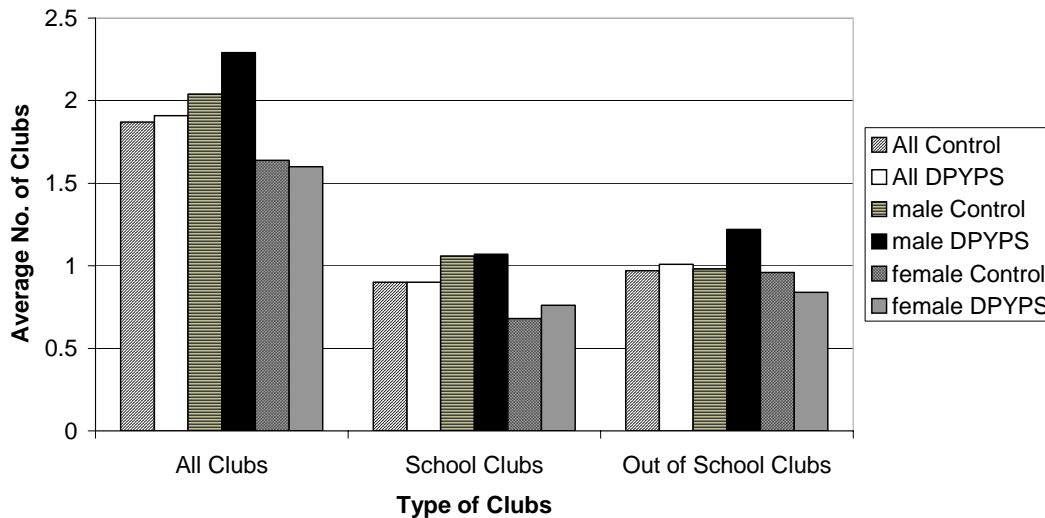
Finally, in all statistical analyses, several characteristics must be considered against the 'apparent' results. The high variation in data against the relatively small numbers in the analyses inevitably limits the achievement of statistical significance. Neither can this limitation necessarily be countered by consideration of other indices, such as effect size. Rather, trends in the data must be considered against the 'real-life' meaning of the various findings. Thus, for example, has the programme been successful in countering the decreased participation trend to an extent sufficient to have meaningful consequences in either the short or long term?

5.1.2 Quantitative Data

5.1.2.1 Participation Data Analysis Results

Primary 7 – Cross Sectional Analysis **Number of clubs attended**

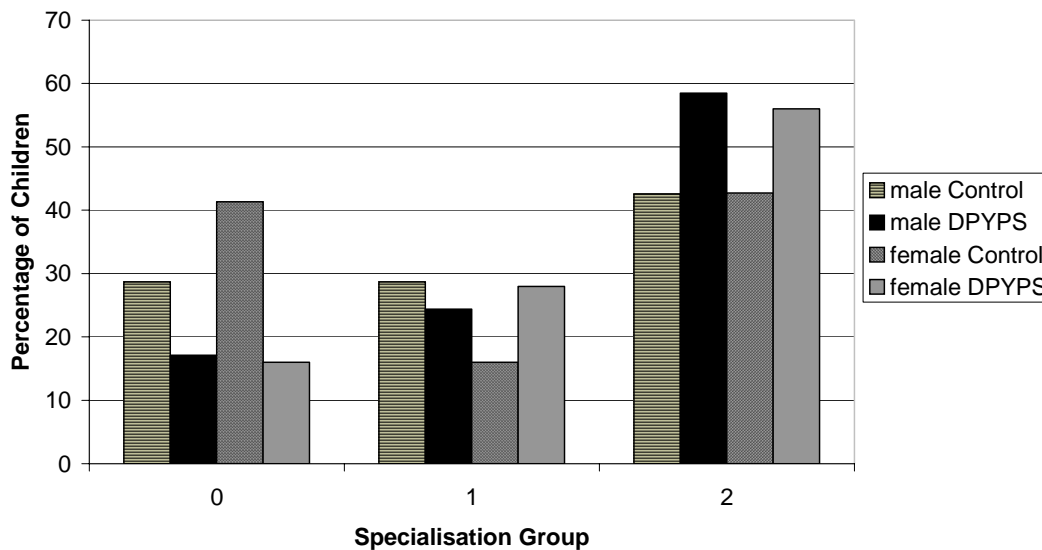
**North Ayrshire P7 (Dec02 Vs Dec03): Number of Clubs Attended:
Cross Sectional Analysis**



The cross sectional analysis reveals that there is small positive, but insignificant overall difference between the two year groups for average number of clubs attended ($F(1, 273) = 0.226, p > 0.05$). Interestingly, when gender is considered, there was an increase in all groups with the exception of female out of school clubs. However, again there was no significant interaction effect of gender ($F(1, 273) = 0.425, p > 0.05$).

Specialisation and Sedentary Levels

North Ayrshire P7 (Dec02 Vs Dec03): Specialisation: Cross Sectional Analysis



The specialisation group is related to the variety of different sports the children are involved with.

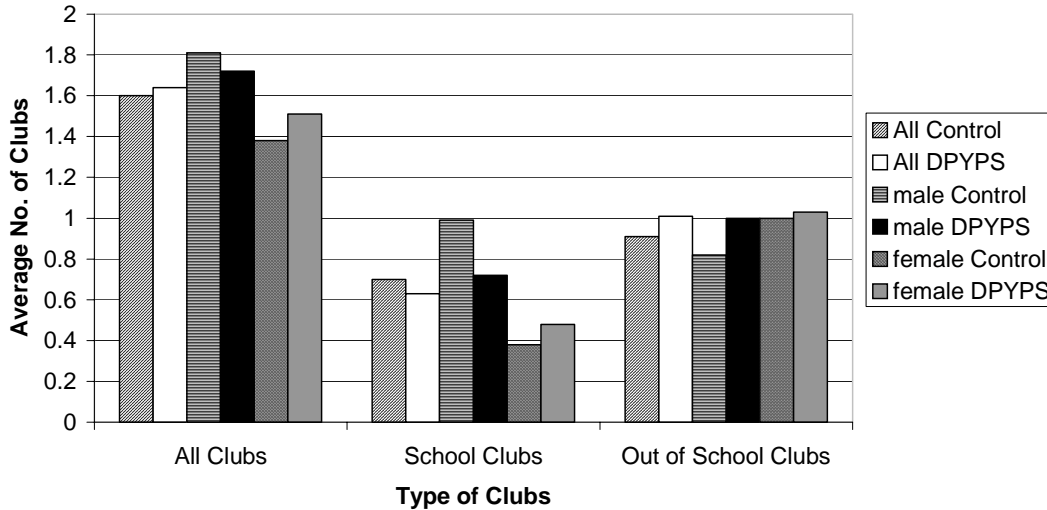
Specialisation Group	Meaning
0	Inactive - Children attend no clubs
1	Specialised – Children attend only one type of club
2	Non-Specialised – Children attend two or more different types of clubs

The importance of this has been mentioned earlier in the introduction to this section, where it has been shown that early specialisation in a specific sport may hinder development. With regards to the data above, even though there is little change in average number of clubs attended, the results regarding specialisation and inactivity were positive, revealing that, for both males and females, less children were sedentary (25% and 11% less females and males respectively did no activity (group 0)). Children involved in the DPYPS programme also showed higher participation levels, with less totally inactive and less participating in many different clubs. Thus DPYPS appeared to encourage the inactive to get involved, and those participating in a wide variety of clubs to 'get serious' on fewer sports.

S1 – Cross Sectional Analysis

Number of Clubs Attended

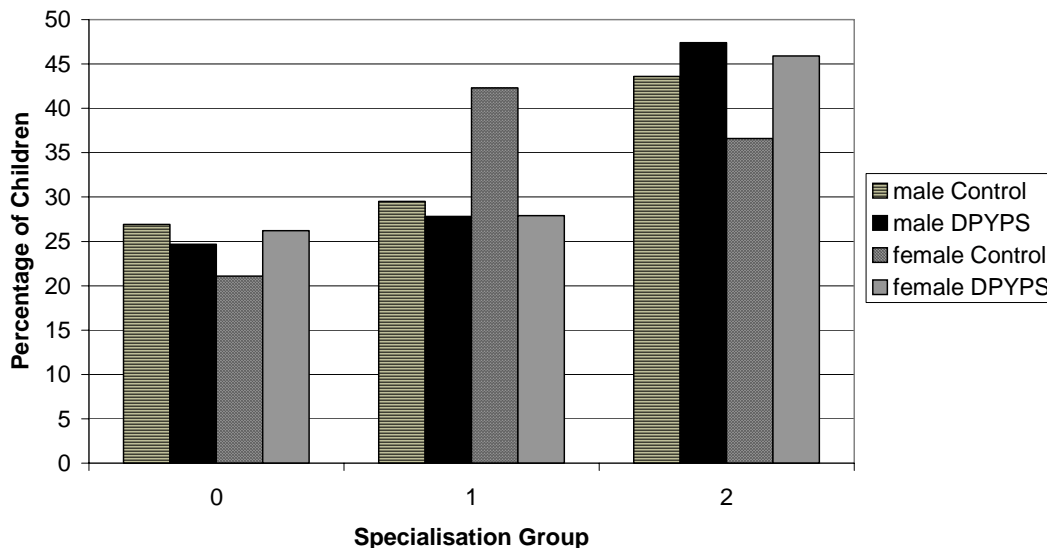
North Ayrshire S1 (Dec02 Vs Dec03): Number of Clubs Attended:
Cross Sectional Analysis



There is a similar trend with the S1 cohorts as with the P7 cohorts, with a slight, but statistically insignificant overall increase in average club attendance ($F(1, 306) = 0.016, p > 0.05$). However, a difference in trends from the P7 cohort was apparent when gender was considered, where all female clubs and male out of school clubs showed increases, while male school clubs fell between cohorts. Once again there were no statistically significant differences between males and females ($F(1, 306) = 0.424, p > 0.05$).

Specialisation and Sedentary Children

North Ayrshire S1 (Dec02 Vs Dec03): Specialisation: Cross
Sectional Analysis



The consideration of specialisation revealed that, while the changes were far smaller than the P7 cohorts, positively males showed slight decreases in inactivity and specialising children and an increase in children who participated in a non-specialised way (attended two or more different types of activity clubs). On the other hand, whilst again there was a reduction in specialising and an increase in non-specialising children, there was also a slight increase in inactive females.

Summary of Cross Sectional Analysis

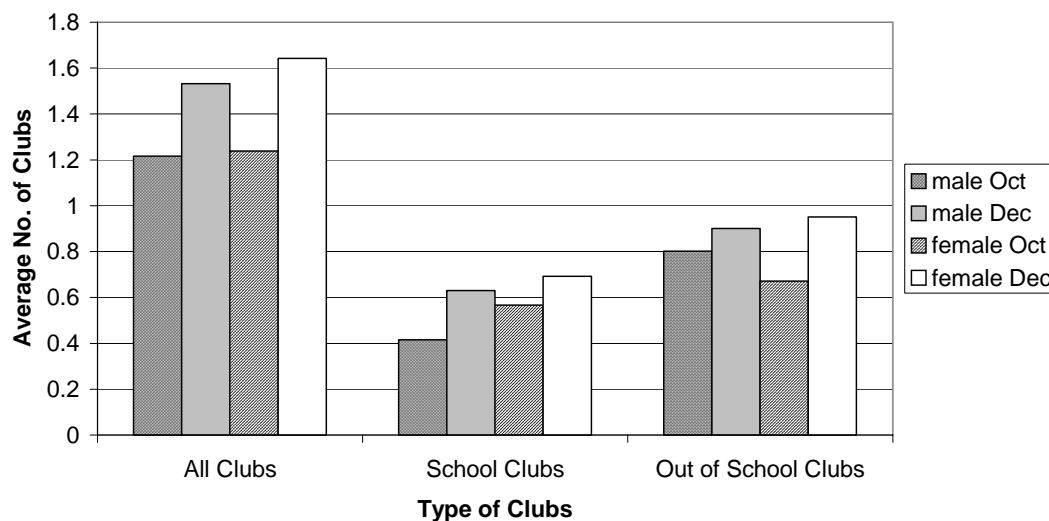
Overall, there were no statistical differences between the cohorts. However, considering that a participation change is not expected on such a short time scale, it is encouraging to see that, in general, there were positive, albeit slight, developments in participation levels. Indeed, there is a similar overall trend for the cross sectional analysis for both P7 and S1 cohort groups. Both groups, where the intervention S1 group received two blocks of training and the P7 group received one block, showed a slight overall increase in the average number of clubs attended, with specific gender effects (i.e. different trends for males and females) within that differing for each group. All groups showed an increase in unspecialised participation levels and both the male and female P7 groups and S1 male group showed a decrease in inactive pupils, whereas for the female S1 group this showed as light decline.

Acute Effects

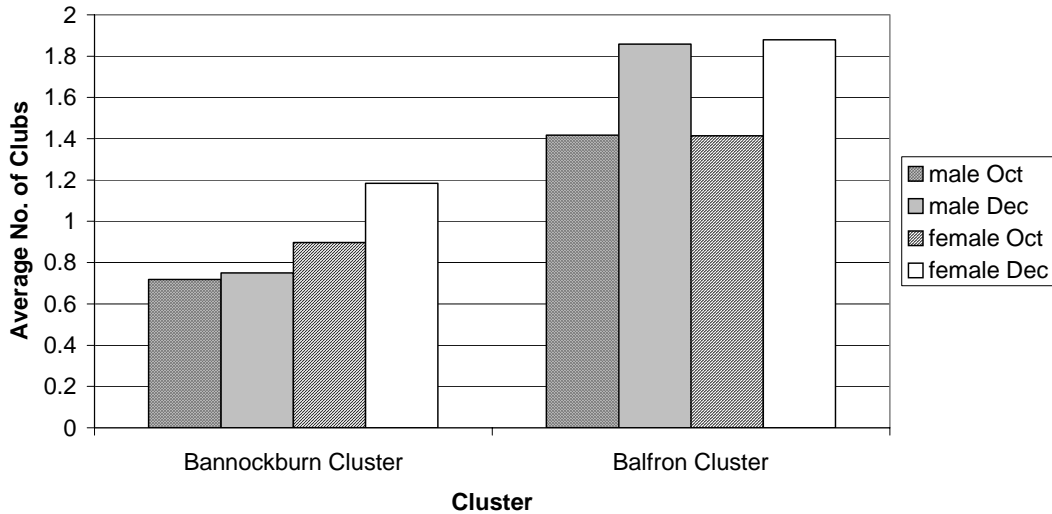
Cohort 1: Stirling

The primary children involved in the two Stirling clusters were given one ten week block of work, where data collection occurred immediately before and after training. This short term exposure to the DPYPS programme will reveal any acute (or short term) effects of the training.

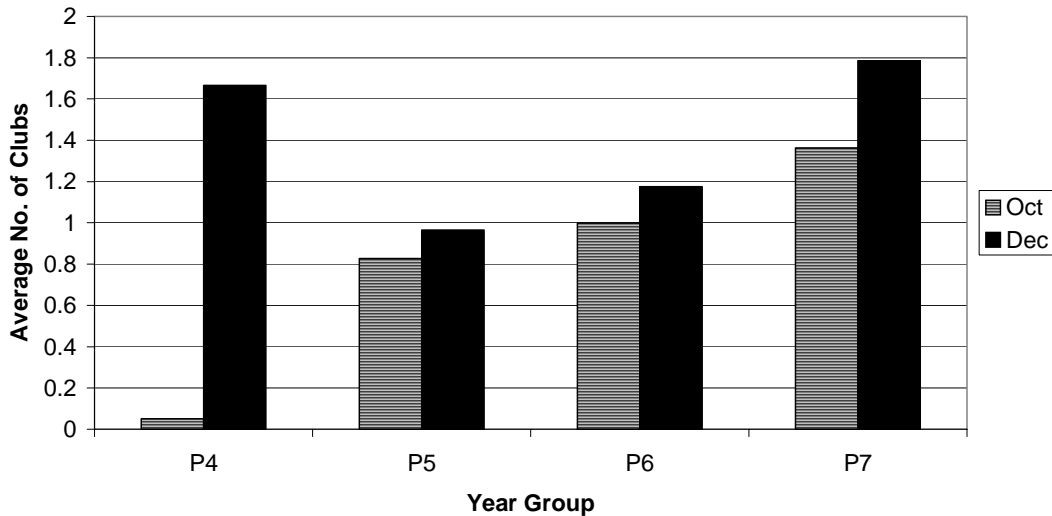
Stirling Primary Oct03 - Dec03: Number of Clubs Attended: Change Over Time



Stirling Primary Oct03 - Dec03: Number of Clubs Attended By Cluster: Change Over Time

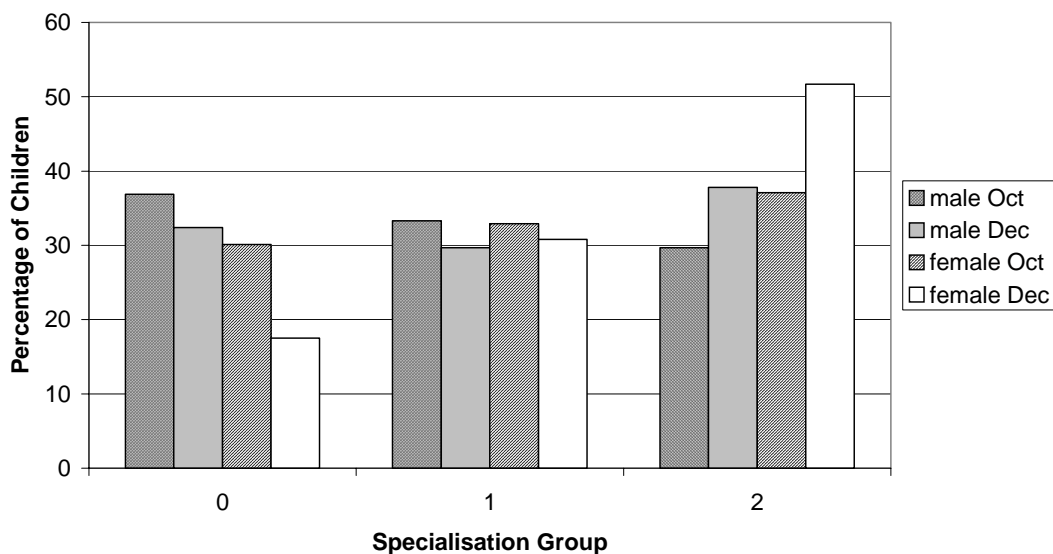


Stirling Primary Oct03 - Dec03: Number of Clubs Attended By Year: Change Over Time



The graphs above show that there was a universal and statistically significant increase in the average number of clubs attended across time ($F(1, 250) = 10.956, p < 0.01$), with no differences in trends for males and females ($F(1, 250) = 0.282, p > 0.05$), cluster groups ($F(1, 250) = 2.508, p > 0.05$) or primary year group ($F(1, 250) = 0.180, p > 0.05$). In other words, this trend was not affected by age, area or gender.

Stirling Primary Oct03 - Dec03: Specialisation Change Over Time

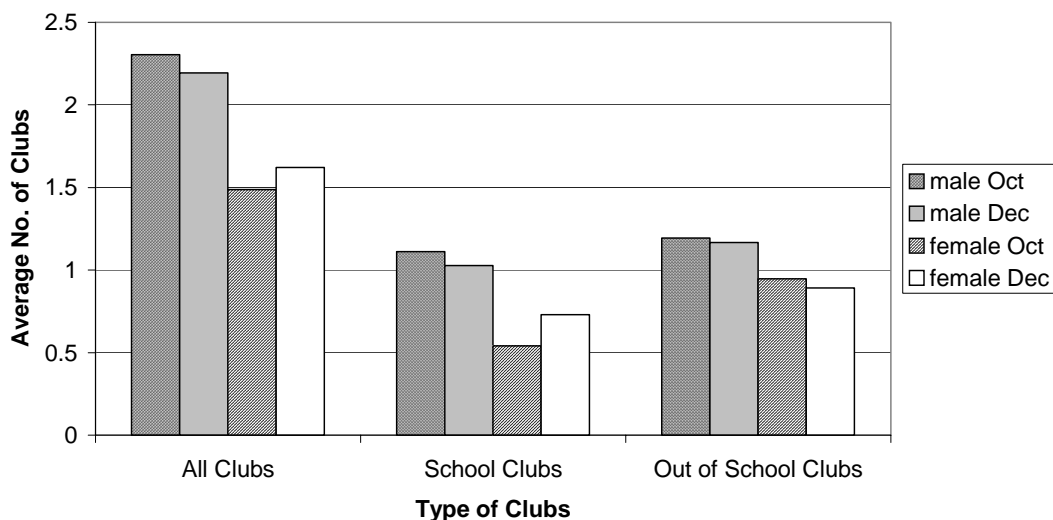


Equally as positive was a reduction in totally inactive children and specialising children and an increase in non-specialising children for both males and females in the Stirling cluster (rationale for why increased non-specialisation is positive is presented earlier in the section).

Cohort 2: North Ayrshire

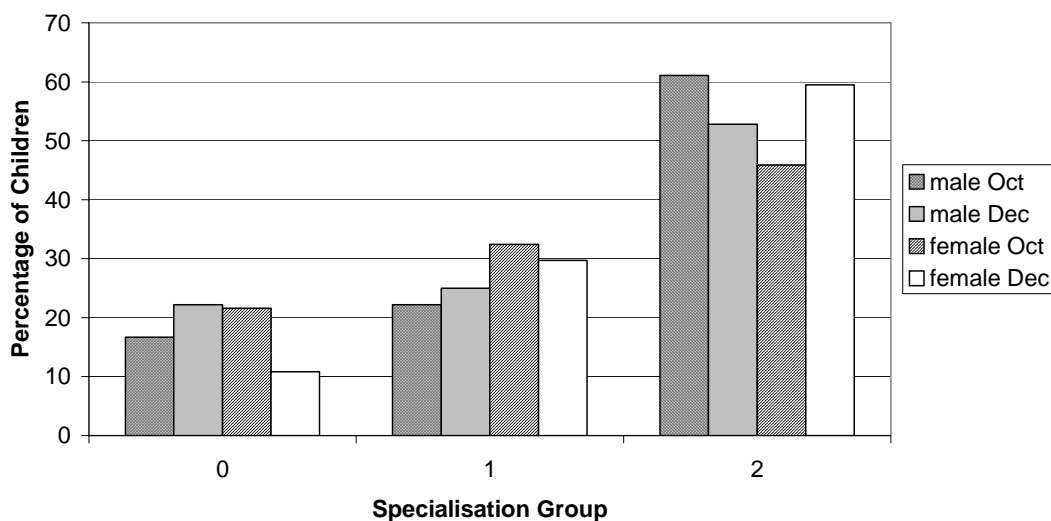
No acute effects of the DPYPS was collected on the first cohort of primary children as they were tracked across the whole year, with data collection occurring only in December 2002, October 2003 and December 2003. However, the second cohort of primary children was involved in a similar programme of work (acute/short term) as those children in Stirling, with one ten week block of work between October and December 2003.

North Ayrshire Primary Oct03 - Dec03: Number of Clubs Attended: Change Over Time



Unlike the Stirling area, the results from North Ayrshire did not show any significant differences in participation levels over time ($F(1, 71) = 0.006, p > 0.05$). However, while the females showed an overall increase in average number of clubs attended, the males conversely showed a slight decrease.

North Ayrshire Primary Oct03 - Dec03: Specialisation Change Over Time



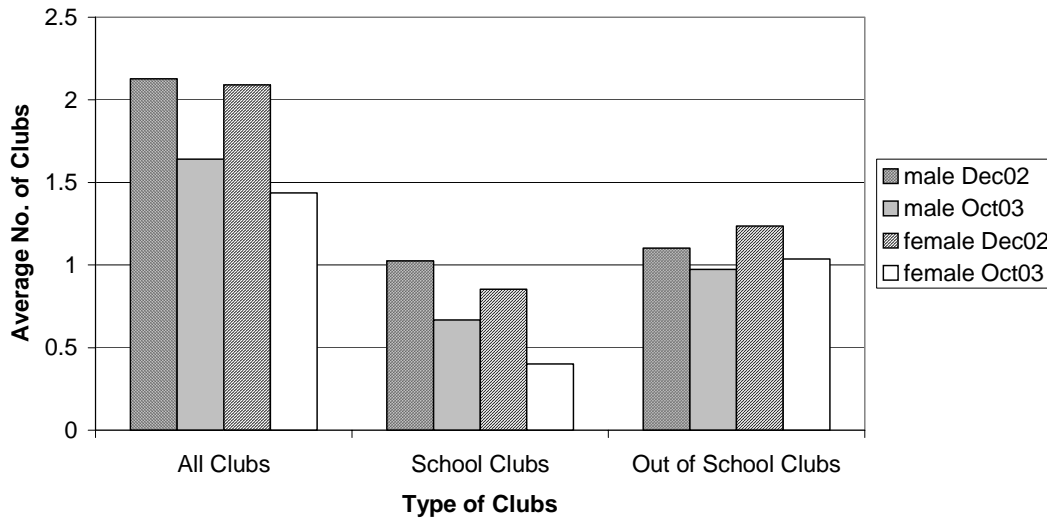
Indeed, a similar trend occurred for specialisation and inactivity levels, where males showed a slight increase in both specialising and inactive children, with a decrease in those non-specialising. However, more positively, females showed a decrease in specialising (group 1) and completely inactive females (group 0), with an increase in the percentage of those who were involved in two or more different types of activity (group 2).

Chronic Effects: P7 – S1, North Ayrshire

The ‘more chronic’, or longer term, effects were measured by tracking children across year groups. Of course as we have mentioned earlier, children tend to show a steady decrease in participation rates, as they get older. Indeed, it is also common, but not necessarily useful, for children to start specialising as they move along the school continuum.

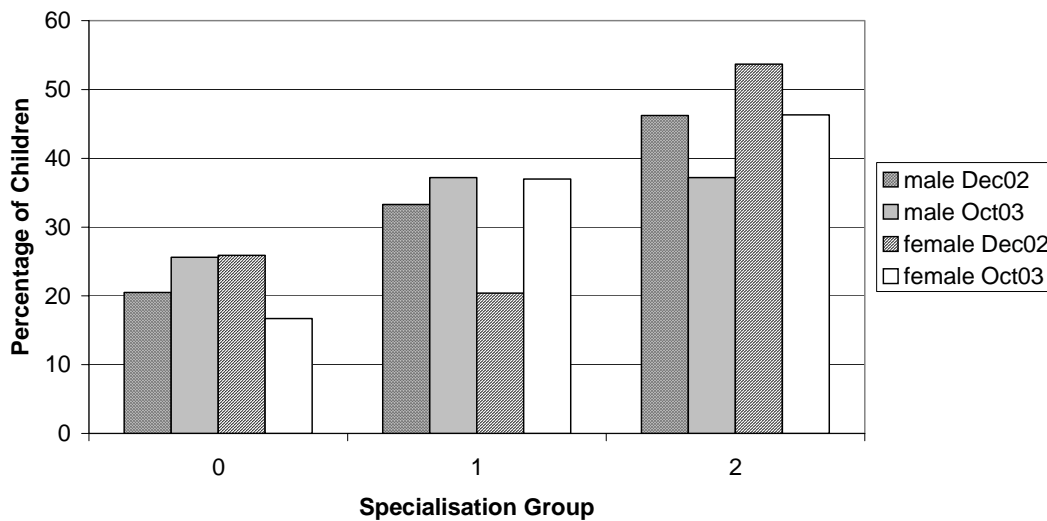
North Ayrshire was the only area to track children across year groups. The children who were involved in the P7 to S1 tracking analysis undertook two terms of DPYPS work as P7 children before moving into secondary school, where data was then collected at the beginning of their first term.

**North Ayrshire P7-S1 Dec02 - Oct03: Number of Clubs Attended:
Change Over Time**



As expected there was a significant decrease in the average number of 'all clubs' ($F(1, 131) = 131, p \leq 0.001$) as pupils moved from P7 to S1. Unfortunately, as all of the children took part in the programme there were no control groups to compare these children against and no way of assessing any interaction effect of the DPYPS programme.

North Ayrshire P7-S1 Dec02 - Oct03: Specialisation Change Over Time

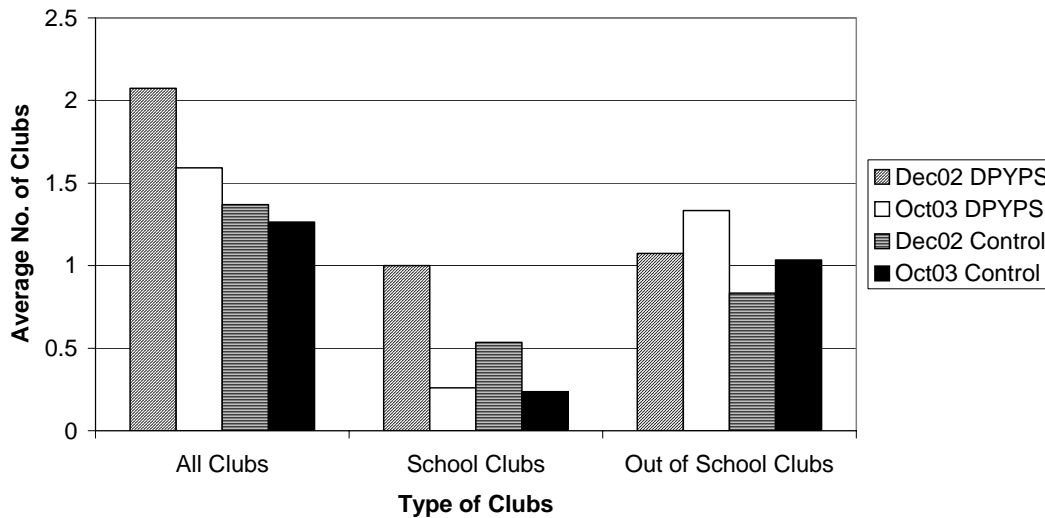


While there was an overall decrease in number of clubs attended, more positively, females did show a decrease in complete inactivity. Additionally, all the children showed a trend of increased specialisation and decreased non-specialisation. Again, unfortunately there are no control groups for comparison.

Chronic Effects: S1 – S2, North Ayrshire

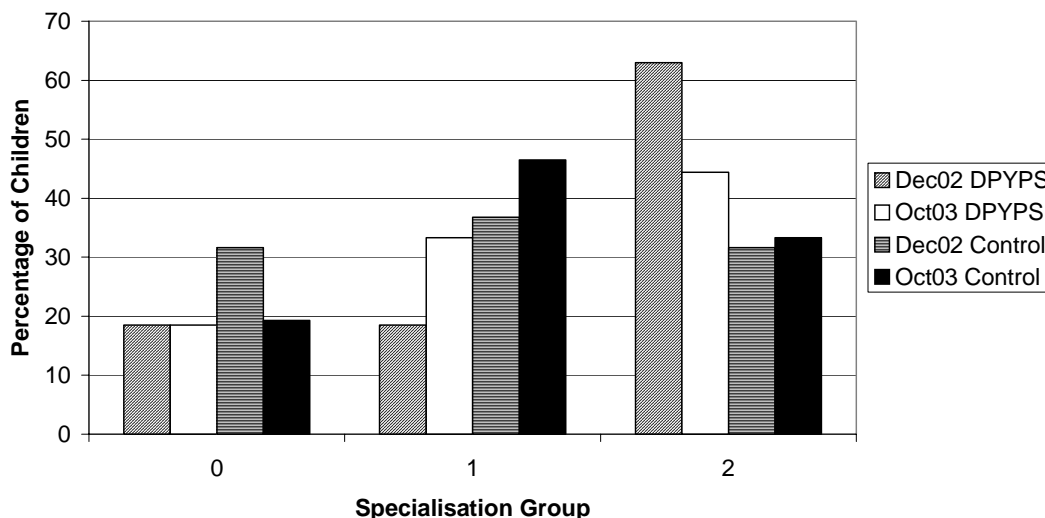
It must be recognised that, at this age group, DPYPS became a voluntary after school club and therefore although we have control groups, they are not an equal representation within the age groups and do have different initial characteristics, which are reflected in the initial levels of club attendance shown in the graphs. The children who did take part had one ten week block of DPYPS between April and June 2003 and initial data was collected at the end of December 2002 and post data collected in October 2003.

**North Ayrshire S1-S2 Dec02 - Oct03: Number of Clubs Attended:
Change Over Time**



As expected across the year groups, the S1 children who were tracked through to S2 all show a significant decrease in the average number of 'all clubs' that are attended ($F(1, 137) = 4.135, p \leq 0.05$) although there was no significant interaction effect between the DPYPS programme and the control ($F(1, 137) = 2.098, p > 0.05$). However the children who were involved in DPYPS remained more active than those who chose not to be involved in the DPYPS programme.

North Ayrshire S1-S2 Dec02 - Oct03: Specialisation: Change Over Time



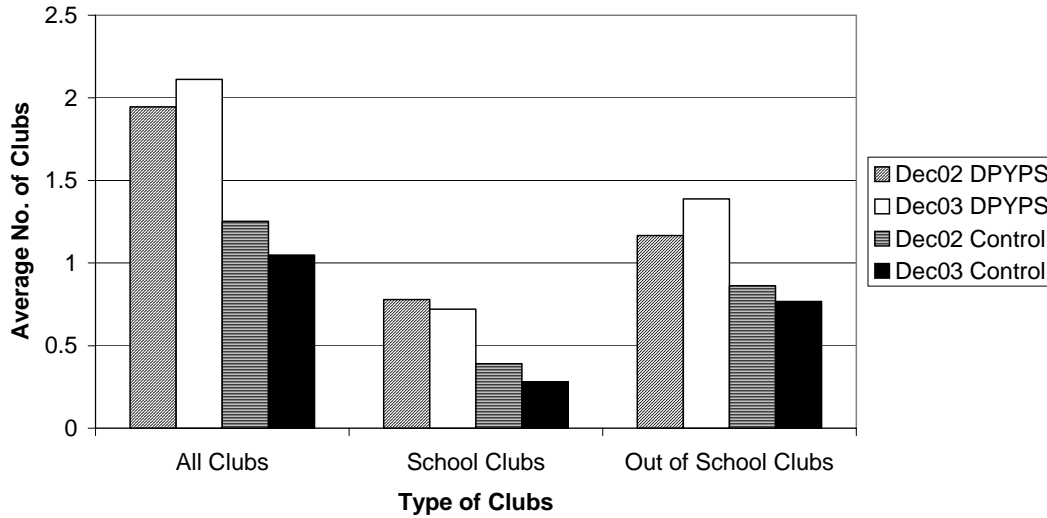
Those involved in DPYPS showed no change in inactivity levels, however there was an increase in specialising and a decrease in non-specialising children. Those children who chose not to be involved showed a general increase in activity levels represented at all levels of specialisation.

Unfortunately, we have no way of knowing how the DPYPS programme would have affected those children who did not have the inclination to choose to take part. This could only occur should DPYPS be made part of the curriculum as it was at primary level.

Chronic Effects: S2 – S3, North Ayrshire

Again the cohort of children tracked from S2 to S3 had the choice to become involved in the DPYPS after school club. As is true for the S1 cohort, although we did have control groups, they are not an equal representation of the age groups and do have different initial characteristics, which are reflected in the initial levels of club attendance, shown in the graphs. Additionally, the children who did take part had one ten week block of DPYPS between January and March 2003. Initial data was collected at the end of December 2002 and post data collected in December 2003.

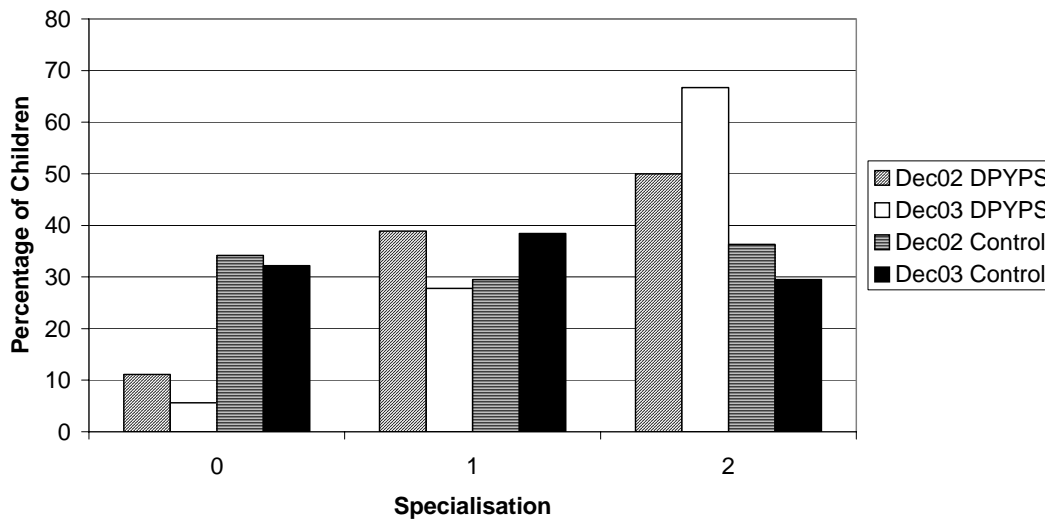
**North Ayrshire S2-S3 Dec02 - Dec03: Number of Clubs Attended:
Change Over Time**



This cohort did not follow the expected trend of a decline in activity levels. In fact this S2 to S3 group showed extremely positive results for the DPYPS programme. While there were no overall significant differences over time for all groups ($F(1, 160) = 0.3, p > 0.05$), there was a significant interaction effect between the DPYPS and the control group. Those involved in the DPYPS programme showed an increase in average number of 'all clubs' and those in the control group showed a decrease in the average number of 'all clubs' attended ($F(1, 160) = 3.886, p \leq 0.05$). As can be seen from the graphs the main difference appears to have been an increase in out of school clubs.

Unfortunately, we have no way of knowing how the DPYPS programme would have affected those children who did not have the inclination to choose to take part. This could only occur should DPYPS be made part of the curriculum as it was at primary level.

North Ayrshire S2-S3 Dec02 - Dec03: Specialisation: Change Over Time



Again, although the control group did show a slight decrease in those who are inactive, the expected trend of more specialisation and less non-specialisation was apparent. However, positively, those involved in the DPYPS programme showed a decrease in inactive children and specialisation, with an increase in unspecialised activity levels.

Summary of Tracking Analysis

The tracking data from Stirling was extremely positive and showed a statistically significant increase in the number of clubs attended, and also revealed a decrease in the percentage of inactive children and an increase in unspecialised participation.

However, the data from ‘acute’ level of intervention in North Ayrshire showed less positive results where overall both the DPYPS and control group dropped levels of clubs attended. While levels of inactivity remained steady with the DPYPS group, the control group showed a decrease in number of inactive children, although they were still less active than the DPYPS children.

Analysis of the ‘chronic’ tracking data, which followed children through the transition from one year to the next only occurred in North Ayrshire, and took place for P7 to S1, S1 to S2 and S2 to S3 children. As expected the P7 to S1 children showed a significant decline in average number of clubs attended, in line with known patterns of decline, and unfortunately as there was no control group due to every child being involved, no real interpretation value was gained. Although positively, the females that were involved showed a decrease in levels of inactivity. In other words, more females were active!

The S1 to S2 group showed a similar overall trend of small, but significant decreases in numbers of clubs attended, however there was no significant group effect between DPYPS and control groups. Finally the S2 to S3 group showed more positive effects

of the tracking data where there was a significant interaction effect between the DPYPS and control groups, where those involved in the DPYPS club showed an increase in the average number of clubs attended, whereas those involved in the control group showed a decline, typical of the transition from S2 to S3. Positively, there was also a larger effect on decreasing inactivity levels and increasing non-specialisation than the control group. Unfortunately, as the DPYPS programme was voluntary in secondary school there is no way to assess the impact it would have had on those not inclined to choose to take part.

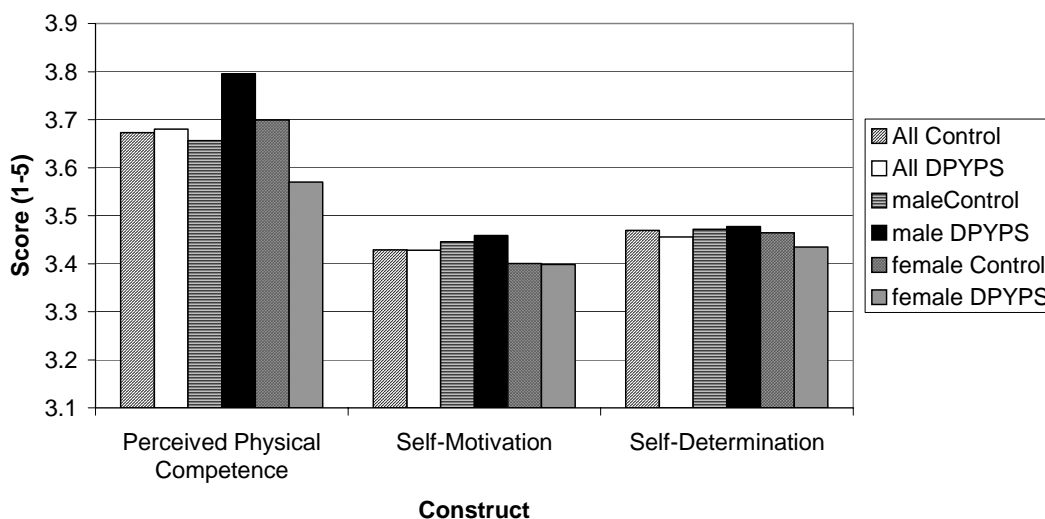
The overall summary of the impact of DPYPS on participation levels shows that, while we expected little or no change, some significant and positive effects were gained through the DPYPS pilot programme, most prevalently in Stirling, but also for some aspects of the North Ayrshire cohort, particularly the S2 to S3 'chronic' tracking groups. Indeed, with a more long term, systematic and coherent level of input, DPYPS may be capable of producing far more impact on a far more widespread target audience.

5.1.2.2 Perception Data Analysis Results

North Ayrshire Primary 7 – Cross Sectional Analysis

The analysis of the children's self perceptions is very important in a study of this kind. It well documented that perceived physical competence (i.e. how good a child thinks they are at physical activities), self-motivation (i.e. how well a child can motivate themselves) and self-determination (i.e. how much choice and control the child feels they have over their participation) are important factors in the promotion of physically active lifestyles and successful talent development (cf. Abbott et al, 2002; Abbott & Collins 2002).

North Ayrshire P7 (Dec02 Vs Dec03): Self Perceptions: Cross Sectional Analysis

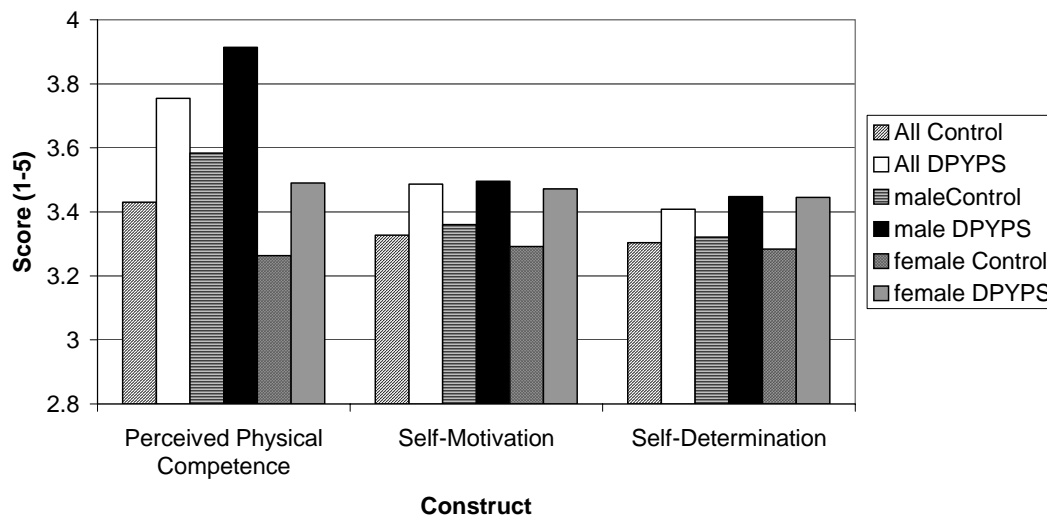


The two P7 cohorts (i.e. P7 Dec02 & P7 Dec03) represented above are differentiated by the fact that the DPYPS group (i.e. P7 Dec03) received one ten week programme from October to December 2003. There are no significant differences over time (F (3,

225) = 0.029, $p > 0.05$) with no significant interaction of gender ($F(3, 225) = 1.007$, $p > 0.05$). All of the children were involved in the programme and as such it is not possible to interpret any real impact of the programme against a control.

North Ayrshire S1 – Cross Sectional Analysis

North Ayrshire S1 (Dec02 Vs Dec03): Self Perceptions: Cross Sectional Analysis



The S1 cohorts are different from the P7 cohorts that were analysed since the DPYPS group received two ten week blocks of work from January to June 2003. Indeed, while there is no control group, it is interesting to note that these children who have received a double block of DPYPS work have shown significant increases in all of their self perceptions ($F(3, 292) = 3.72$, $p < 0.05$) where those who only received one block in the P7 cohorts showed none. However similarly, there was no significant gender interaction ($F(3, 292) = 0.392$, $p > 0.05$) for the S1 cohorts.

Summary

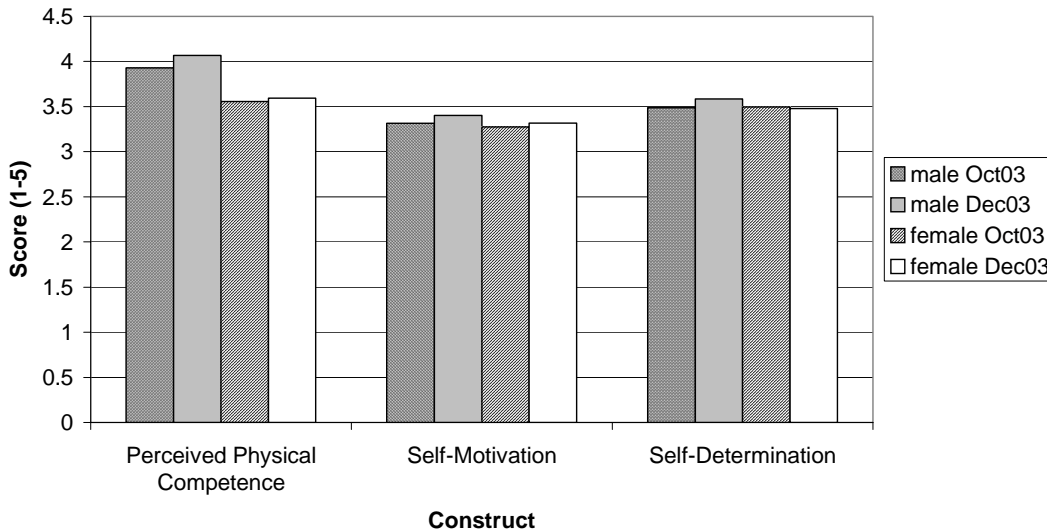
The cross sectional analysis of the P7 and S1 cohorts provided an interesting result. The group who had received two ten week blocks of work had improved significantly in the average perceptions (perceived physical competence, self-motivation & self-determination), whereas the group who received only one ten week block had not showed any significant improvement.

Tracking Data Analysis

Acute Effects: Stirling

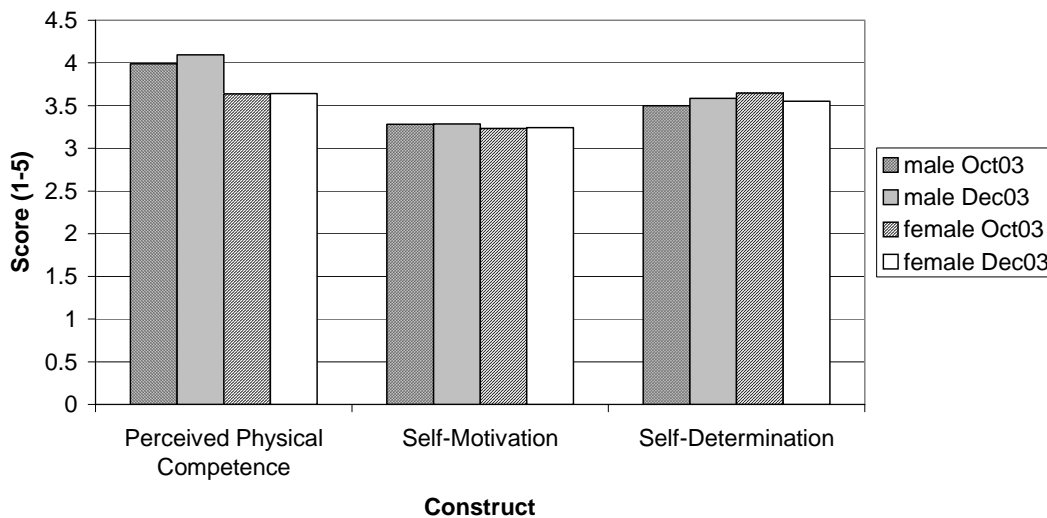
Cohort 1 Stirling Primary

Stirling Primary Oct03 - Dec03: Self Perception Change Over Time

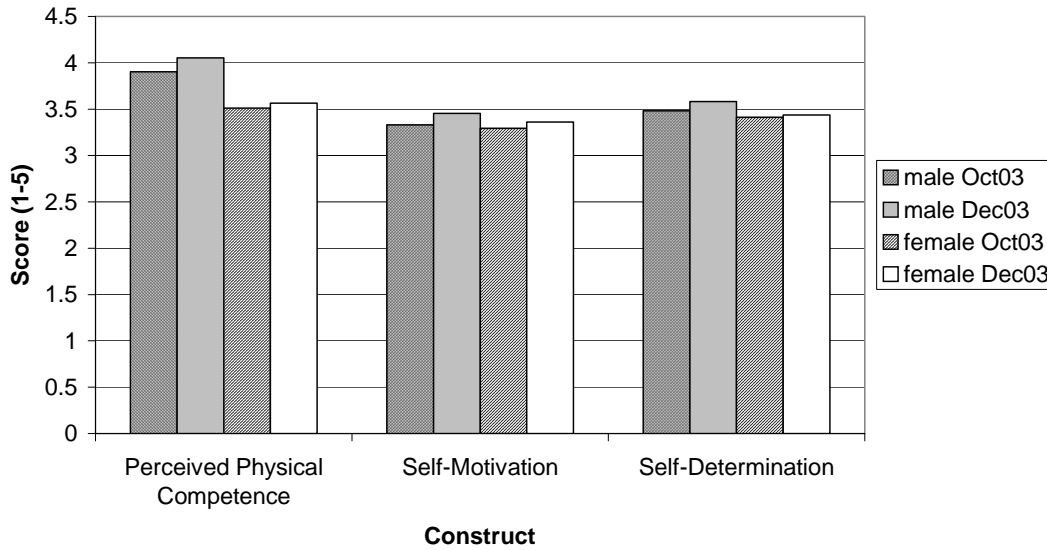


The Stirling primary children were tracked over a ten week block of DPYPS between October and December 2003. Interestingly, there was a significant positive impact on all perception constructs over time, where there was an interaction for gender for self-determination and perceived physical competence with males showing a greater effect than females. Unfortunately there was no control group as all children participated. The statistics are as follows: Self-determination across time ($F(1, 238) = 4.426, p \leq 0.05$) and gender interaction ($F(1, 238) = 3.877, p \leq 0.05$); Self-motivation across time ($F(1, 238) = 8.024, p \leq 0.05$) and gender interaction ($F(1, 238) = 1.761, p > 0.05$); Perceived physical competence over time ($F(1, 238) = 5.665, p \leq 0.05$) and gender interaction ($F(1, 238) = 11.267, p \leq 0.01$).

Bannockburn Primary Oct03 - Dec03: Self Perceptions Change Over Time



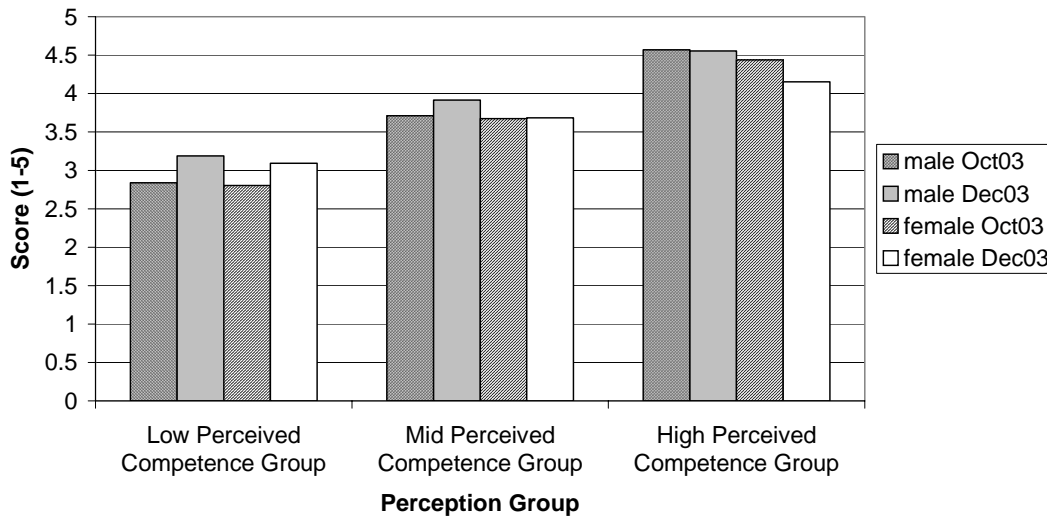
Balfron Primary Oct03 - Dec03: Self Perceptions Change Over Time



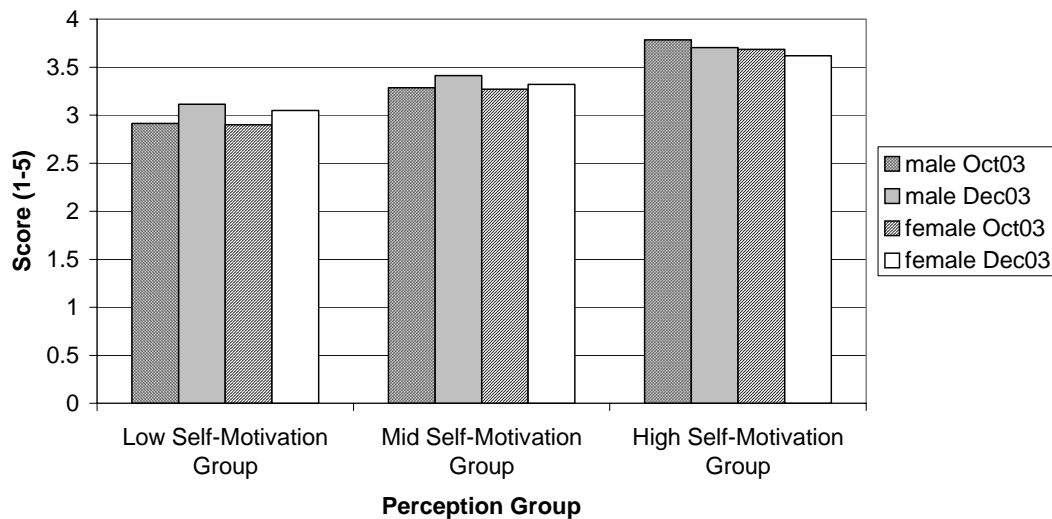
There were no significant differences in data or DPYPS affect between the two clusters; Self-determination ($F(1, 242) = 2.339, p > 0.05$); Self-motivation ($F(1, 242) = 2.974, p > 0.05$); Perceived physical competence ($F(1, 242) = 0.303, p > 0.05$).

To investigate further these data, children were split into groups to represent those who were initially low, average and high in the perception constructs in order to evaluate any mediating effect of the DPYPS programme on different types of youngsters.

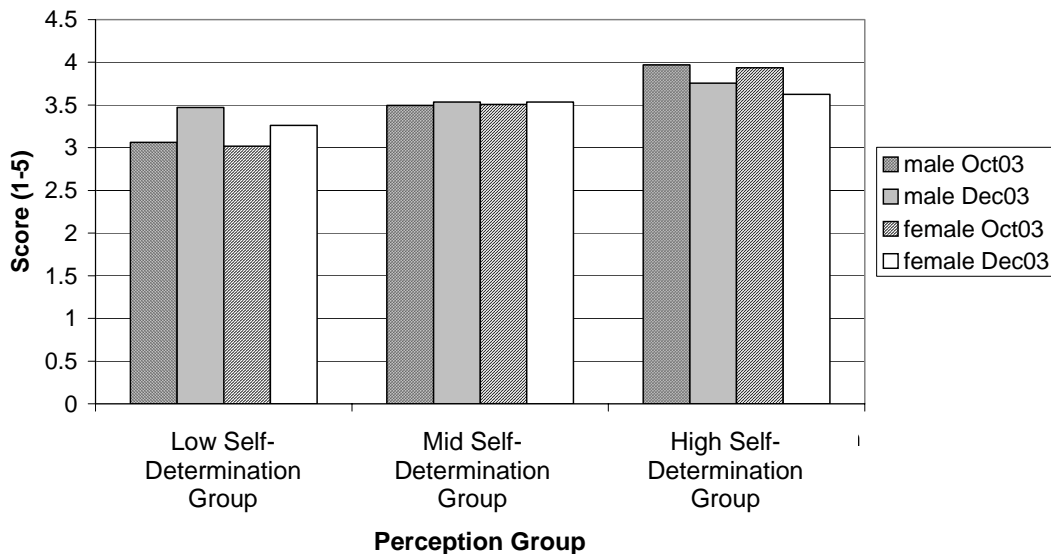
Stirling Primary Oct03 - Dec03: Perceived Physical Competence Change Over Time by Perception Group



Stirling Primary Oct03 - Dec03: Self-Motivation Change Over Time by Perception Group



Stirling Primary Oct03 - Dec03: Self-Determination Change Over Time by Perception Group

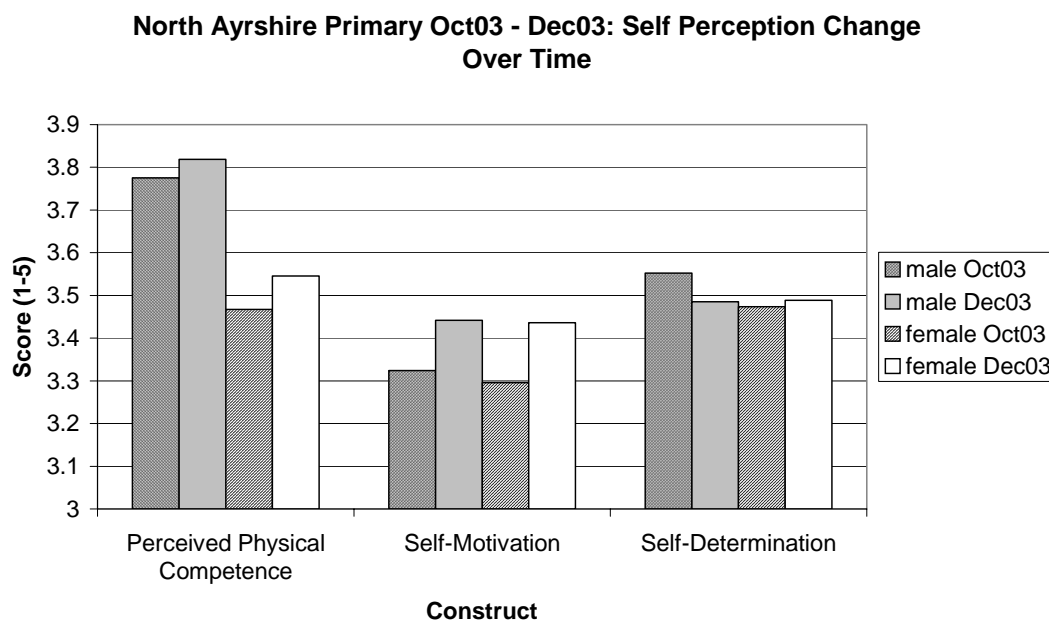


Interestingly, the data shows that there is a significantly different effect of the DPYPS programme depending on what group a child was in. This was consistent across each of the three constructs; Perceived physical competence ($F(1, 238) = 22.779, p \leq 0.01$); Self-motivation ($F(1, 238) = 11.643, p \leq 0.01$); Self-determination ($F(1, 238) = 36.77, p \leq 0.01$). The programme has a positive effect on the low and average perception groups, with a trend for a greater effect with those with low initial self-perceptions. However, the programme shows a negative influence on those children with high initial perceptions, although it must be remembered that the perceptions in this group still remain high. Perhaps the programme leads to a 'rationalisation' in

these confident children? Certainly, the decreases do not appear to have offered any negative impact, either behaviourally or emotionally.

Acute Effects: North Ayrshire

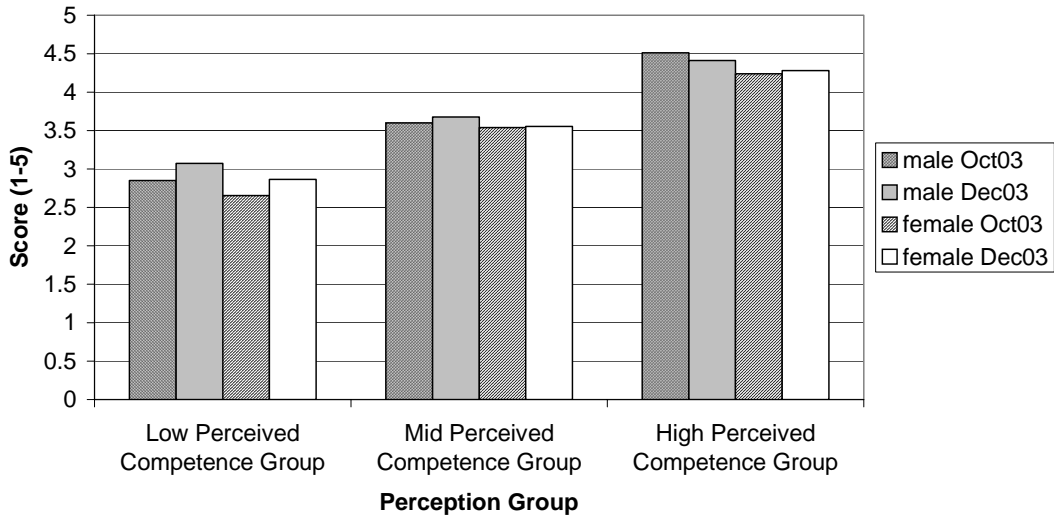
Cohort 1 North Ayrshire Primary



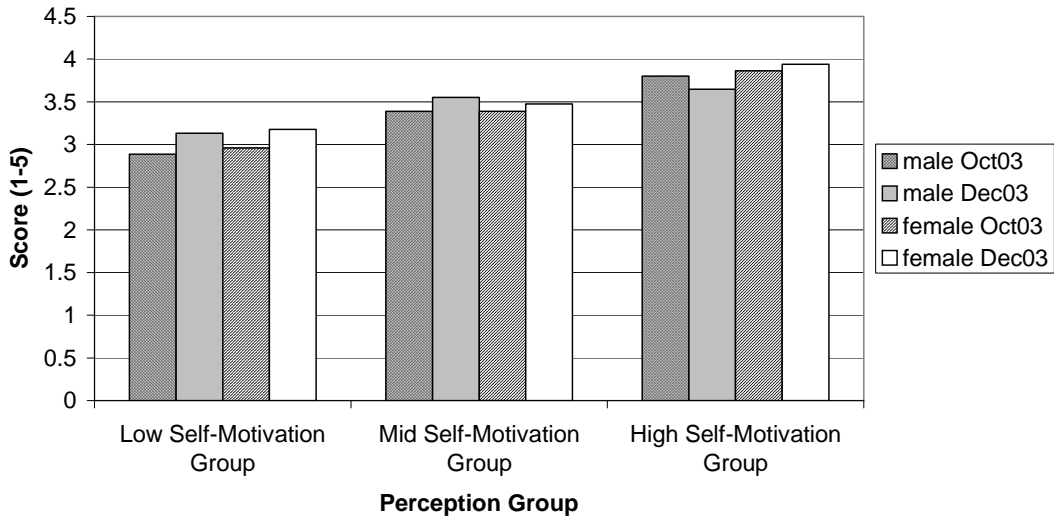
North Ayrshire did not show such positive results as the Stirling cluster. However, over the ten week block of work, self-motivation increased significantly ($F(1, 67) = 7.488, p \leq 0.05$), while perceived physical competence ($F(1, 67) = 2.825, p > 0.05$) and self-determination ($F(1, 67) = 0.682, p > 0.05$) showed no significant effects. No differences occurred between males and females for any construct (i.e. no gender interaction effects); Self-motivation ($F(1, 67) = 0.289, p > 0.05$); Self-determination ($F(1, 67) = 0.304, p > 0.05$); Perceived physical competence ($F(1, 67) = 0.51, p > 0.05$).

As with the Stirling cohort, the children were split into groups to represent those who were initially low, average and high in the perception constructs in order to evaluate any mediating effect of the DPYPS programme on different types of youngsters.

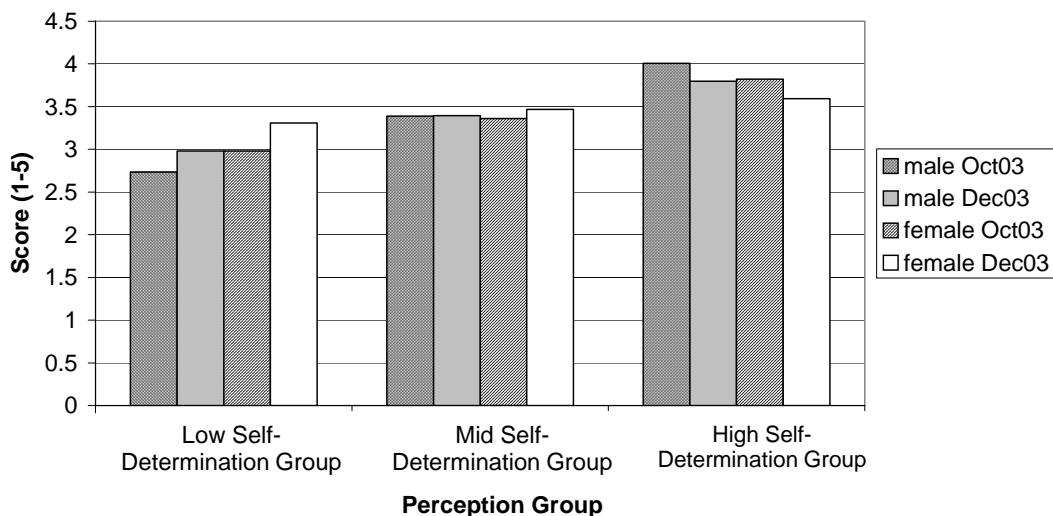
North Ayrshire Primary Oct03 - Dec03: Perceived Physical Competence Change Over Time by Perception Group



North Ayrshire Primary Oct03 - Dec03: Self-Motivation Change Over Time by Perception Group



**North Ayrshire Primary Oct03 - Dec03: ξ Self-Determination Change
Over Time by Perception Group**



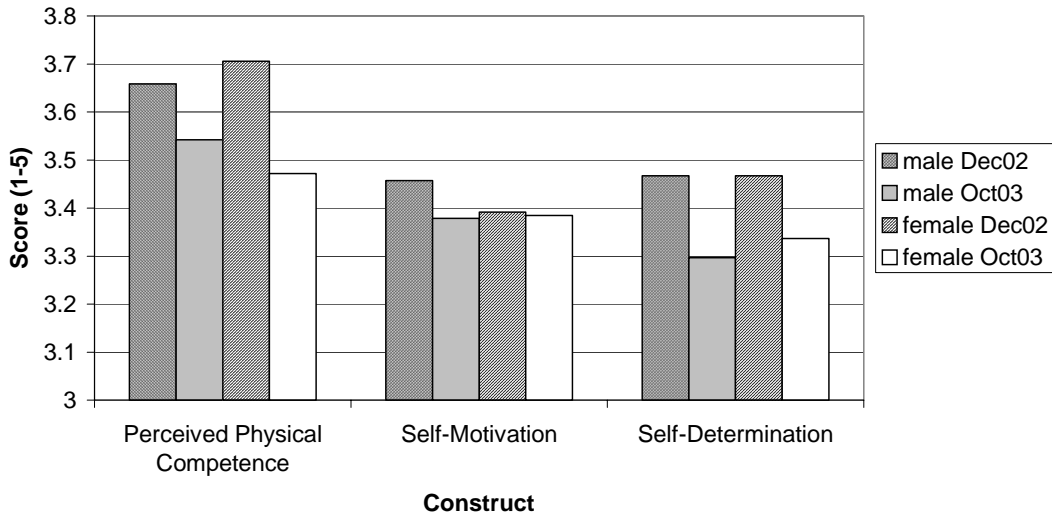
Interestingly, the same trends occurred in North Ayrshire as they did in Stirling. The group with low perceptions improved the most with the average group responding more slightly and the high perception group decreasing. However, relatively this group still had high perceptions. Significant effects were found for self-determination ($F(2, 67) = 8.86, p \leq 0.01$) and self-motivation ($F(2, 67) = 3.514, p \leq 0.05$), but not for perceived physical competence ($F(2, 67) = 2.38, p > 0.05$).

Summary

The acute effects of the tracking data revealed a positive impact of the DPYPS programme in constructs in both Stirling and North Ayrshire. Interestingly, both areas also revealed that those with low initial perceptions tend to be most positively influenced by the programme; however those with high initial perceptions, while still remaining high, appear to decrease in perception level. This of course will become a more interesting phenomenon and caveat for the S1 and S2 clubs because of the voluntary nature of the club. It has been shown in the baseline report and in data presented below that those who volunteer to participate have, on average, higher self perceptions than non-selecting colleagues.

Chronic Tracking Effects: P7 – S1, North Ayrshire

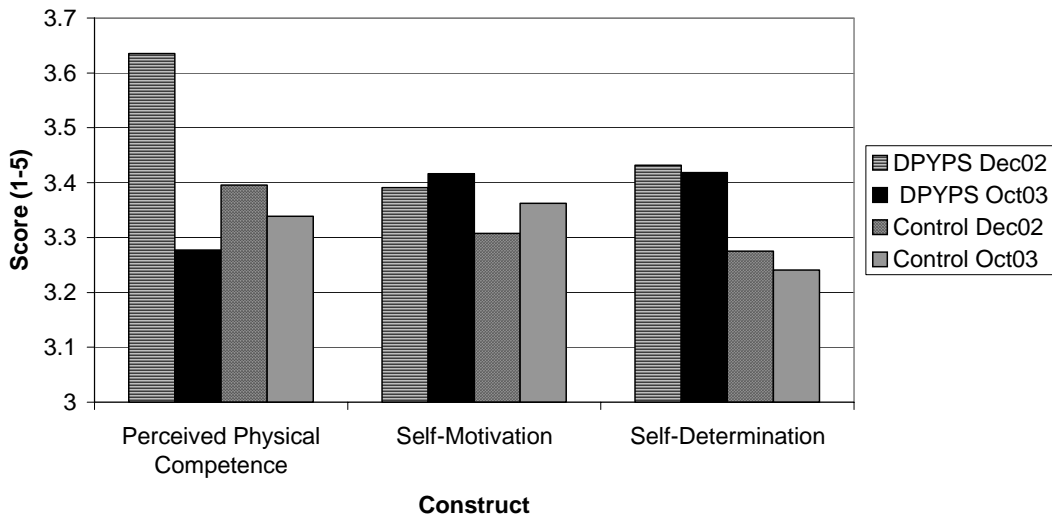
North Ayrshire P7-S1 Dec02 - Oct03: Self Perception Change Over Time



As with the participation data, there is a decreasing trend across the P7 and S1 age group. Of course, this is to be expected and unfortunately, as it was not possible to have a control group because of the practicalities of the programme, interpretation is difficult. Significant changes were evident for self-determination ($F(1, 117) = 9.164, p \leq 0.05$) and perceived physical competence ($F(1, 117) = 13.301, p \leq 0.05$), but not for self-motivation ($F(1, 117) = 1.008, p > 0.05$). No gender interaction was shown: Self-determination ($F(1, 117) = 0.162, p > 0.05$); Self-motivation ($F(1, 117) = 0.709, p > 0.05$); Perceived physical competence ($F(1, 117) = 1.49, p > 0.05$).

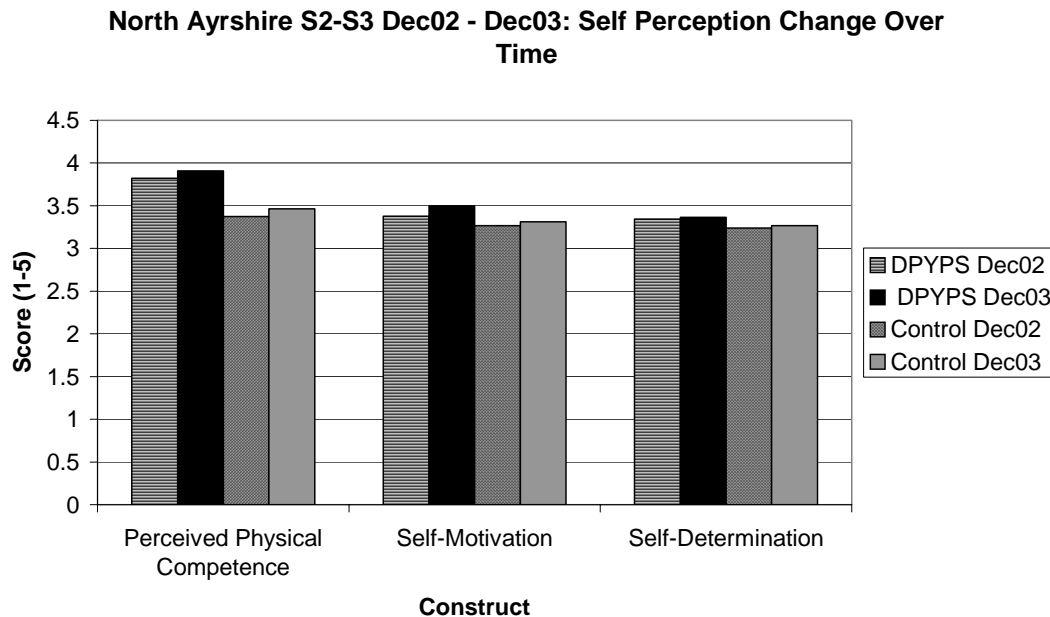
Chronic Tracking Effects: S1 – S2, North Ayrshire

North Ayrshire S1-S2 Dec02 - Oct03: Self Perception Change Over Time



The trends for the DPYPS and control groups appeared to follow a similar pattern of decrease over the year group, with the exception of self-motivation in which both groups showed a positive trend. Indeed, perceived physical competence did show a significant effect over time ($F(1, 115) = 12.144, p \leq 0.01$) and a significant effect between the DPYPS and control ($F(1, 115) = 5.092, p \leq 0.05$), where the DPYPS group showed a larger drop in perceptions. However, it must be recognised here that data above has shown that those children with high initial perceptions tend to decrease slightly. This may have had a bigger impact due to the fact that the children who volunteered for the club found themselves amongst children of a higher ability level from which to compare their competence against. The other constructs did not show any significant differences or interaction effects over time; Self-determination over time ($F(1, 115) = 0.461, p > 0.05$), DPYPS interaction effect ($F(1, 115) = 0.005, p > 0.05$); Self-motivation over time ($F(1, 115) = 0.407, p > 0.05$), DPYPS interaction effect ($F(1, 115) = 0.058, p > 0.05$).

Chronic Tracking Effects: S2 – S3, North Ayrshire



Unlike the participation data, there were no significant differences in the perception data over time or interaction effects between DPYPS and control; Self-determination over time ($F(1, 147) = 0.241, p > 0.05$), DPYPS interaction effects ($F(1, 147) = 0.026, p > 0.05$); Self-motivation over time ($F(1, 147) = 2.947, p > 0.05$), DPYPS interaction effects ($F(1, 147) = 0.629, p > 0.05$); Perceived physical competence over time ($F(1, 147) = 2.149, p > 0.05$), DPYPS interaction effects ($F(1, 147) = 0.018, p > 0.05$). However, those who chose to become involved in the DPYPS programme had higher self perceptions initially and after the programme. It would be interesting to see, if the DPYPS was made part of the curriculum, what effect it would have on those children who have lower perception and more inactive lifestyles.

Summary

The chronic tracking across year groups (i.e. tracking children from one year group to the next; P7-S1, S1-S2, S2-S3) showed some interesting results. Unfortunately, it was not possible to have a P7 to S1 control group and interpretation therefore is difficult. The S1 to S2 group showed no differences in trends between the control and DPYPS groups. However, for perceived physical competence, the DPYPS group showed a significantly larger decrease than the control group. No certain interpretation can be made for this change, however it must be recognised that it has been shown that DPYPS tends to have a more positive effect on those with low perceptions and a 'negative' effect on those with high self-perceptions. Given that this group had a particularly high initial level of perceived physical competence, and that the volunteer children had joined a club where all pupils are probably better (or at least they perceive they are and are more active) than in an average class, it may be of no surprise that their relative perception of themselves decreased more than a control group with no different environment in which to judge themselves. The S2 to S3 group showed no significant changes, however the volunteer DPYPS group perceptions remained higher than the control group.

5.1.3 Qualitative Data

Qualitative data were collected from children through a combination of one-to-one interviews and small focus groups. Analysis was completed in a similar fashion to other qualitative data, with units of meaningful data being derived by consensus validation.

5.1.3.1 Perceptions of the Psychomotor Impact

Pupils' perceptions of the programme appeared universally positive. Certainly, the content of the DPYPS programme was positively received, and compared favourably with the usual PE content:

I think, this year, doing this programme [DPYPS] we've learnt a lot ... a wider range of different skills. Like, last year we never had any good PE lessons and it was always games that we did and it got awful boring. It was quite rubbish but I think we've improved a lot this year since this programme came. (Stirling Primary pupil)

I got better with my hand/eye co-ordination as I wasn't any good at catching or receiving or throwing a ball. I was absolutely terrible, no one would want to throw or pass me the ball because, seriously, if I threw the ball it would end up through the window! But I prefer playing throwing games more than I used to. (Stirling Primary pupil)

I found football very difficult and I couldn't kick a ball without it going all over the place and we were shown different ways of kicking the ball and that helped me. (Stirling Primary pupil)

I think it [DPYPS] should carry on because you learn more and you can play more games so it helps your confidence when you're going up to

High School because you're better at sport. (North Ayrshire Primary pupil)

Certainly, many of these changes seemed related to increased confidence in improved abilities. As planned, the programme had impacted on both actual and perceived competence.

I don't know why but I feel a lot more confident now. It's because a lot of things that I wasn't very good at like shooting in basketball or netball I think I've probably got a lot more control over that now. (Stirling Primary pupil)

We learnt about strategy in DPYPS ... like in a game such as badminton where you have to play strategy as well as do certain shots so you can win. (North Ayrshire Secondary pupil)

When we get a football game at school, it's better because we can do football better now [since doing the programme]. I'm confident, more confident because I'm better at things now that I didn't used to be, things I couldn't do. I used to be scared of doing tackling in football but I don't know what happened to me but I'm not now. (Stirling Primary pupil)

I think DPYPS has helped me play more games and do more things and I'm more confident about doing more things. (Stirling Primary pupil)

[I've changed since doing the programme] because I just feel that I should take part in everything now. Because I feel that I've got better at some things, so I'm better at them, so I feel like taking part in them more. It's made me like feel more determined because before if I couldn't do it I just didn't go. Now, I try it out and if I can't really do it, then I keep going and try and get better at it. (Stirling Primary pupil)

As a consequence, children were actively seeking sports experiences rather than feeling inhibited by their lack of ability, either actual or perceived.

When we did football I wasn't that good at it but we had a few DPYPS lessons and I like it now and I've joined a club now. (Stirling Primary pupil)

In gymnastics and running I'm better now because I'm not that good at gymnastics, I'm not that good at running, but I like other sports. And now I have this goal at the end of it. I quite like running now. I go cross country running. (North Ayrshire Primary pupil)

5.1.3.2 Perceptions of Psycho-behavioural Impact

As planned, the psycho-behavioural programme appeared to empower pupils to improve. Use of goal setting was particularly apparent.

It [the psycho-behavioural tasks] made me think about ... like rather than just playing sport, it made me think about how to get better and things like that. (North Ayrshire Secondary pupil)

In PE we do things with a goal ladder and my goal is to get up to 5 and I think I got up to 8 so I got further than I expected. I use goals in my badminton now ... I probably wouldn't have used goals in badminton before, it didn't really occur to me. (North Ayrshire Secondary pupil)

In golf now I make an effort to keep my mind on what I'm doing and not think of other things. (North Ayrshire Primary pupil)

Goal setting probably helped me [in dance] because like some times some of the dancing moves were quite hard and like I could break it down into loads of different stages and could work towards a higher stage. (North Ayrshire Secondary pupil)

Participants also appeared to be more secure in themselves, confident to make mistakes but keep trying. These characteristics, typical of a self-determining approach, were used to facilitate activity.

I got taught by my skiing teacher that it's okay to make mistakes but this programme assured me of it. (Stirling Primary pupil)

It [DPYPS] helped me with the confidence thing because I do dancing in like a theatre company thing and I'm not like all that good at dancing – I'm alright! I can basically do them but sometimes like I just can't remember what order they go in but I'm sure like before I did DPYPS I would get all worked up maybe if I'd got behind and everyone else was way ahead of me but now I just laugh at myself and try and pick up where everyone else is. (North Ayrshire Secondary pupil)

If I didn't do well in a race, I'd just think, 'Mhmm, I'll just not race them again', but now I'll try harder and try again and again and again. (Stirling Primary pupil)

The role of self-determination as an 'inoculation' against peer pressures is also well demonstrated by participant responses.

It's changed me just a little bit because I like sport but none of my friends go to the ones that I want to go to, so I never used to go. And then, it made me think I should go anyway because it doesn't matter if you don't go with your friends. Because I went to play football but none of my friends go. (Stirling Primary pupil)

I've become more sort of more fit and more interested in fitness because ... I don't know why but I just I enjoy sports better after doing DPYPS because I wasn't really into sports that much before. (Stirling Primary pupil)

I like sports better now and instead of what I usually do after school, like just sitting on the sofa watching TV, sometimes I like to play tennis and run about in the garden. (Stirling Primary pupil)

Me, my brother and my sister used to set up obstacle courses and my brother's a big athlete kind of person and he used to always get a really good time doing it. So we time each other and he kept saying that I was really rubbish at it. And, after all I learnt [in the psycho-behavioural sessions of DPYPS], I just thought it doesn't matter what he thinks, and I ended beating my personal best and coming quite close to it and it really helped. (Stirling Primary pupil)

Before, I used to come home from school and on the weekends I would just do my homework and watch TV or play with my computer game, but now, if I've got spare time, I go out and play with my friends. (Stirling Primary pupil)

I used to let other people get me really down if they said that my time was pretty bad but I don't really care what they think now, just as long as I try my hardest. (Stirling Primary pupil)

There was good evidence for pupils transferring the skills gained from the programme to other challenges, even though staff had expressed some concerns about their own ability to facilitate this transfer.

I found the goal setting useful because in climbing we had to abseil and we did abseil off the top of the church where the church bells were and I was scared and I broke the abseil into stages so I could get used to it before. (North Ayrshire Secondary pupil)

I used imagery in rock climbing because it helped me to plan my route in advance so I knew exactly what I had to do before I started. (North Ayrshire Secondary pupil)

We just kind of sat there and kind of closed our eyes and thought about us actually doing the assault course and the route we would take and it actually helped us and we got quite a good score. We decided to give it a go just before we did the assault course, we just sat there and we just did it ourselves because they [the teachers] didn't really know about it because they were just parents taking it [the netball session]. It was just a couple of us from our class [who had been doing the psycho-behavioural sessions]. (Stirling Primary pupil)

I go horse-riding and when I go to show-jumping competitions, before I go into the arena, I now think about the strides going into the jumps and things and the strides between all the jumps and then I know when to go over them and things. (North Ayrshire Primary pupil)

The mental stuff we did, I liked. I play chess with my Mum most nights and it makes me a bit better at chess because you've learnt to think

things through more. Before I'd just make any old move. (North Ayrshire Primary pupil)

Well, when I was at a dancing competition in Blackpool, what I had to do was like a solo dance, and I pictured what I was doing, my solo on the floor first before I went on stage. (North Ayrshire Primary pupil)

I think that [the psycho-behavioural part] was one of the best parts because in lots of sports I do I imagine what I'm going to do before I do it and it helps me. I know I can get better at sport now. (North Ayrshire Primary pupil)

When I'm on my way to swimming, when I'm in the car I imagine what I'm going to do. (Stirling Primary pupil)

Finally, the programme had positively influenced tolerance in pupils, making them more considerate of challenge and its effects on themselves and others. As such, the programme had achieved its broader aims, influencing moral cognitions as well as performance specific ones:

When I'm doing sport, I try and beat my personal best and it doesn't matter what other people get, just try and beat your own personal best. You shouldn't get upset because everybody's got a strength and everybody's got a weakness. (Stirling Primary pupil)

Everyone has different stages and you know you've worked really hard. There still might be someone who beats you but you should be proud of how hard you've tried and how well you did. You shouldn't laugh at people if they can't do something that you can do because everybody has different levels. (Stirling Primary pupil)

I'm a lot more confident because we did a sheet looking at things that you're good at and things you're not good at. And there are lots of different things that other people couldn't do that you could. (North Ayrshire Primary pupil)

I think it [DPYPS] will help a lot more schools because it helped us so it could help a lot more schools. It would help a lot of the other young ones coming up to 7 [Primary 7] to be more confident because I think that they would really enjoy it and then when they got older they would just do more and more and more of it as they got older, like into secondary [school] and that. And they could teach others as well as they got older. We were nervous and everything before the programme started but it encouraged a lot of us to start other things and I think it'll be quite nice to start clubs for all the wee ones to join in with the big children. (Stirling Primary pupil)

I think it's changed how I look at other people because you know that you were once not very good at sport, so you've got to help them get better at

it, you're not putting them down by saying that was rubbish or something like that. (Stirling Primary pupil)

5.1.3.3 Comparisons with 'Conventional' PE

In considering pupil comments, it must be remembered that 'anything new seems better'! This caveat notwithstanding, however, pupils' perceptions are important, since they represent the main consumers of any programme. If pupils did not feel positive about the new programme, or even if comments were marginal, then wider implementation may not be supportable, even if it had generated positive results in other dimensions.

Certainly, this did not appear to be the case. Pupils were positive about the programme, seeing it as a significant improvement over their previous diet:

In the old PE lessons it was like one sport for a number of weeks and in the DPYPS it was different sports which taught you more and it wasn't boring as PE sometimes can be. (North Ayrshire Primary pupil)

I think it [DPYPS] was better [than our old PE] because we did more balancing and games and you had to work with your partners more. (Stirling Primary pupil)

I think the DPYPS class was better because it helped you get more skills and how to play stuff. (Stirling Primary pupil)

We enjoyed it [DPYPS]. And if we enjoyed it, other kids would enjoy it as well. (North Ayrshire Primary pupil)

Pupils reported the structured approach of DPYPS as a positive feature, feeling that it had offered them new but achievable challenges:

When we were doing the sports [in our old PE], once you started it, you just like, stayed on the same thing you know, it didn't really help you and all that. But now [within DPYPS] that you start off small and then you build up to it, it helps ... it helps you more. Everything is better [in DPYPS] because before we didn't start at the basics, we just went into a game. (North Ayrshire Primary pupil)

It's better than what we used to do because you're doing more simple stuff and you just work up on that and then you go to the harder stuff and then you get better and better at it as you go along. (North Ayrshire Primary pupil)

In DPYPS we also would play games that we had not really played. In DPYPS we would be shown how to shoot on target but we also did games where we didn't realise we were learning and they were fun. Before we would just end up trying to basically aim on target but we actually had to play games in DPYPS as well to help us learn. (Stirling Primary pupil)

When we did it, we started off on an easy level, then we built up. Harder and harder and harder and harder. So it's kind of ... we got a good variation of different things unlike in the PE sessions that we used to have, they were quite boring. Every time before we did DPYPS, we did the same thing each term and it wasn't any different. We'd done that for two years and it wasn't challenging any more. (Stirling Primary pupil)

Finally, there appeared to be substantial support for continuing the programme.

It should carry on because it's educational and it's a lot more fun than our old PE, but maybe we could have it every second week or something and then you've got the benefits of both PE and DPYPS. (North Ayrshire Primary pupil)

In DPYPS we were helped more than before and it was more fun because we got to do loads of different things as well. (Stirling Primary pupil)

I thought that this programme has been good and I think it should go on. (Stirling Primary pupil)

Pupils certainly felt that DPYPS compared favourably with other initiatives which they had experienced.

I think we should get more of this [DPYPS] in the school. I think it was really, really good and they should make it longer and start it earlier in the school. (Stirling Primary pupil)

It was more fun than other programmes we've had before because it gave us the chance to do more sports because in the programme we had before you just did like a couple of sports and didn't do much in it. So I really enjoyed it. (Stirling Primary pupil)

5.2 Front Line Professionals

5.2.1 Seconded Teacher Perceptions of the Programme Impact

The seconded teachers were surprised at the impact that the DPYPS programme had had on children even in such a short time span. This was particularly pertinent with regards to the children's attitudes towards PE, and their development from their new experiences.

I think the feedback I've had from childrens' interviews, and I wasn't present in the childrens' interviews, but the feedback from the childrens' interviews has shown a substantial impact of the programme on their attitudes and how they perceive PE and sport. I was surprised that in such a short time it could have an impact like that. It surprised me. I know the teachers have been very, very positive in the impact the actual DPYPS programme has had, certainly the psychomotor. The psycho-behavioural as well, some of the teachers have fed back and said 'it's

been very positive' but more surprising for me is the impact that kids have responded too, you know, and they've said 'this has been great', you know, not just 'This is brilliant. I've changed in this way or I've tried this now or I've done this now, I'm confident at going and doing this'. So that's been really positive for me.

I can only say from speaking to the head teachers that they've been absolutely delighted with it, you know, and they've been really positive about the whole programme. I know I think 'Local Council Representative' was going to formally approach the head teachers from a council point of view and get that specific feedback because I know he's had it on an informal basis that one of the meetings ... the cluster meeting, I think ... just with the head teachers, he'd asked informally and they've been very, very positive.

The seconded teachers highlighted that the children's co-ordination has seen a big improvement, as has their openness to learn, their awareness of what they can and cannot do, and their confidence to try new things and participate more:

The co-ordination is so important. In lots of the team sports I've seen a huge improvement. More at primary but they are at quite a fast kind of maturing level anyway but it's been definitely more explicit. I've had more contact with the primary kids, so you would expect to see more of a change.

They're more able to absorb what you're saying to them because we haven't completely changed their attitudes. Again, I don't want to say that. We haven't completely played or messed with their heads or anything, but I think they're more open to learn.

Awareness and confidence have improved. The awareness leads in, so the kids have more confidence to try things.

They're a lot more confident, a lot more ballsy, they're more willing to put their hand up and say, hold on a wee second, why don't we try it like this. Primary 7 would be like, go for it. They're very happy. Just go for it. Confidence is the main thing.

I think confidence certainly. Confidence at just trying things and just giving it an attempt or not being afraid to fail, not being afraid to, you know, you're not going to succeed all the time or first time, that you're going to make mistakes. And that's something that DPYPS can bring in. That, you know, it's something a good teacher will do but maybe not ... you know, maybe not think about it a great deal. But I think DPYPS does give a lot of confidence and I think that's certainly something I've seen.

Just awareness. When I ran the DPYPS stuff at the secondary level with kids in S2, I asked them to ... part of one of the cards was what do you know you're good at, pick one skill you know you're good at, pick one

skill you need to improve on. And that one sheet took an hour because the kids just said 'I don't know what I can do'.

The programme has also had an impact on the philosophies behind the final coach in-service that was carried out in Stirling. DPYPS helped act as a guide for an overall club structure and philosophy.

I mean, other advantages about the Stirling Rugby ... obviously that they're all part of the same club and that there was one coach in particular driving a lot of that and it seemed that they were going to try and use that structure as a kind of philosophy for the whole club; the structure of the coaching in the club.

5.2.2 Teacher Perceptions of Programme Impact

Teachers' comments paralleled observations made by pupils. The structure and progressive nature of the DPYPS system was identified as a particularly positive characteristic:

I've thoroughly enjoyed it [the DPYPS programme] and I know the kids have enjoyed it and I've got to say that this has been the best PE that certainly this school's had. (Primary school teacher from the Balfron cluster)

Watching the children, I don't think this year I have had anyone worried about gym, which has happened in the past, because they have really worried about this gymnastics before, it gets to them you know, maybe some children that are physically challenged – they don't have the worry that they had before which was a real problem for some children if they were big. They are not conspicuous now because its all mixed you know they don't dwell on that for too long, they go onto something else they can do so they are more ready to take part in work. (Primary school teacher from the North Ayrshire cluster)

I think they think more about their progress now [rather than results] because they have to. They are made to think about what they are doing you know because you are always giving them direction about how they have to move and watch how their hands are and make sure the feet are in the right position and I do see a marked difference in their throwing skills especially. (Primary school teacher from the North Ayrshire cluster)

Teachers also acknowledged positive changes related to the psycho-behavioural elements. Children appeared more determined, and willing to try new things.

I think it [the psycho-behavioural programme] is good for them because they have to recognise that there are some things they can't do as well as other things, but they can do other things better so it helps them there. (Primary school teacher from the North Ayrshire cluster)

For the ski sit task [goal setting] – oh my goodness I don't know how they did it some of them I mean they started off very poor but their determination and willpower made them do really well in the last part of the task and they thoroughly enjoyed that, challenging themselves and timing themselves, they love a challenge. (Primary school teacher from the North Ayrshire cluster)

I think the programme (DPYPS) has impacted the children. I think once a child understands that they are not totally lacking in other things they perk up and think 'Oh well I'm not that bad but I'm good at that' so they can say that to people ... 'I'm rubbish at that but look how good I am at this, I'm better than you at that or not as good as you at that', maybe not good at running but they are good at throwing and being part of maybe a netball team. (Primary school teacher from the North Ayrshire cluster)

I would say they [the children who've done the DPYPS programme] try other things around what they think they are good at because they have had a taste of all sorts of things that they might not have tried before. So they might think that now I'll have a go at hockey or I might be good at basketball because they can see that they can shoot, or they are good at defending or whatever and they might have just considered only football before so you are bringing other areas into their lives that they might not have tried before so when they go to the secondary school they have got more choices and they might try more. (Primary school teacher from the North Ayrshire cluster)

These changes had extended to perceptions of others, representing a very positive and broader impact on moral cognitions.

They [the children] are more willing I think to accept people into a team now than they were before. It used to be quite frustrating sometimes ... for instance if you were playing maybe football 5-a-side and they knew that that person wasn't very good at that they wouldn't want them in their side. They don't question it now they just all get stuck in. I think it's an evolving result ... I mean I wouldn't say it's perfect all the time but I think they are more willing to cooperate with each other in general than they were before because they understand what's happening and I think they are willing to adopt the programme because they want to be more confident. (Primary school teacher from the North Ayrshire cluster)

I think being happy to take part in sport is all to do with your self esteem and your confidence. As they get successes at things, you know, they learn that they can't be good at everything but they've got talents and they've got maybe weaknesses that need to be worked on. Then they're more likely to try things or take up a challenge. It [the DPYPS programme] also improves co-operation in the classroom too. They've got better at working together because they've done it in a sport or they've worked with a partner in gym, you know. In a lot of the psychological activities that they did as a group, they had to share their

ideas as well so it's [the programme is] good in that way. (Primary school teacher from the Balfron cluster)

Getting the children to look at themselves or analyse the behaviours of others, you know, there were characters that they had to analyse and there was a confident person, a nervous person. That was actually quite good because they weren't judging themselves. They were starting from judging someone else and then putting it back to themselves, how would I feel in that situation and how would I react. And I think that was ... they got quite a lot from that and quite surprising answers from some of the children. (Primary school teacher from the Bannockburn cluster)

In general, confidence had improved for all participants. Notably, however, many teachers commented on the specific improvements exhibited by girls and less confident individuals.

They've changed in the last ten weeks and they've changed the way they've reacted in terms of they go into the gym and they don't expect to be playing a game. I don't think I've heard them once saying, when are we going to be playing a game, they've fully accepted what's been done and I think it has changed the way they've looked at it. (Primary school teacher from the Bannockburn cluster)

I see more change in girls than I do in boys. And it's ... most ... a lot of the class are quite keen on sports anyway and quite keen on fitness in that kind of way but the boys will always go out and be running around, playing football, playing whatever. A lot of them will do that anyway. But I know that when the girls knew that they had a PE lesson before, they went 'PE!' because they knew that meant rugby which is quite a dominating kind of thing. Or football, which the boys can all play and they know they can't play as well as. So you saw a difference in attitude but, when they knew that seconded teacher was coming, it wasn't 'Oh, you know, I don't want to do this' because they knew it was something that they could all ... they could all manage to do, or something that they might all be, you know, as good as each other at doing. (Primary school teacher from the Balfron cluster)

A group of girls in my class, their attitude to PE is better. (Primary school teacher from the Balfron cluster)

Teachers expressed support for the role and contribution of the seconded teacher, but also highlighted the need for commitment to the DPYPS approach, to ensure its place in an already hectic programme.

I think it's worked really well - the children have thoroughly enjoyed it. We had a really good helper of course ... she's been very good, the children respond really well to all the lessons that they have had. (Primary school teacher from the North Ayrshire cluster)

Its been determination to do it [the DPYPS programme] every single Thursday at the same time because things have come in that have tried to change it and we've had to be really determined about it otherwise it would fall by the wayside and to give it a fair chance you need to do it constantly to see the progression. So that's something you have got to be aware of in primary schools - things keep changing all the time, you have got a timetable but its not always the one that happens. (Primary school teacher from the North Ayrshire cluster)

Resources

Teachers were generally positive about the resources, although some mixed feelings were apparent about their depth and complexity:

The resources have been useful but I've found it really time consuming actually to ... it was OK the first ten lessons you know, you have help with that and you start to understand how to work it out but after that when you have covered all the sort of skills and then you go back then you want to go over the throwing, striking and all the rest of it, you have such a lot of resources I think it takes longer than I've done it to actually get used to it. (Primary school teacher from the North Ayrshire cluster)

I like the fact that there is that big pack of resources. (Primary school teacher from the North Ayrshire cluster)

Some felt that the work could effectively be cascaded down to younger classes. Even so, teachers were confident in the compatibility between DPYPS and the current 5-14 curriculum.

Every single thing [in the psychomotor curriculum] has got a purpose. Although they are doing this thing and it's fun, they are still using the skills, they are still striking and throwing and they all match to the task they have been given. (Primary school teacher from the North Ayrshire cluster)

It [the psychomotor curriculum] starts off rather simply for them [Primary 7 children] but then they take over and they adjust it, you know if you are asking them to do a sequence or something they bring in far more complicated work than a child that's maybe in Primary 4. (Primary school teacher from the North Ayrshire cluster)

I haven't come across anything the children haven't enjoyed doing [in the psycho-behavioural curriculum] and haven't been ready to discuss. (Primary school teacher from the North Ayrshire cluster)

I would say you touch on every single part of the 5-14 [PE] curriculum, so I would say that your programme is geared to the right level. It's possible that because it is P7 the beginning part of the programme is a bit further down the school - but I would think maybe that's because you would like

it to be further down? (Primary school teacher from the North Ayrshire cluster)

Most teachers were happy with the integration and transfer of the psycho-behavioural skills:

I think that's what I was saying to the head teacher it gives them [the children] more confidence to tackle other things. We discussed this actually ... that it's not just for PE. For instance Maths, it's a challenge. (Primary school teacher from the North Ayrshire cluster)

I would mention at some part of it [the psycho-behavioural lesson] that the reason we are doing this is because it will help them in other areas – it might be public speaking so that they can feel confident enough to stand up and speak in a project or something – it's useful in all areas. We talk about that, it's not just simply for our own gym PE. (Primary school teacher from the North Ayrshire cluster)

We've got a wee boy in the class who runs, he's a runner, and he had said that he had used imagery before a big race that he was doing in Edinburgh. He said he imagined himself running and all the people clapping. (Primary school teacher from the Bannockburn cluster)

We had a big discussion after doing the imagery task and we were talking about using self imagery in all sorts of situations, not just sport and every child volunteered a time when they could use it, or when they had used it recently. So, for example, we were having a stars in your eyes competition and one of the girls said that to make herself less nervous what she did was she stood in her living room and imagined she was getting applause and everything and then when she actually was on the stage, she said she imagined she was in her living room. So I thought that was great. That's what it's all about. (Primary school teacher from the Bannockburn cluster)

I hope it's impacted in other curriculum areas, I hope that they [the children] have realised that it's not about, say in a maths test, 'What did other people get?' but 'What did they achieve personally, have they got better than they were?' (Primary school teacher from the Balfron cluster)

Teachers were also very positive about the programme's impact on their teaching and professional performance:

I think it's made me look far more at doing basic moves and the importance of it and I hope to do a lot more of it. And it's all things I really did believe in strongly, but it's made me think of them more. (Primary school teacher from the Balfron cluster)

I just feel far more willing to teach PE myself. A lot of the time you leave it to the specialists that come in but I would hope that they would bring in this kind of teaching rather than sport specific all the time, because the

kids are constantly going to get these sport specific experiences. It's nice to get the different activities, so that if there's something that a child doesn't like doing, they're not being forced to do it all the time. I just feel more confident in teaching PE and I didn't lead the sessions but I was very aware of how easy it would be for me just to do that. (Primary school teacher from the Balfron cluster)

Differences have occurred since doing the psycho-behavioural programme, I think more in the way that I've maybe viewed the children. Some of the discussions or some of the things that have come up are quite surprising. I've had a few surprises of hidden depths that have come from the children. And you learn quite a lot about what they're maybe doing outside school. Like [one girl] goes dancing and I never knew that and we had quite a chat about different types of dancing. And, different things have come up during our discussions so it's helped us also get to know the children a bit better too. (Primary school teacher from the Bannockburn cluster)

The confidence [it has provided me as a teacher] I think has been a big thing. The programme has highlighted to us what the children are actually capable of doing and what they're not, where they're going wrong. Because the children quite often go in and it [the activity] is pitched too high and we don't have the experience to break down a skill. For example, when he [the seconded teacher] was showing them [the children] how to run and we had to watch how high their knees were going. As a teacher, because we're not PE specialists, we don't look for that and we could see they can't run but we don't know how to make them run faster. But it was broken down within DPYPS and you could sort of actually look at ... OK, this is what they're doing wrong and that's what they're doing wrong, or they're good at this. (Primary school teacher from the Bannockburn cluster)

Future Directions

Finally, all teachers were keen to see the programme continue. Even without further funding, many felt that DPYPS had made a very positive and lasting contribution to their teaching.

I would like to see the programme continued ... I think it's a good programme. (Primary school teacher from the North Ayrshire cluster)

I would continue to use the resources even if the programme was discontinued ... because it's a reference ... we were always talking about trying to find a new resource and we've looked at various things but they all tend to be much of a muchness and I think that if you can allow children to enjoy something you have got them halfway there already so I am being very positive and everything but I've not actually found anything bad about it [the DPYPS programme], I've really quite enjoyed doing it with them. (Primary school teacher from the North Ayrshire cluster)

I'm going to continue using the resources, both the physical and mental ones, and I want to do more of the psycho-behavioural, I'm going to push that further. (Primary school teacher from the Balfron cluster)

I would love to see the [DPYPS] programme continued. Very much so. I would absolutely love it. (Primary school teacher from the Balfron cluster)

Many felt that, with some adaptation, the programme should be extended to stress the health components and consequent benefits. Others stressed that the programme could serve as a universal philosophy, offering structure across the PE, and even with wider, curriculum. Some even addressed its integration with other initiatives.

I'm not sure that the content just now would work down the school but it could be adapted. A lot of it is simple enough for down the school and they would enjoy it too and there is a lack of that sort of thing in school like personal and social material that's quite good for them and it works in with health as well. (Primary school teacher from the North Ayrshire cluster)

Hopefully, if we put money into this programme of PE delivery in the primary school, alongside PSD health which is what I'm also talking about here because we're looking at our health programme. If we in Stirling Council put money into a sensible PE programme tied in with a very, very good health PSD programme, then we wouldn't be sitting here having this discussion because you'd have people my age who were extremely fit and very competent. (Primary school teacher from the Balfron cluster)

I think they're life skills, so, I think it [the psycho-behavioural curriculum] should have been started before, earlier in the school ... I think it might be a bit hard to do it further down the school but I think it'd be good. (Primary school teacher from the Balfron cluster)

I just think it could go further down the school and be whole school philosophy, if you like, to how we do PE. (Primary school teacher from the Balfron cluster)

There's no philosophy with the TOPS cards that I've ever seen anyway but I could probably tie the cards into the DPYPS programme. I mean, if I was wanting to target something like ball skills, there's lots of things in your programme but there's also other things that you could get out of TOPS, you know, like, maybe for a different game or maybe just a different sort of activity they haven't tried before. (Primary school teacher from the Balfron cluster)

5.3 Local Authorities and Sports Specialists

5.3.1 Local Authority Perceptions

The Local Authorities were happy that DPYPS had had a positive impact on the teachers and schools but were not in a position to identify explicitly impact in terms of children's attitudes or skill because they were not hands on.

Again, that's one for the head teachers I suppose but the general feeling is one of being positive and being enthusiastic about it.

Respondents felt that teacher quality was the key factor in generating an impact on the children. However, DPYPS was seen as having added quality to the system, and offered a structure in which professionals could develop effective programmes.

I think it's the quality of the input and the consistency of the input from the teachers that will have an impact on the kids I think and that's unique to us because people are varied and some people are highly committed to it and have done a really good job but there's the less committed who do a lesser job and that's just life as it is. I think it doesn't change what we believe in about the programmes, so I don't think I'm going to get hung up too much about the results whether in some situations it's worked fine and in others it's less so. That's just the way the programmes will be like this and it's added to what we've been doing, certainly hasn't taken away, so that's a good thing.

There's different bits because these are just framework structures for me. They're not about what you do in them. They're framework structures. So I suppose co-ordinators, schools initiatives, TOPS, all of that has been helpful in terms of creating a structure, a model that we can do things in. It's given personnel, it's given some kind of structure. I think the next bit is to work on the philosophical issues about what we're trying to achieve and that's very much up to the individual local authorities and others to make that kind of move.

Participants felt the main message is that we have a long way to go. The DPYPS model was seen as sound and the 'way to go'. However, the objectives of the programme were both long term and far-reaching. Accordingly, both time and effort were required to reap genuinely the benefits that the programme potentially offered:

I think we've got a long way to go. I don't think there's any doubt about that. I think, you know, it's just chipping slowly but being consistent. I think that's always the model that's worked for me, you know, revolutions don't happen overnight. Or if they do happen, they don't become very stable. I think it takes time and it takes a bit of energy and it takes a bit of continued momentum to keep it going because it's easy to get dispirited and just sometimes it doesn't work and there's problems happen and personalities come in and they don't really apply the philosophy in the way you want and it takes time. So you've just got to keep working at it. There's no short term quick fix solution to this. It just

*takes time and sometimes time is not what you have because you've got deadlines on programmes, you know. **sportscotland** is quite time-limited. You're not going to have a big impact over that amount of time. So it needs to be clearly understood that it will take time. You're changing a whole values and attitudes system and that's really hard.*

It needs to have longer time scales to be effective. It needs to be big inputs in it in terms of support and refinement and development. It's not going to be perfect overnight and, you know, the materials, the cards and stuff like that, need to be monitored continually and refined and that's the way it should be. I think the idea of having teachers involved in initial training and then supported is fine. I think they might need some other little inputs along the way as well, like a twilight where they come back. But that would be best done at a whole school level again, you know, the school should be involved in this rather than a teacher, so there's consistency year to year and there's a building on all of that. If you had a programme that operated from zero to sixteen or whatever, then you would be consistent but it's the same issues for PE as a bit of this programme.

5.3.2 Sports Specialists' Perceptions of the Programme Impact

The coaches and other specialists involved in the DPYPS programme felt that there was some positive impact on the children and themselves. They certainly were enjoying it, more aware about themselves and learning from it. Those involved appeared to have a better attitude toward sport, with children possibly showing greater uptake:

Did it boost confidence in children? I think they enjoyed it. I think they enjoyed a bit more of a focus on it and the fact that they're learning something. Again, you need to speak to the particular teachers who would be able to tell you a more detailed answer but from what I saw they seemed to enjoy the activities that they were doing.

It's difficult because I've never seen them in a DPYPS class. I'll tell you one thing I do notice, is that through the DPYPS and possibly the sports co-ordinator programme, the children have been exposed to more activities and more ideas and so the S1 that have come in attitude-wise, and it might just be that it's this year, they're enthusiastic and they are probably a little bit more progressed than, say, a normal first year would be who had not had the opportunity.

You know, there's a girl that went through DPYPS left the badminton and came to me about a month ago and said 'Can I come back?' Now, I don't know what triggered that. I don't know.

For me, it's making them a lot more aware.

Coaches reported that the activity levels of the children had increased and that they were still learning within that context. In fact, some of the coaches reported that the

children had stopped asking when is there going to be a game, highlighting the 'personal development' orientation of much of the DPYPS methodology.

You have a personal philosophy of what kids should be having within a lesson, what their outcomes should be, but I've certainly noticed that, that, the activity level is definitely higher. Nobody's complaining about it, in fact nobody recently has said 'when are we going to get a game?'

I like the enthusiasm that you get from the kids but I would like to think that we would have that anyway. I'm not painting a picture of Utopia here, you know, it's not always hunky dory. But I think what struck me is the activity levels but we're still actually focusing on kids learning a skill.

But we can move from this into just 'how do we skip'? You know? And it has occurred to me when we were doing throwing and catching recently nobody said 'when are we going to get a game?'. And that's actually quite telling, isn't it?

In terms of evaluating the real impact on the children, many of the specialists and coaches feel that it is far too soon to be able to see such an impact. Indeed, a longitudinal study is really the only way to find out how new philosophies and methodologies have been impacting on the children that have gone through them.

You know, if you were asking me again in a year's time, or at the end of the school year I think I could probably give you a better answer. I think it's just too soon. I always felt that as a specialist, most primary kids like coming to the gym and as a specialist you know how you should be bringing something extra.

I like the bit that it goes from basic needs into taking it from P3 onwards, targeting at P5 onwards. I'm really keen to see the sort of bigger picture, the whole thing, and how it's panning out. Because until you know how it is in S1 and S2 for example, you don't really know if what you're doing is effective enough.

Yes, and that's a time thing obviously but it's just actually seeing the whole thing. I think is useful for actually evaluating what you are doing yourself. So obviously there's been a year for the evaluation, I mean, twelve months is too short.

5.4 Summary

From a quantitative perspective, data were broadly as expected. The outcome measures assayed, all of which are supported by literature as causative of, or concomitant with physical activity participation, are multi-factorial in nature and consequently, hard to change. For a programme to impact on these in less than a year would indeed be surprising.

Against this backdrop, the trends apparent within the data were extremely positive, and support the theoretically underpinned DPYPS approach as one of great

potential. To achieve genuine changes, of both statistical and real-world significance, is even more encouraging. These changes match or exceed those achieved by similar evaluations, albeit that this level of assessment has typically been employed with much more wide-ranging and well-resourced initiatives.

Qualitatively the data are very positive indeed. It is particularly pleasing to find an almost universal approval for the approach. Critique is positively offered and, where accommodated within this pilot, has generated immediate benefits to an already effective initiative.

One caveat is necessary. The initiative is multi-factored, comprising the provision of direct specialist support, new programmes of work, enhanced in-service training and positive integration with other work. As such, however positive the results, next steps must be based on pushing forwards all aspects of this package in an integrated fashion. Furthermore, the DPYPS approach should be used as an umbrella under which parallel initiatives may be philosophically and practically structured. This approach, essential if the positive promise revealed by these data is to be fulfilled, is discussed in detail within the final section of this report.

Section 6 Discussion and Future Directions

As forecast in the first session, discussion of the full report will follow a set structure. Initially we consider each of the sections, providing a brief review of the evidence, and its implications for the veracity and future refinement of the specific material. Following this, we consider the holistic programme as a contribution to the aims and objectives of **sportscotland**, using the major objectives of *Sport 21: Nothing Left to Chance* (Scottish Sports Council, 1998) as the benchmark for its evaluation. Finally, we offer some recommendations for the future development and exploitation of the approach.

6.1 A Critical Appraisal of The Results

Section 2 – Philosophy

The vast majority of those surveyed, including deliverers, seconded teachers and Local Authorities, thought the philosophy of the DPYPS programme was exactly what was needed. Those questioned were particularly positive about the non-specialised and inclusive nature of the philosophy, offering support to its educational and developmental thrust.

Those questioned were also very positive about the twin-track psychomotor/psycho-behavioural approach. Indeed, at all levels there was a suggestion that the approach represented such common sense that many were amazed that they had never seen it before. Of greatest importance, however, especially when DPYPS is compared and contrasted with other similar initiatives, was the participants' support to the need for a philosophy. The fact that this initiative offered a clear statement of its goals and methodology, against which subsequent actions could be operationalised and deployed, was seen as a particular strength. Furthermore, this clear 'statement of intent' enabled a variety of positive outcomes, including more rapid buy-in, refinement of existing practice to fit within the scheme, integration of the scheme within existing practice and, most notably, use of the scheme as an overarching structure (described by several participants as the 'glue') for a variety of parallel programmes.

Section 3 - Methodology and Content

A few deliverers expressed a preference for a much clearer structure and direction to methodology and content. Specifically, those individuals who appeared more nervous about the provision of PE activities felt that a clear curriculum, accompanied by set lesson plans, would make the DPYPS contribution more effective. This minority view contrasted significantly, however, to those who viewed the developmental nature of the approach as the key to its success. As several participants indicated, whilst some of the material was not particularly innovative, the style of its presentation and packaging enabled professionals to provide better individualisation of activity for the children under their care. For these individuals, who represented the majority view, combination of the philosophy with this flexible choice structure was seen as essential. Many also viewed this approach as providing effective professional development for teachers, both specifically within PE and in a broader sense in facilitating the professional decision making chain (cf. Thorburn &

Collins, 2003). The data revealed an interesting difference between the clusters. While those primary teachers in North Ayrshire were most positive about the psycho-behavioural curriculum, those in Stirling were more positive about the psychomotor curriculum. These preferences notwithstanding, time in an already crowded curriculum was seen as the major hurdle to overcome before the programme could be fully and optimally utilised. When combined with the general nervousness of some primary class teachers in the area of PE this emphasised the importance of the specialist teacher's role as provider and developer.

However, whilst acknowledging these concerns, all indicated their satisfaction with the initiative, with the vast majority expressing an intention to continue to use the resources and methods, even if the initiative was not continued. This positive commitment, coupled with teachers' increasing integration of the material of other aspects of their work, bodes well for the content and methodology espoused. In short, the approach worked and the teachers and coaches were very positive about its use.

Section 4 – Resources

Positive comments were also reflected through individuals' evaluation of the resources. However, it is perhaps in this area more than any other that the feedback provided by the deliverers required us to upgrade and refine. Certainly the organic nature of the intervention enabled us to modify and refine work cards and approach from the first to the second pilot run; refinements which were well received. However, there is no doubt that the DPYPS resource packs could do with a more professional touch. Almost the only negative comments about the programme in comparison to other initiatives related to too much information on the work cards and lower presentational quality of the resources against other somewhat better funded schemes like TOPS. However this is to be expected as the DPYPS programme is in its pilot stage.

From our perspective, we have always seen the necessity to integrate our resources with the best features of other programmes. We would hope that this would be something to pursue for the future, were support for DPYPS to continue. However, and this is a crucial caveat, it would be important that use of other resources involved at least surface modification in order that the strengths offered by the clear philosophy and methodology of the DPYPS approach were not lost.

Section 4 - Professional Development and Training

It is of concern that the professional training offered by DPYPS was for some teachers the first PE related in-service they had received for a long time. In general, despite the initially off-putting length of time required, professionals were very positive about the quality and impact of the training. A lot was learned from the first run in North Ayrshire, and refinements, which were incorporated into the work in Stirling, were generally well received. Further refinement and development of the training to ease the teachers' applications of the material were offered and would be incorporated into any future version. Once again the role of the seconded teacher was seen as invaluable in supporting deliverers after in-service training.

With respect to coaches, we would suggest that the major limitation to the impact of the programme was the lack of basic coaching knowledge in those who attended the training. In no way do we wish to question the motivation, commitment and enthusiasm of those who appeared and took an active part in the training. However, this lack of knowledge severely hampered the presenters in applying the knowledge offered by DPYPS and there is no doubt whatsoever that a sound programme of coach education and ongoing development would raise the quality and experience for the youngsters they work with, with subsequent benefit to participation uptake and adherence.

From a programme perspective, the pilot has offered us an excellent opportunity to test and refine our ideas for teacher support. We would be extremely confident in our ability to provide a very effective programme for teachers, with specialised training provided to seconded teachers, enabling them to fulfil their role even more effectively. With respect to youth sports coaches, however, the picture is less positive and were DPYPS to continue or be extended, we would wish to work with partner organisations to offer a much more structured professional development to those involved in youth sport.

Section 5 – Impact of the Intervention

Previous sections have highlighted that the brief nature of the pilot programme was not expected to yield any behaviour or attitudinal impact on the children. Consequently, the changes seen, whether statistically significant or as a trend, were a positive bonus, and indicative of the claims underpinning the approach. However, the qualitative data, offered a clear and unequivocal support for the programme and its impact. Quotes from children involved in the programme make fascinating reading. However, data from the consumers' perspective, what the children think, would seem to be the most important to consider. The children certainly seemed to enjoy the programme; but then variety always seems to be attractive to children. Notably, however, their support went far beyond the explicit 'we are doing something different', and the data showed that they had internalised and used the lessons they had learnt from DPYPS elsewhere in their sport and everyday lives.

From our perspective, these data were important as they provided clear support that the philosophy – content – method reasoning chain we had used was effective. It is worth noting that this decision making chain represents a major concern for researchers in PE curricular design (Thorburn & Collins 2003) the effectiveness of this approach was therefore all the more satisfying.

Potential Impacts of the Total Programme

The holistic impact of DPYPS has significant potential. The data strongly support the broad ranging contributions which have accrued within the limited scope, timeframe and deployment of the approach. As the benchmark against which this potential impact may be measured, we turned to **sportscotland's** key report "Sport 21 2003-2007 - The National Strategy for Sport: Shaping Scotland's Future" (Scottish Sports Council, 1998). In this section, we briefly review the key challenge and targets set by this report, against the contribution which DPYPS could make. In making this

comparison, we draw on both the data presented within the report and the theoretical underpinnings used to develop the initiative.

The key challenge outlined in Sport 21 fits well with the visions set for DPYPS.

The key challenge in this revised strategy proposes that, by 2020, 60% of adult Scots should be taking part in sport at least once a week. To make that change is an aspiration for the Scottish nation to broaden its involvement in sport. To achieve it, we will have to work harder to help people to be active when they're young. If more of our children are more active, we will create a virtuous cycle of behaviour that will reap rewards in the future. (p 42)

This fit is emphasised by explicit consideration of the targets set within the report, especially when the detail on operationalisation and realisation of the targets is considered. Based on the data presented in this report, we would claim a significant capability to contribute towards the following targets:

Target 1: 80% of primary schoolchildren to be physically active

Target 2: To make progress towards all schoolchildren taking part in at least two hours of high quality physical education classes a week

Target 3: 85% of those aged 13-17 to be taking part in sport, in addition to the school curriculum, more than once a week

DPYPS offers components of a curriculum and methodology specifically targeted at the achievement of these physical activity goals. Both quantitative and qualitative data suggest a long term impact which would make genuine progress towards the ambitious but crucial targets set by Sport 21. The theoretical underpinnings used in the design of the programme benefit from previous and ongoing research which further support these claims.

In similar fashion, the methods used in DPYPS enable a specific contribution to these targets:

Target 7: To have had over 250 Scots being medalists on the world stage

Target 9: To have over one million of the Scottish population playing sport in membership of clubs

The psycho-behavioural strategies employed in DPYPS are supported by a substantial research base as causative factors in high level performance. As such, their introduction to younger athletes and structured incorporation within the working style of youth sport coaches can only benefit achievement. Once again, our ongoing research in other areas and with other partners (e.g., UKSI) supports this claim.

The use of these strategies towards the promotion of a physically active lifestyle has also been proposed earlier in this report. Certainly the initiative has led to some promising changes in precursor or indicative variables associated with the uptake and adherence to physical activity, namely self motivation, self-determination and

perceived motor competence. This claim certainly needs more detailed scrutiny, with full realisation requiring a deployment of the approach with exercise professionals in the same ways as this pilot attempted it with sports coaches.

Finally, whilst no specific contribution can be claimed, the philosophy and approach used by DPYPS has direct relevance to these targets:

Target 4: 49% of those aged 14 plus in Social Inclusion Partnership areas to be taking part in sport at least once a week

Target 5: 55% of those aged 17-24 to be taking part in sport more than twice a week

Target 11: Every local authority's community planning process to have contributed to the targets of Sport 21 2003-2007

Targets 4 and 5 will only be achieved by significant changes in behaviour, preceded by changes in attitude towards physical activity. The twin-track curriculum espoused by DPYPS is specifically targeted at such change, and whilst behaviour may not be affected, the capacity to choose to be physically active and the competence to execute this choice are shown to be facilitated, evidence of this change is particularly apparent in the qualitative data in Section 5.

Finally, the role of DPYPS as an overarching structure to achieving targets such as target 11 is hopefully well supported by both the comments and actions of Local Authorities in this report. Specifically, we would propose a clear role for DPYPS as the underpinning structure (or 'glue') that can cement and coherently structure the variety of initiatives that are currently in operation.

6.2 Recommendations

The claims made in this section of the report are certainly far reaching, and at this early stage we are happy to acknowledge that data are indicative rather than conclusive. However, DPYPS offers a theoretically justified and pilot-proven way forward in an absolutely crucial area. The testing, peer review and theoretical justification presented in this report compare very favourably with those necessary for other well-funded and enthusiastically pursued initiatives. Further to this strong base, the approach has worked well and been favourably received in a variety of areas. Accordingly, we would offer the following two-tier recommendations.

6.2.1 Extension and Deployment of the DPYPS Approach

Through **sportscotland** and other partners, we should negotiate the integration of other initiatives in Scotland with the DPYPS approach. The resulting comprehensive package would include elements of TOPS, together with other educational initiatives, and a clear professional development programme for youth sport coaches, perhaps designed in association with national organisations (e.g., Sports Coach UK) or NGBs (e.g., Scottish Rugby Union). We would wish to tie this into the work and stated intentions of the PE Review Group, exploiting its stated aim of "two hours of quality PE" through a curriculum base around the Active Schools and DPYPS methodologies. This package could then be deployed in one or more areas as a

further (ideally two year) pilot before (and subject to satisfactory support) extension across the country.

6.2.1 Refinement and Extension of the DPYPS Approach to Strengthen Impacts on Physical Activity

As we stated at the start of this report, the emphasis of DPYPS was driven by its genesis as a TID initiative. This placement notwithstanding, the project has generated a demonstrable impact on physical activity and its associated pre-cursors. Accordingly, and in partnership with Scottish agencies and health professionals, we would like to expand the exercise-specific aspects of the programme through a focused but shorter (approximately 18 month) pilot. Once again, subject to satisfactory pilot performance, these ideas could then be incorporated into a comprehensive physical activity promotion programme for further and more widespread use.

Section 7 References

Abbott, A. and Collins, D. (2002). A theoretical and empirical analysis of a 'state of the art' talent identification model. *High Ability Studies*, 13(2), 157-178.

Abbott, A., Collins, D., Martindale, R. and Sowerby, K. (2002). *Talent Identification and Development: An Academic Review. A Report for sportscotland by the University of Edinburgh*. Edinburgh: sportscotland.

Anderson, J.L. (1983). *The architecture of cognition*. Cambridge, MA: Harvard University Press.

Anderson, J.L. (1993). *Rules of the mind*. Hillsdale, NJ: Erlbaum.

Baker, J. (2003). Early specialization in youth sport: a requirement for adult expertise? *High Ability Studies*, 14(1), 85-94.

Baker, J., Côté, J. and Abernethy, B. (2003). Learning from the experts: Practice activities of expert decision-makers in sport. *Research Quarterly for Exercise and Sport*, 74, 342-347.

Barynina, I.I. and Vaitsekhovskii, S.M. (1992). The aftermath of early sports specialization for highly qualified swimmers. *Fitness and Sports Review International*, 27(4), 132-133.

Bernstein, N. (1967). *The co-ordination and regulation of movements*. Pergamon Press: Oxford.

Bloom, B.S. (1985). *Developing Talent in Young People*. New York: Ballantine.

Bunker, D., and Thorpe, R. (1982). A model for the teaching of games in the secondary school. *Bulletin of Physical Education*, 10, 9-16.

Button, C., Davids, K., and Schöllhorn, W. (2003). Co-ordination profiling of movement systems. In K. Davids, S. Bennett & K.M. Newell (Eds.), *Variability in the movement system: A multi-disciplinary perspective*. In Press: Human Kinetics, Champaign, Illinois.

Carlson, R.C. (1988). The socialisation of elite tennis players in Sweden: an analysis of the players' backgrounds and development. *Sociology of Sport Journal*, 5, 241-256.

Carroll, B., and Loumidis, J. (2001). Children's perceived competence and enjoyment in physical education and physical activity outside school. *European Physical Education Review*, 7(1), 24-43.

Citizens for Better Schools (1995). *Risk factors: Characteristics associated with dropping out. CBS action, stay-in-school tool box*. Retrieved December 2000, from susie.stemnet.nf.ca/Users/coop9011/research/dropouts.htm.

Cote, J. (1999). The influence of the family in the development of talent in sports. *The Sport Psychologist, 13*, 395-417.

Cziksenti-mihalyi, M., Rathunde, K., and Whalen, S. (1997). *Talented teenagers: the roots of success and failure*. New York: Cambridge University Press.

Davids, K., Lees, A. and Burwitz, L. (2000). Understanding and measuring coordination and control in kicking skills in soccer: implications for talent identification and skill acquisition. *Journal of Sports Sciences, 18*, 703-14.

Dollman, J., Olds, T., Norton, K., and Stuart, D. (1999). The evolution of fitness and fatness in 10-11-year-old Australian schoolchildren: Changes in distribution characteristics between 1985 and 1997. *Pediatric Exercise Science, 11*, 108-121.

Durand-Bush, N. (2000). The development and maintenance of expert athletic performance: perceptions of Olympic and World champions, their parents and coaches [dissertation]. Ottawa: University of Ottawa (cited in Durand-Bush, N. and Salmela, J.H., 2001, The development of talent in sport. In *Handbook of Sport Psychology* (edited by R.N. Singer, H.A. Hausenblas and C. Janelle), pp. 269-289. New York: John Wiley & Sons).

Ericsson, K.A., Krampe, R.T. and Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3), 363-406.

Fox, K.R. (2000). Self-esteem, self-perceptions and exercise. *International Journal of Sport Psychology, 31*, 228-240.

Freeman, J. (2000). Teaching for talent: lessons from the research. In *Developing Talent Across the Life Span* (edited by C.F.M. van Lieshout and P.G. Heymans), pp. 231-248. East Sussex: Psychology Press.

Gallahue, D. L. (1982). *Developmental movement experiences for children*. New York: Wiley.

Gallahue, D. L., and Ozmun, J. C. (2002). *Understanding motor development: Infants, children, adolescents, and adults* (5th ed.). Dubuque, IA: McGraw-Hill.

Gottfried, A. W., Gottfried, A. E., Bathurst, K., and Guerin, D. (1994). *Gifted IQ: Early developmental aspects. The Fullerton longitudinal study*. New York: Plenum Publishing.

Gould, D., Damarjian, N., and Medbery, R. (1999). An examination of mental skills training in junior tennis coaches. *Sport Psychologist, 13*, 127-143.

Gould, D., Dieffenbach, K., and Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, 14(3), 172-204.

Gould, D., Eklund, R.C. and Jackson, S.A. (1992a). 1988 U.S. Olympic wrestling excellence: II. Thoughts and affect occurring during competition. *The Sport Psychologist*, 6, 383-402.

Gould, D., Eklund, R.C. and Jackson, S.A. (1992b). 1988 U.S. Olympic wrestling excellence: I. Mental preparation, precompetitive cognition, and affect. *The Sport Psychologist*, 6, 358-382.

Gould, D., Jackson, S.A. and Finch, L.M. (1993). Life at the top: the experiences of U.S. national champion figure skaters. *The Sport Psychologist*, 7, 354-374.

Grehaigine, J. F., Godbout, P. and Bouthier, D. (2001). The teaching and learning of decision making in team sports. *Quest*, 53, 59-76.

Guion, R.M. (1998). *Assessment, Measurement, and Prediction for Personnel Decisions*. Mahwah, NJ: Lawrence Erlbaum Associates.

Hany, E.A. (1996). How leisure activities correspond to the development of creative achievement: insights from a study of highly intelligent individuals. *High Ability Studies*, 7, 65-82.

Haywood, K. and Getchell, N. (2001). *Life span motor developments* (3rd ed.). Champaign, IL: Human Kinetics.

Heller, K., Moenks, F., Sternberg, R. and Subotnik, R. (2000). *The international handbook of research and development of giftedness and talent* (2nd ed.). Amsterdam: Elsevier.

Howe, M.J.A., Davidson, J.W. and Sloboda, J.A. (1998). Innate talents: reality or myth? *Behavioral and Brain Sciences*, 21, 399-407.

Ievleva, L. and Orlick, T. (1991). Mental links to enhanced healing: an exploratory study. *The Sport Psychologist*, 5, 25-40.

Jackson, S.A., Mayocchi, L. and Dover, J. (1998). Life after winning gold: II. Coping with change as an Olympic gold medallist. *The Sport Psychologist*, 12, 137-155.

Jess, M., Collins, D. and Burwitz, L. (1999). The role of children's movement competence as an antecedent of lifelong physical activity. *Health Education Journal*, 1-15.

Klint, K.A. and Weiss, M.R. (1987) Perceived competence and motives for participating in youth sports: A test for Harter's competence motivation theory. *Journal of Sport Psychology*, 9, 55-65.

Kreiner-Phillips, K. and Orlick, T. (1992). Winning after winning: the psychology of ongoing excellence. *The Sport Psychologist*, 7, 31-48.

Kunst, G. and Florescu, C. (1971). *The Main Factors for Performance in Wrestling*. Bucharest: National Sports Council.

Mahoney, M.J., Gabriel, T.J. and Perkins, T.S. (1987). Psychological skills and exceptional athletic performance. *The Sport Psychologist*, 1, 181-199.

McAffrey, N. and Orlick, T. (1989). Mental factors related to excellence among top professional golfers. *International Journal of Sport Psychology*, 20, 256-278.

McCall, R.B., Beach, S.R. and Lau, S. (2000). The nature and correlates of underachievement among elementary school children in Hong Kong. *Child Development*, 71, 785-801.

McDonald, J. and Orlick, T. (1994). Excellence in surgery: Psychological considerations. *Contemporary Thought on Performance Enhancement*, 3, 13-32.

McDonald, J., Orlick, T. and Letts, M. (1995). Mental readiness in surgeons and its links to performance excellence in surgery. *Journal of Pediatric Orthopaedics*, 15(5), 691-697.

Meij, J.T. (1992). *Sociale ondersteuning, gehechtheidskwaliteit en vroegkinderlijke competentie-ontwikkeling [social support, attachment, and competence]*. Unpublished doctoral dissertation, Catholic University, Nijmegen.

Meij, J.Th., Riksen-Walraven, J.M.A. and van Lieshout, C.F.M. (1995). Patterns of change and consistency in parental support as related to children's competence motivation. In *Proceedings of 'Early Mother-Child Interaction and Attachment: Old and New Approaches'* (edited by W. Koops, J. Hoeksma, & D. van den Boom). Amsterdam: North Holland.

Miles, M.B. and Huberman, A.M. (1994). *Qualitative Data Analysis*. Thousand Oaks, California: Sage.

Milgram, R.M. and Hong, E. (1997). Leisure activities and career development in Intellectually gifted Israeli adolescents. In *Psychology and Education in the 21st Century* (edited by B. Bain, H. Janzen, J. Paterson, L. Stewin and A. Yu.), pp. 223-227. Edmonton: ICP Press.

Moore, P., Collins, D.J., Burwitz, L. and Jess, M. (1998). *The Development of Talent Study (DOTS)*. London: English Sports Council.

Moran, A.P. (1996). *The Psychology of Concentration in Sport Performers: A Cognitive Analysis*. Hove: Psychology Press.

Morris, T. (2000). Psychological characteristics and talent identification in soccer. *Journal of Sports Sciences*, 18, 715-726.

Morrone, A.S. and Pintrich, P.R. (1997). Achievement motivation. In *Children's Needs II: Psychological Perspectives* (edited by G. Bear, K. Minke and A. Thomas), pp. 387-395. Washington, DC: National Association of School Psychologists.

Newell, K.M. (1985). Coordination, control and skill. In D Goodman, R. Wilberg, & I. M. Franks (Eds.), *Differing perspectives in motor learning, memory and control* (pp. 295-317). New York: Elsevier.

Okley, A.D., Booth, M.L. and Patterson, J.W. (2001). Relationship of physical activity to fundamental movement skills among adolescents. *Medicine and science in sports and exercise*, 33 (11), 1899-1904.

Ollis, S., MacPherson, A., and Collins, D. (2006). Expertise and talent development in rugby refereeing: An ethnographic enquiry. *Journal of Sports Sciences*, 24, (3) 309 – 322.

Orlick, T.D., Hansen, H., Reed, A. and O'Hara, T. (1979). Psychological attributes and on-ice indicators of high calibre hockey players. In *Science in Skiing, Skating and Hockey: Proceedings of the International Congress of Sports Sciences* (edited by J. Terauds and H.J. Gros), pp. 151-157. Del Mar, California: Academic Publishers.

Parizkova, J. (1977). *Body fat and physical fitness*. The Hague: Martinus Nijhoff B.V.

Payne, V.G. and Isaacs, L.D. (1995). *Human Motor Development: A Lifespan Approach*. Mountain View, California: Mayfield Publishers.

Riksen-Walraven, M. and Zevalkink, J. (2000). Gifted infants: What kinds of support do they need? In C.F.M. Van Lieshout and P.G. Heymans (Eds.), *Developing talent across the lifespan* (pp. 203-229). East Sussex: Psychology Press.

Rose, J. and Jevne, R.F.J. (1993). Psychosocial Processes Associated with Athletic Injuries. *The Sport Psychologist*, 7, 309-328.

Rovegno, I., Nevett, M., Brock, S. and Babiarz, M. (2001). Teaching and learning basic invasion game tactics in fourth grade: A descriptive study from situated and constraints theoretical perspectives. *Journal of Teaching in Physical Education*, 20, 370-388.

Rowley, S. (1992). *Training of young athletes study (TOYA): TOYA and lifestyle*. London: The Sports Council.

Sallis, J.F. (1993) Epidemiology of physical activity and fitness in children and adolescents. *Critical Reviews in Food science and Nutrition*, 33, 403-408.

Schmidt, R.A. and Wrisberg, C.A. (2000). *Motor Learning and Performance: A Problem-Based Learning Approach*. Champaign, IL: Human Kinetics.

Schunk, D.H. (1990). Self concept and school achievement. In *The Social Psychology of the Primary School* (edited by C. Rogers and P. Kutnick), pp.70-91. London: Routledge.

Scottish Sports Council (1998) *Sport 21: Nothing left to Chance*. Scottish Sports Council: Edinburgh.

Simon, H.A. and Chase, W.G. (1973). Skill in chess. *American Scientist*, 61, 394-403.

Simonton, D.K. (1999). Talent and Its Development: An Emergent and Epigenetic Model. *Psychological Review*, 106, 435-457.

Smith, A. (1997, September 19th). Athlete talent search programs. *Radio National Transcripts*.

Smith, R.E. and Christensen, D.S. (1995). Psychological skills as predictors of performance and survival in professional baseball. *Journal of Sport and Exercise Psychology*, 17, 399-415.

Sosniak, L.A. (1985). Learning to be a concert pianist. In *Developing Talent in Young People* (edited by B.S. Bloom), pp. 19-67. New York: Ballantine Books.

Starkes, J.L. and Allard, F. (Eds.) (1993). *Cognitive Issues in Motor Expertise*. Amsterdam: Elsevier.

Starkes, J.L., Weir, P.L., Singh, P., Hodges, N.J. and Kerr, T. (1999). Aging and the retention of sport expertise. *International Journal of Sport Psychology*, 30, 283-301.

Stevenson, C.L. (1990). The athletic career: some contingencies of sport specialization. *Journal of Sport Behavior*, 13, 103-113.

Talbot-Honeck, C. and Orlick, T. (1998). The essence of excellence: mental skills of top classical musicians. *The Journal of Excellence*, 1(1), 66-81.

Tebbenham, D. (1998). *The nature of talent development and importance of athletic transition in UK sport*. Unpublished Masters, Crewe & Alsager Faculty, Manchester Metropolitan University, Alsager.

Thelen, E. (1995). Motor development: A new synthesis. *American Psychologist*, 50, 79-95.

Thomas, P.K., Murphy, S.M. and Hardy, L. (1999). Test of performance strategies: Development and preliminary validation of a comprehensive measure of athletes' psychological skills. *Journal of Sports Sciences*, 17, 697-711.

Thorburn, M. and Collins, D. (2003). Integrated curriculum models and their effects on teachers' pedagogy practices. [Article] *European physical education review* 9(2), 185-209.

Vealey, R.S. (1992). Personality and Sport: a comprehensive view. In *Advances in Sport Psychology* (edited by T.S. Horn), pp.25-59. Champaign, IL: Human Kinetics.

Whitehead, J.R. and Corbin, C.B. (1997). Self-esteem in children and youth: The role of sport and physical education. In K.R.Fox (Ed.), *The physical self* (pp. 175-203). Champaign, IL: Human Kinetics.

Williams, A.M. and Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sports Sciences*, 18, 657-667.

Williams, A.M. and Davids, K. (1995). Declarative knowledge in sport: A byproduct of experience or a characteristic of expertise. *Journal of Sport & Exercise Psychology*, 17, 259-278.

Zha, Z. (1993). Programs and practices for identifying and nurturing giftedness and talent in People's Republic of China. In *International Handbook of Research and Development of Giftedness and Talent* (edited by K. Heller, F.J. Monks and A.H. Passow), pp.809-814. Oxford: Pergamon Press.

Ziegler, R.S. and Raul, T. (2000). Myth and Reality: a review of empirical studies on giftedness. *High Ability Studies*, 11, 113-136.

Appendices

Other Initiatives With Parallel Aims to DPYPS

TOPS

Shetland Islands receive TOP funding - Tuesday 7 October 2003 (**sportscotland** Press release)

The **sportscotland** Lottery Fund is delighted to announce funding of £45,850 to Shetland Islands Council to introduce the TOP Sport and TOP Play programmes into schools across the islands. With the continuing concern over the nation's health, this scheme aims to assist primary schools and community organisations to increase the physical activity and skill levels of young people and encourage their involvement in sport. It also supports teachers in further developing physical education programmes. 28 local authorities are now delivering this scheme in over 1,000 primary schools with children benefiting from this fun and innovative approach to quality PE and sport.

Originally developed by the UK-wide charity, the Youth Sport Trust, the TOP programmes consist of two elements. TOP Play introduces young children (4 to 9 years) to the essential core skills such as throwing and catching, running and jumping; while TOP Sport helps to develop the skills of 7 to 12 year olds in specific sports. Primary school teachers and other community leaders will be provided with training, resource cards and child-friendly, multi-coloured equipment to allow them to deliver the two elements.

This award will complement existing PE provision in the 34 primary and nine secondary schools across Shetland. The programme will be delivered via a working partnership between the Sports Development Officer, School Sports Co-ordinator and Active Primary Schools Co-ordinator, along with twelve trainers, who will provide twilight sessions and in service-training for teachers and members of the community. Shetland Islands Council hopes to provide additional opportunities for all young people to enjoy physical activity especially in more rural areas.

Bill Manson, spokesperson for Education and Children and Young People said: "In an increasingly sedentary world we must encourage our young people to lead an active healthy lifestyle and we recognise the valuable contribution the TOP Play and TOP Sport programmes can make."

Benny Lawrie, National Development Officer for the Youth Sport Trust, added: "It is exciting to see the TOP Programmes continue to expand across the country. Now in over 1,000 primary schools across Scotland, both initiatives continue to support and encourage children to take part in a variety of play and sports activities."

Alastair Dempster, Chairman of **sportscotland**, said: "Children have a natural enthusiasm for physical activity and by introducing them to fun sporting activities

through our Active Schools Programme, we hope to build on that interest resulting in continued participation through adolescence into adulthood.

“We are concerned with the issues surrounding the nation’s health. Through a partnership approach with local authorities such as Shetland Islands Council, we are working towards tackling some of these problems by offering the resources and training to enable more people to become more active, more often.”

- The Active Schools Programme is made up of four strands: School Sport Co-ordinators; Active Primary School Co-ordinators; TOP Programmes and New Opportunities Fund Out of School Hours Learning School Sports Co-ordinators Programme.
- The TOP programmes (TOP Play and TOP Sport) have been developed by the UK-wide charity the Youth Sport Trust. Schools involved in the programme receive a pack of resource cards and sports equipment suitable for primary schools, supported by a training package for primary teachers and community deliverers.
- TOP Play is aimed at children aged four - nine years and TOP Sport is focused on ages seven - eleven years. The programmes target 11 specific sports: basketball, cricket, hockey, shinty, netball, rugby, tennis, badminton, table tennis squash, athletics.
- The Youth Sport Trust is a UK-wide registered charity established in 1994 to build a brighter future for young people in sport. Its mission is to develop and implement, in close partnership with other organisations, quality education and sport programmes for all young people aged 18 months to 18 years in schools and the community.

The Active Primary School Programme

Helping young Scots get active Monday 21 January 2002 (**sportscotland** Press release)

The Minister for Tourism, Culture and Sport, Mike Watson MSP visited Cornton Primary School in Stirling today, to see for himself the success of **sportscotland's Active Primary School Programme**, which is already demonstrating positive effects on primary aged children's pattern of physical activity.

The Active Primary School Programme was developed following positive results from the introduction of the secondary School Sport Co-ordinator Programme, and the need to address similar issues in the primary sector.

The aim of the programme is to maximise the opportunities for all forms of safe and fun physical activity for children including play, physical education, sport and walking and cycling to school. It is an inclusive concept designed to build on what already exists in

the school, through user friendly, practical programmes and advice. It takes a broad view of the potential for schools to influence the health and well being of young people and therefore considers the whole life of the school and not just the learning and teaching in the classroom. All those associated with the school are seen as having a role to play in enhancing physical activity for children.

The programme is implemented through the employment of an Active Primary School Co-ordinator to work across a cluster of schools. The co-ordinator's role involves developing opportunities for children to participate in sport and physical activity, to support and train parents, teachers and volunteers, to make links with other relevant agencies and individuals in the local community, including sports development, local clubs, voluntary organisations and area health boards. Of crucial importance is the partnership developed between the co-ordinator, the secondary School Sport Co-ordinator and the primary PE specialist (where they exist).

Thanks to additional Government funding of £2.8m over three years from the 2000 Comprehensive Spending Review, the programme which was first piloted in five local authorities has been extended to include a wider sample of Scotland's primary schools. By April 2002 there will be 37 Active Primary School Co-ordinators in post, working across 22 local authorities in around 280 primary schools.

Commenting at the visit today, Alastair Dempster, Chairman of **sportscotland** said: "It is vital that we do everything possible to encourage our children to become involved in regular physical activity at an early age. With the latest worrying obesity statistics released last week, we at **sportscotland** continue to face an uphill task, and initiatives like the Active Primary School Programme assume an ever-increasing importance.

"The development of a network of Active Primary School Co-ordinators provides an important resource for the promotion of physical activities that are stimulating and good fun for young Scots. It is our aspiration that there will be a co-ordinator working across every cluster of primary schools in Scotland by 2007."

Partnership working at a national and local level has been critical to the success of the programme, including the Health Education Board for Scotland (HEBS) and local authorities.

Ian Young, Programme Manager: Schools, Health Education Board for Scotland said: "We are fully supportive of this important initiative. Increasing the levels of physical activity in young people in primary schools will help to establish active lifestyles at an early age.

"In addition to the obvious health benefits of early physical activity, such as developing a healthy heart and lungs, other advantages include a reduced risk of osteoporosis in later years and the mental health benefits that are part of looking good and feeling good."

Stirling Council and **sportscotland** established a Strategic Alliance for Sport in 2000, with children and young people a key priority. **sportscotland** is delighted to be working in partnership with Stirling on the Active Primary School pilot programme. Currently with three full-time co-ordinators employed in the Wallace High School, Bannockburn and Balfron clusters, they are already seeing some tangible benefits, with an increasing number of children and staff taking part in an extended range of activities both during and after school.

John Hendry, who chairs Stirling Council's Community and Economic Development Committee, said: "The impact on our schools of Stirling's partnership with **sportscotland** has been extraordinary. Our participation in the pilot of this programme has produced one of the most far-reaching sports initiatives in Scotland. It will reach into every school and club, giving all youngsters the opportunity to take part in daily sport activities."

- £450,000 from the 1998 Comprehensive Spending Review enabled the development of the phase 1 pilot programme introduced in 1999. **sportscotland** worked in partnership with five local authorities: Stirling, West Lothian, East Lothian, Perth and Kinross and Inverclyde, and five Active Primary School Co-ordinators were appointed.
- Scottish Council for Research in Education has been appointed to undertake the evaluation of the Active Primary School Programme. Year 1 findings will be available in the next few weeks, but early indications show that the pilot programme has had a positive impact in promoting opportunities for physical activity and has encouraged further joint working between education, sport and leisure and health within local authorities.
- **sportscotland's** aspiration is that there will be an Active Primary School Co-ordinator working across every cluster of primary schools in Scotland by 2007. The total cost of this will be £12 million.

Social Inclusion Partnerships

www.sportscotland.org.uk

£1million to empower communities to help themselves through allocation of funds for groups to establish and sustain their own projects. For example, the Greater Easterhouse SIP sports programme will adopt a new approach to delivering locally-based sports programmes through a strong working partnership between Glasgow City Council's Cultural and Leisure services, Greater Easterhouse Social Inclusion Partnership and a number of active voluntary sector agencies based in Easterhouse. The programme will include high quality coaching in basketball, volleyball, badminton, golf and football and an aerobics programme for teenage girls; creation of multi-sports clubs aimed at P6/7 and a fitness programme for long term unemployed men and lone parents. No formal evaluation programmes were apparent.

Out of School Hours Learning

sportscotland Web release Wednesday 6 August 2003

Youngsters across Scotland are set to benefit from a range of sport based out of school hours learning opportunities (OSHL) thanks to a new partnership between **sportscotland** and the New Opportunities Fund.

The New Opportunities Fund has awarded £2.8M to **sportscotland** to invest in innovative extra-curricular sporting activity programmes put forward by local authorities who are already part of the Active Schools Programme. The aim is to increase the number of opportunities available for young people to take part in sport and physical activity outside of normal school hours, helping to set them on the road to an active healthy lifestyle.

The first tranche of awards announced this week, totalling more than £2.1M over three years, went to 26 out of Scotland's 32 local authorities for a range of exciting projects.

All of the programmes put forward provide a range of innovative activities targeted at traditional non-participants to encourage an interest in sport and physical activity. As well as tackling exclusion issues for pupils with behavioural difficulties and those with special educational needs, local authorities such as Aberdeenshire and Shetland are also addressing rural and transport disadvantages.

Teenage girls are the key focus of many projects including Clackmannanshire, Falkirk and East Renfrewshire where there will be an emphasis on delivering 'aesthetic activities', which research has proven to be of interest to this target group. Health related fitness, aerobics, yoga, body combat and dance are amongst the activities which will be on offer.

Some of the projects will give young people the opportunity to train as sports leaders who can then go on to support and mentor their younger colleagues taking part in the after school activities, whilst projects in West Lothian and the Western Isles will support the transition of youngsters from primary into secondary PE and sport opportunities.

Outdoor education activities delivered in a non-competitive environment have proved a popular option to tackle the issue of low-self esteem, helping to build confidence. This will be the main focus of Glasgow's OSHL programme, where a wide variety of activities are proposed to ensure that children who have little or no experience of physical activity outside of the formal PE curriculum can experience the challenges presented by the great outdoors.

Alastair Dempster, Chairman of **sportscotland** said: "Sport shouldn't just be seen as a formal part of the school curriculum. By encouraging youngsters to take part in fun sporting activities after school, as a normal part of their social life, there is real hope of ensuring that they carry this on throughout adolescence and into adulthood. Only by

influencing the young, do we have a realistic prospect of tackling some of our nation's health and obesity problems.

"I am delighted that we are working in partnership with the New Opportunities Fund on this key initiative. This money has enabled us to introduce a new strand into our Active Schools Programme which is already demonstrating positive results in terms of participation in and attitudes towards sport."

New Opportunities Fund Board Member for Scotland David Campbell welcomed this week's awards he said: "The New Opportunities Fund is a major funder of community sport, through a range of programmes throughout the UK and Scotland. Encouraging an active and healthy lifestyle among young people is essential for health and wellbeing and this is what this initiative is all about. We are delighted to be working in partnership with **sportscotland** to offer children and young people a chance to try out a sport that suits them and their lifestyle and in many cases offers an alternative to traditional school sports."

North Lanarkshire Council's Health and Fitness Initiative – MacFit

Tuesday 9 December 2003 - www.sportscotland.org.uk

The "Macfit" Programme provides children between the ages of 4-11 years the opportunity to participate in a range of innovative activities, focusing on the core elements of sport such as throwing, jumping and catching. The main aim of the initiative is to encourage youngsters to develop an interest in physical activity, for a future active and healthy lifestyle.

The programme has been running for between 7-8 years. It is a generic programme (rather than sport-specific) and is very games based. Roughly 7000 children per year participate in the programme, and at any one time 1/3 of the primary schools are receiving MacFit sessions. There are currently 35 primary schools on the list waiting to get sessions.

The sessions occur out-of-school hours, but are held within the school, and the primary schools ask for someone to come and run the sessions. Children may pay up to £1 for the sessions, where possible the sessions are free.

Individuals are employed to run the sessions, many come from the local colleges (coach courses within the colleges run a MacFit module, which is about 21 hours long).

No formal evaluation of the project has been carried out. However, they have received about £20,000 pa from the Social Inclusion Programme (SIP) and to get this money a year-end report has to be submitted in conjunction with an application from. Obviously, they also monitor numbers and informal feedback from schools and children.

We were unable to discover if the programme was developmental in any way. As far as we could ascertain, training was focused on how to run specific sessions, not about the philosophy of the approach or the extension of consequences to other areas.

Health Education Board for Scotland (now 'Health Scotland'), 'The Class Moves!' Project

<http://www.hebs.com/research/cr/crscripts/FTReportTocM.cfm?TxtTCode=1188&Nav=1&sc=research> (programme evaluation document).

Following a successful pilot, HEBS launched '*The Class Moves!*' on 11 October 2002. It was pioneered in the Netherlands and aims to build healthy and enjoyable activity into the daily routine of pupils.

Over 1400 primary schools in Scotland benefit from the programme which is suitable for P1 – P7. Illustrations (different for every class year) appear on a wall-mounted calendar, and for p1-p5 there are accompanying CDs with specially written songs and music to accompany the programme. Teachers have a manual explaining how to get the best out of the programme. There is a separate theme for each month including emotions, breathing, stability, balance, expressing emotions, relaxation, positive body image and growth. The monthly themes reoccur every year. Teachers say that not only is the programme fun for the children but it also helps them learn about positive body awareness, gross motor skills (such as left-right awareness), sensorimotor skills such as being able to tighten and relax muscles, or moving slowly, or quickly. They get to have fun and then they have to re-focus.

It doesn't need long time slots, easily adapting to fit in with whatever is going on in the class daily routine. It can easily be integrated with other subjects, and can even be used as a behaviour management tool by channeling the children's energy in a constructive and fun way. Teachers received training into the underlying ideas and concepts, then accompanying manual including programme philosophy, physiology and teaching methods.

Thinking Through Philosophy – Clackmannanshire Council (Publicity pamphlet)

- A programme to introduce philosophy to 8-11 year old children.
- A detailed study is being undertaken to monitor its effectiveness.
- Practical philosophy – i.e. it is about the process, not the teaching of facts. So it explores philosophical questions through Socratic questioning.
- The development of thinking skills has been identified as of great importance to the educational development of young people. Information handling, creative thinking and evaluation are all important. How to think well is crucial to success. The other

big influence is the emotional intelligence of the individual – are they self-aware, self-regulated, motivated and empathetic?

- The process is more than conversation, offering the possibility that one's own ideas and perceptions may change in the process. Teachers and pupils learn together by developing a 'community of enquiry'.
- Following the introduction of a stimulus such a story or poem, philosophical questions are formulated from which the dialogue is derived. The facilitator must ask good open-ended questions and encouraging the children to develop the same. For example...
 - Can you say more about that? What makes you say that? Do you have any evidence for that view? Why? How do you know that? If....then what do you think about...?
- Through this dialogue many skills are developed:
 1. Information Handling – processing skills about analysing, interpreting, locating.
 2. Enquiry – Posing and defining problems, planning, predicting, testing conclusions.
 3. Reasoning – giving reasons for opinions, making deductions, making judgements informed by evidence.
 4. Creative thinking – generating ideas, being imaginative in thinking, being innovative.
 5. Evaluation – evaluating what is read or heard, developing criteria for judging.
- Aims to make the children self-regulated. Where choice is possible instead of habitual behaviour.
- A research project and evaluation by Steve Trickey looks to see if the programme has developed the children in four main ways: critical reasoning skills and dialogue; changes in self-image as a learner and problem solver; emotional and social development; and development in cognitive ability. Using a two by two pre-post design, the evaluation employs a range of measures, Cognitive Ability tests (CAT), myself as a learner (MALS), and the Taxonomy of Problematic Social Situations (TOPS). Comparison of classroom discussions recorded with a video camera in October 2001 and May 2002 is also used. Diaries filled in by teachers and head teachers, and questionnaires by the children. Some schools participated in the scheme purely as controls.

Comment:

Overlaps with DPYPS are tenuous, relating only to the claimed improvements in self-evaluation and self-awareness. It is hard to see how the project will contribute to emotional intelligence.

sportscotland

Caledonia House
South Gyle
Edinburgh
EH12 9DQ
Tel: 0131 317 7200
Fax: 0131 317 7202

www.sportscotland.org.uk

The **sportscotland** group is made up of **sportscotland**, **sportscotland** Trust Company (National Centres) and the Scottish Institute of Sport.



www.nationalcentrecumbrae.org.uk



www.glenmorelodge.org.uk



www.nationalcentreinverclyde.org.uk



www.sisport.com

This document is available in a range of formats and languages. Please contact **sportscotland's** communications team for more information.

Tel: 0131 317 7200
Fax: 0131 317 7202

© **sportscotland** 2007
Published by **sportscotland**
ISBN: 978 1 85060 510 2
DPYPS07 307 0.1M

Awarding funds from
 **The National Lottery**®