

PE Teachers' and Pupils' Perceptions of the Delivery of Health-Related Exercise in Physical Education

By

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This thesis is dedicated to
Herbert 'Peter' Walter Artherton



“We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time”

T. S. Eliot (1944, p.43)

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Abstract

The concept of health-related exercise (HRE) emerged within the Physical Education (PE) profession during the 1980s (Green, 2008). Subsequently, HRE has gained momentum within many UK schools and the position of health has increased within the National Curriculum for Physical Education (NCPE). The ambiguous nature of the NCPE, over this period, led to educationally undesirable practices in HRE (Cale and Harris, 2009a; Harris, 2009, 2005, 2000a). This has been exacerbated by the NCPE only outlining the content to be taught and not 'how' the content should be implemented (Harris, 2009).

The purpose of this study was to explore HRE delivery methods (permeated-only, discrete-only and combined approaches) in secondary school PE lessons. Fifteen PE teachers (7 female and 8 male; aged 22-54 years) and forty-seven pupils (35 male and 12 female; aged 11-16 years) were selected from four secondary schools. A qualitative multiple site design was adopted that utilised semi-structured interviews of PE teachers and pupils, and direct lesson observations.

The study revealed that the discrete approach was by far the most popular method of delivering HRE. PE teachers preferred the discrete approach because it allowed a designated time slot to undertake meaningful health and fitness work. Pupils also preferred HRE being delivered in a discrete manner because it was more 'functional' than other approaches and allowed them to concentrate on one aspect at a time within a lesson. The two other approaches investigated displayed mixed fortunes. Results are discussed in relation to the implications

for research and practice and provided the first insights into pupils' and teachers' perceptions of the range of HRE delivery methods 'in situ' HRE practice. Future research should investigate the most effective method of HRE delivery.

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Glossary of Terms

Exercise – “... planned, structured and repetitive bodily movement done to improve or maintain one or more components of physical fitness”. A subset of physical activity (Health Education Authority [HEA], 1998, p.2).

Health – “... is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization [WHO], 1948, p.100).

Health-Related Exercise – “... the teaching of knowledge, understanding, physical competence and behavioural skills, and the creation of positive attitudes and confidence associated with current and lifelong participation in physical activity” (Harris, 2000a, p.2).

Physical Activity – “... any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen, Powell, and Christenson, 1985, p.126).

Physical Education – “... is the planned, progressive learning that takes place in school curriculum timetabled time and which is delivered to all pupils. This involves both ‘learning to move’ (i.e. becoming more physically competent) and ‘moving to learn’ (i.e. learning through movement, a range of skills and understandings beyond physical activity, e.g. co-operating with others). The context for the learning is physical activity, with children experiencing a broad

range of activities, including sport and dance” (Association for Physical Education [afPE], 2008, p.8).

Physical Fitness – “... a set of attributes that people have or achieve that relates to the ability to perform physical activity” (HEA, 1998, p.2).

Chapter 1

INTRODUCTION

1.1 Setting the Scene

Participation in regular physical activity has long been associated with various health benefits and outcomes (Hardman and Stensel, 2009). These benefits and outcomes include: i) a reduction in the risk of dying prematurely from coronary heart disease, obesity, high blood pressure, diabetes, cancer and a range of other chronic diseases; ii) the control of body composition and weight; iii) the creation of a sense of psychological well-being; iv) the alleviation of feelings of anxiety and depression; and v) the maintenance of healthy bones, joints and muscles, to name but a few (Biddle and Mutrie, 2008; Hootman, 2007; McCartney and Phillips, 2007; Howley, 2007; Blair and LaMonte, 2007; Ruhling, 2004). Furthermore, the importance of regular physical activity has been outlined by Sallis and Owen (1999), who claim that, "... the fact that physically active people live longer than the sedentary means that the health benefits of physical activity outweigh the risks" (p.16). In short, physical activity adds years to a person's life or substantially increases their longevity (Faff, 2004).

In recent years, the health, fitness and physical activity levels and patterns of children and young people has been a growing concern (Cale and Harris, 2009a,

2005a, 2005b, 2005c; Lee, 2004; Cale, 1998). Numerous authors have attempted to explore, categorise and determine the appropriate amounts of physical activity that children and young people should be undertaking in order to maintain a healthy lifestyle (Malina, 2007; Krems, Lührmann, and Neuhaüser-Berthold, 2004; Armstrong, 2004; Welsman and Armstrong, 2000; Sleap and Warburton, 1996, 1992; Armstrong, McManus and Welsman, 1994; Armstrong and McManus, 1994; Cale, 1994; Cale and Almond, 1992a, 1992b, 1992c; Armstrong, Balding, Gentle, and Kirby, 1990). However, much of the research evidence in this area is misleading, vague and has resulted in varying interpretations (Hagger, Cale, and Almond, 1997). This point is further emphasised by Riddoch and Boreham (1995), who reported that it is difficult to determine whether or not children are physically active at a level that would obtain health benefits. They continue by claiming that:

It can be seen from the evidence ... that children's activity levels apparently range from very high to very low – a discrepancy more likely to be caused by methodological differences and selection of differing activity thresholds than by true differences between populations of children (Riddoch and Boreham, 1995, p.99).

Despite the discrepancies concerning methodologies and activity thresholds, many authors have investigated physical activity within school settings; in particular during physical education (PE) lessons (Yelling and Penney, 2003; McKenzie, Feldman, Woods, Romero, Dahlstrom, Stone, Strikmiller, Williston, and Harsha, 1995; Cale, 1994; Haywood, 1991). PE lessons provide an ideal opportunity for young people to participate in regular physical activity and for some children this may be the only physical activity that they undertake each

week (Harris, 2009; Cale and Harris, 2005a; Fox, Cooper, and McKenna, 2004; Barnett, van Beurden, Zask, Brooks, and Dietrich, 2002; Sallis and McKenzie, 1991). However, the contribution of PE to a child's overall amount of weekly physical activity has been questioned (Fox *et al*, 2004).

Since the late 1970s, school PE has moved increasingly from a traditional fitness-based curriculum towards a more health-related approach (Green, 2008; Fox, 1996). The shift occurred largely as a result of developments within the exercise science discipline during this period, which established strong links between ill health and physical inactivity (Department of Health [DoH], 2004). Furthermore, one of the aims of PE within the last few years has been to encourage pupils to remain physically active after they leave school (Whitehead, 2010). This focus has come to be known as lifelong physical activity, with the intention being that children receive instruction in activities that they are more likely to continue to pursue into adult life; for example aerobics, swimming, or weight training (Harris, 2009; Lee, 2004; Radcliffe, 2004; Green, 2002). The rationale for this drive is probably due to the current trend in declining physical activity levels in young people in the post-16 years (Cale and Harris, 2009a; Cale and Almond, 1992b).

1.2 Health-Related Exercise – Background

Health re-emerged as an important objective of the PE curriculum in the early 1980s (Harris, 1989; Sparkes, 1989; McNamee, 1988; Kirk, 1988, 1986; Almond, 1988, 1983; Health and Physical Education Project [HPEP], 1986; Biddle, 1981). A shift in focus occurred during this period from performance-

related fitness towards a more experiential and individualised learning approach (Williams, 1988). As a result, during the 1990s academics stated their preference for the term health-related exercise (HRE) over health-related fitness (HRF); the latter emphasising the relationship between health and ‘fitness’ rather than ‘physical activity’ (HPEP, 1992, 1991a, 1991b). Since then, HRE has gained momentum within many UK schools and has become the component of the PE curriculum most associated with the delivery of knowledge, skills, and understanding about health, fitness, and lifelong physical activity (Cale and Harris, 2009a; Harris, 2009).

The position of health has strengthened within the National Curriculum for Physical Education in England and Wales (NCPE) documents in recent years (Department for Education and Science and the Welsh Office [DES and WO], 1992; Department for Education and the Welsh Office [DFE and WO], 1995; Department for Education and Employment and Qualifications and Curriculum Authority [DfEE and QCA], 1999; Department for Children, Schools and Families and Qualifications and Curriculum Authority [DCFS and QCA], 2007). This is despite the term HRE not being present, as a concept, since the 1992 Physical Education Non-Statutory Guidance, which accompanied the NCPE document of the same year (DES and WO, 1992). Nevertheless, the ambiguous nature of the NCPE requirements over the years, has led to many of the phrases and terminology contained within the documents being interpreted in numerous ways; some of which have led to educationally undesirable practices (Cale and Harris, 2009a; Harris, 2009, 2005, 2000a). This issue has been further

exacerbated by the fact that the NCPE only outlines the content to be taught and not ‘how’ the content should be implemented (Harris, 2009).

As a result of this, variation exists across the country with regards to the provision and delivery of health, fitness and HRE in PE lessons (Cale and Harris, 2009a, 1998; Harris, 2009; Penney and Evans, 1999). Initially, due to the absence of an activity area for HRE in the NCPE (DfEE and QCA, 1999; DFE and WO, 1995; DES and WO, 1992), many authorities advocated that permeation was the ‘right’ approach for the delivery of HRE in PE lessons (Office for Standards in Education [OFSTED], 1995; Oxley, 1994). That is, that it should be taught across all activity areas in PE, as well as in other subject lessons (such as personal, social and health education [PSHE] and science, for example) (OFSTED, 1995; Oxley, 1994). However, many secondary school PE departments adopted a discrete approach, whereby HRE was taught in specific modules or units of work (Cale, 1996; Office of Her Majesty’s Chief Inspector of Schools in Wales [OHMCI], 1995; Harris, 1995).

In recent years, the trend for the most common method of HRE delivery in PE lessons appears to have shifted towards the combined approach, which draws on the strengths of each method (Cale and Harris, 2009a; Harris, 2009; Fairclough, Stratton, and Baldwin, 2002; Cale, 2000a, 2000b). Although this appears to be a logical development (drawing on the strengths of each method), more evidence is needed to confirm or reject the notion that the combined approach is the most popular, appropriate and effective method for delivering HRE. The need for evidence in this area is something that has been highlighted by Almond and

Harris (1997a) for some time. Furthermore, they suggest that physical educators should be engaged in more school-based research projects in the area, in order to inform current practice and eradicate ‘personal points of view’ on the matter (Almond and Harris, 1997a).

At present, more guidance is needed for PE teachers with regards to the most appropriate and effective method for the delivery of HRE in PE lessons (Harris, 2009). This is especially the case in relation to the flexibility and freedom that the position of health now holds within the latest NCPE (DCSF and QCA, 2007); which could result in more extremes of HRE practice (both desirable and undesirable) if past evidence is to be used as a benchmark (Cale and Harris, 2009a, 2005a; Harris, 2009, 2005; Green, 2002; Penney and Evans, 1999). Currently, no studies have investigated the delivery of HRE in secondary school PE. This is surprising considering HRE has been one of the most discussed topics within the PE subject-community in recent years (both at secondary school level and at examination level) (Green, 2003). The lack of current literature concerning the most appropriate and effective method of delivering HRE within a secondary school setting indicates the need for further research in this area. Therefore, the purpose of this research is to provide an in-depth investigation into the methods of delivering HRE in secondary school PE.

1.3 Overview of the Thesis

The thesis begins with a review of literature (Chapter 2) which provides a rationale for the link between PE and the public health perspective and highlights the importance of HRE in the curriculum. The chapter also identifies the key

issues surrounding the wider context of physical activity promotion such as the differential recommendations for physical activity levels of young people. These issues are critical to the planning and implementation of a PE programme which incorporates HRE. Furthermore, the changing role of HRE within the National Curriculum, the differential interpretations of HRE within applied practice, and the support available to teachers in the delivery of HRE are discussed. The chapter concludes with how the preference for different delivery methods has evolved within the literature and a discussion of key studies in relation to HRE delivery methods.

The method for the present study is presented in Chapter 3, which outlines the procedures adopted and highlights the rationale for the use of qualitative methodology. The chapter concludes with a detailed description of the way in which the data were analysed both within and across schools, teachers and pupils.

Chapter 4 presents the analysis and discussion of the results from the study. The chapter is structured around the data analysis categories and the research methods used, with each sub-section of the chapter focusing on either teacher interviews, pupil interviews or lesson observations. These three sources provide the structure for analysing the key themes that were used in the coding of the data. The final section in the chapter refers to pupils' experiences of PE and HRE activities. Throughout the chapter the findings of the present study are discussed in relation to relevant literature.

The thesis concludes with Chapter 5, which highlights the key findings of the present study and the contribution to the literature. Finally, consideration is given to the implications of the research for theory and practice, the limitations of the present study, and avenues for future research.

Chapter 2

REVIEW OF LITERATURE

2.1 Physical Education and Health

2.1.1 Physical Education and Public Health

Historically, there has been much debate concerning the extent to which PE can, or should, contribute to public health (Harris, 2009, 2005; Quennerstedt, 2008; Johns, 2005; O’Sullivan, 2004; Trost, 2004; Corbin, 2002; Laventure, 2000; Sardinha and Teixeira, 1995; Fox, 1993). This debate has adopted an increasingly higher profile in recent years (Laventure, 2000), which has been fuelled within the academic community by the publication of special journal issues and monographs on the topic; notably, in *Research Quarterly for Exercise and Sport* (Morrow, 1991; Sallis and McKenzie, 1991; Nelson, 1991; McGinnis, Kanner and DeGraw, 1991; Morris, 1991; Haywood, 1991) and the *Journal of Teaching in Physical Education* (Cone, 2004; Tappe and Burgeson, 2004; McKenzie and Kahan, 2004; Trost, 2004; Fox *et al*, 2004; Fardy, Azzollini and Herman, 2004; Evans, Rich and Davies, 2004; O’Sullivan, 2004). Within this debate, some researchers are positive about PE’s contribution to the public health agenda (Cone, 2004; Tappe and Burgeson, 2004; Trost, 2004; Sallis and McKenzie, 1991), while others recognise the significant constraints and

unreasonable expectations that this relationship has for the profession (Fox *et al*, 2004; Fardy *et al*, 2004; Thomas, 2004).

Many authors agree that schools offer a logical and plausible location for the promotion of health (Harris, 2009; Satcher and Higginbotham, 2008; McKenzie, 2007; Cale and Harris, 2005a; Fox *et al*, 2004; Fox and Harris, 2003; Feingold, 1993). Fox *et al* (2004) suggest that the UK state school system is an important setting for the promotion of health because it addresses health inequalities; in other words, it can reach the ‘full socioeconomic spectrum’ of the population. Furthermore, Fox *et al* (2004) believe that schools are an important setting for health promotion as they influence:

... 40-45% of youngsters’ waking time, a portion that is second only to the time spent in the home. Schools also provide a unique context for learning when receptiveness and capacity for attitudinal and behavioural modification is probably at its greatest (p.339).

In addition to this, schools have the opportunity to promote health-enhancing physical activity for lifelong learning through PE curriculum time (Fox *et al*, 2004). Although the contribution of PE to an individual’s overall physical activity is questionable (less than 1% of a child’s waking time [Fox *et al*, 2004]; as well as some classes being less active than others), the opportunity to promote positive health messages about physical activity at other times of the day is also important (for example, break time, lunch time, after school, weekends, and holidays) (Fox *et al*, 2004; Cooper, Page, Foster, and Qahwaji, 2003; Corbin, 2002; Tudor-Locke, Ainsworth, and Popkin, 2001; Dale, Corbin, and Dale, 2000; Sleaf and Warburton, 1996; Myers, Strikmiller, Webber, and Berenson, 1996).

Fox *et al* (2004) believe that PE has a role to play in public health by providing ‘educational and psychological strategies’ that increase an individual’s physical activity out-of-school time and indeed into adulthood. In this respect, PE can be ‘an agent of change’ (Corbin, 2002).

Despite this, PE does not appear to be seen by organisations outside the profession as a major contributor to public health (Harris, 2009). For example, the government frequently excludes concepts such as ‘physical activity’ from National Healthy School Standard (NHSS) developments (Harris, 2009). Similarly, “... PE teachers tend to be viewed outside the PE profession as sports teachers or coaches, more interested in performance and excellence, than participation and health” (Harris, 2009, p.93). These negative attitudes by significant others, coupled with the low status (in comparison to core subjects such as mathematics and English) and limited PE curriculum time (the UK is amongst the lowest in Europe), has meant that PE has not been as successful as it ought to have been in promoting lifelong physical activity in young people (Harris, 2009).

Furthermore, Trost (2004) believes that the public health impact of PE, “... continues to be eroded by a traditional curriculum that emphasizes (sic) competitive team sports over true lifetime activities, motor skills without behavioural skills, and physical fitness instead of physical activity” (p.335). This traditional curriculum has been further reinforced in recent years by the input of over £1 billion in government funding to improve the sporting landscape within schools; particularly, the sports facilities and structure (Fox *et al*, 2004;

Department for Education and Skills [DfES] and Department for Culture, Media and Sport [DCMS], 2003). The additional resource and attention for sport, while appearing to be well intentioned, has increased the strength of the ‘sport as physical activity’ model, which often focuses on sporting performance or excellence (Fox *et al*, 2004). This has been to the detriment of the lifetime physical activity model (Corbin, Pangrazi and Welk, 1994).

Further to this, many authors have noted that PE teachers have been inadequately trained in health-based work and physical activity promotion (Ward, 2009; Castelli and Williams, 2007; Fox and Harris, 2003; Cardon and De Bourdeaudhuij, 2002). The good practice that is conducted in many PE lessons, regarding the promotion of physical activity, is sometimes undermined by the ‘hidden’ curriculum; which often results in mixed health messages (Harris, 2009; Bain, 2009; Cale, 1997). These issues, coupled with the limited response by the PE profession to engage with whole-school physical activity promotion initiatives (such as the concept of an ‘Active School’), has further impeded PE’s contribution to public health (Harris, 2009; Fox and Harris, 2003; Cale, 1997).

Despite these setbacks, the Association for Physical Education (afPE), the UK’s representative organisation for the PE profession, has recently published a ‘Health Position Paper’ concerning PE’s contribution to public health. In the document, the organisation outlines: (i) the key definitions for physical activity, PE and school sport; (ii) the physical activity recommendations for health; (iii) the national physical activity targets set by the governments in the UK and the relationship these targets have with physical activity; and (iv) PE’s contribution

to whole-school approaches to the promotion of healthy, active lifestyles, to name but a few (afPE, 2008). The document concludes by outlining the ‘actions’ undertaken by afPE to embrace health, including: the dissemination of health-related articles in journals and the adoption of health ‘strands’ and ‘pathways’ at conferences; the production of health modules within the National Continuing Professional Development (CPD) programme for PE practitioners; and the close liaison with the Department of Health in relation to health-related events and initiatives (afPE, 2008).

The production and dissemination of afPE’s Health Position Paper is a welcome sign and development, within the UK; especially as it clearly outlines PE’s contribution to public health and personal well-being (afPE, 2008). Nevertheless, the debate concerning the degree to which PE can, or should, contribute to public health continues (Quennerstedt, 2008; Johns, 2005; O’Sullivan, 2004; Trost, 2004; Corbin, 2002; Laventure, 2000). At this time, it is essential that the PE profession takes advantage of the recent positive momentum concerning health and continues to consider how best to implement the concept within schools and in particular, within the PE curriculum (the obvious choice within a PE context being HRE sessions) (Harris, 2009). Furthermore, this opportunity needs to be taken in the near future as, “... the contribution of the school as a vehicle for physical activity and public-health promotion is too great to be left to chance” (Fox and Harris, 2003, p.199).

2.1.2 Physical Activity Guidelines and Consensus Statements

The implementation of an effective and appropriate HRE programme requires physical educators to consider the guidelines and consensus statements regarding the recommended dose of physical activity for young people. Over the years, the US and the UK have developed and amended extensive guidelines and consensus statements with regards to the recommended amounts of physical activity that adults should undertake in order to maintain positive health and fitness outcomes (Blair, LaMonte, and Nichaman, 2004; Brown, Brown, Heath, Balluz, Giles, Ford, and Mokdad, 2004; Cavill, Biddle, and Sallis, 2001). However, the same wealth of data cannot be said to exist about the recommended amounts of physical activity for young people and children (Cavill *et al*, 2001; Cale and Harris, 2001, 1993; Pate, Trost, and Williams, 1998). The physical activity guidelines and recommendations that have been published for children and young people tend to be based on adult studies and are, therefore, inadequate or vary considerably concerning the specific dose necessary for good health (Sallis and Patrick, 1994).

Children's physical activity recommendations tend to follow the F.I.T.T. principles: an acronym for frequency (how often an individual should exercise); intensity (how hard an individual should exercise); time (how long each session should last; the duration); and type (the mode of physical activity undertaken) (Cale and Harris, 1993; Simons-Morton, Parcel, O'Hara, Blair, and Pate, 1988). In recent years, most reports (Cavill *et al*, 2001; HEA, 1998; Corbin *et al*, 1994) concerning the appropriate amount of physical activity for children have stated

that the frequency and intensity should be daily and moderate, respectively. Nevertheless, variations to these norms do exist.

Simons-Morton *et al* (1988) suggest, in their review of five studies concerning physical fitness in childhood, that the recommended frequency of physical activity per week should be anywhere between three days and every day and that exercise intensity should range between moderate physical activity and vigorous physical activity. On a similar note, Sallis and Patrick (1994) claim that children should undertake physical activity daily or nearly every day. They continue by reporting that specific recommendations for exercise intensity are not important, providing children are expending some energy during daily activity (Sallis and Patrick, 1994).

The division between the various guidelines and statements is greater for the duration component of children's recommended amounts of physical activity. Cavill *et al* (2001) and HEA (1998) have both suggested values of between 30 minutes and one hour for each activity session, whereas Simons-Morton *et al* (1988) report lower duration values of between 20 and 30 minutes. Similar to their recommendation for exercise intensity, Sallis and Patrick (1994) again refrain from offering a value and state, with reference to duration, "... it is desirable to have a quantitative recommendation for daily physical activity, the available data do not support such a specific recommendation" (p.307).

In contrast to the reports above, Corbin *et al* (1994) claim that the appropriate duration for children's physical activity sessions should be long enough to

expend between three and four kilocalories per kilogram of body mass per day. This method of measuring duration (kcal/kg/day) seems unusual for a children's consensus statement on physical activity, bearing in mind that the guidelines in the report will ultimately need to be understood by children. In defence of these recommendations, Rowland (1995) claims that the lifetime physical activity model, which Corbin *et al* (1994) adopt, enables physical activity to be undertaken at a level associated with reduced morbidity and mortality. Rowland (1995) continues by suggesting that the, "... radical departure from the traditional concepts ..." offered by Corbin *et al* (1994), "... emphasizes [sic] the importance of physical activity for promotion of health rather than fitness performance" (p.117).

The type of physical activity that children should undertake is commonly accepted amongst academics and various organisations (Cavill *et al*, 2001; HEA, 1998). It has been suggested that activities such as cycling, brisk walking, swimming, most sports and dance are particularly important for enhancing children's health (Cavill *et al*, 2001; HEA, 1998; Sallis and Patrick, 1994). Furthermore, it has been reported by various authors (Cavill *et al*, 2001; HEA, 1998; Sallis and Patrick, 1994; Corbin *et al*, 1994) that these activities should be incorporated into all aspects of life: notably as games; sport; recreation; work; structured exercise; active play; and as part of transportation. Although in agreement with the previous authors, Simons-Morton *et al* (1988) believe that the recommendations for type of physical activity should be more specific; in particular, only children's physical activity that requires the movement of large muscle groups should be included.

In addition to the standard cardiovascular activity, which dominates the F.I.T.T. principles for exercise prescription, Cavill *et al* (2001) and HEA (1998) claim that muscular strength and flexibility activities should also be undertaken by children at least twice a week. They suggest that this subsidiary recommendation will help to reduce the risk of back pain and osteoporosis in later life (Cavill *et al*, 2001; HEA, 1998). In contrast to this and the other components of the F.I.T.T. principle, Cale and Harris (1993) recommend a departure from the traditional narrow-focused guidelines. They propose that exercise recommendations should be flexible enough to incorporate a wide range of frequency, intensity, time and type of activity (Cale and Harris, 1993).

Cale and Harris (1993) suggest that the, "... initial aims should be to encourage children to increase their activity level beyond the current level and any increase, however small, should be acknowledged as a positive step in the right direction" (p.95). Furthermore, they express concern that if, "... it is instilled in children that they must exercise for 15 - 60 minutes, 3 – 5 times a week to derive any benefits at all, many will be completely discouraged from exercise, finding the prospect of undertaking this quantity of activity far too daunting" (Cale and Harris, 1993, p.94). However, Cale and Harris (1993) are in agreement with other authors concerning the appropriate settings for children to undertake physical activity. They suggest that exercise opportunities should be undertaken at home, at school, and within the local community (Cale and Harris, 1993).

As a result of these different physical activity guidelines and consensus statements that were published, the Centers for Disease Control and Prevention

(CDC) (1997) produced ten recommendations for the promotion of lifelong physical activity among young people. The recommendations were developed from published research, national policy documents, and physical activity experts and organisations, with the intention of enhancing the physical activity provision of school and community programmes (CDC, 1997). The document was intended as a guide for policymakers, teachers, parents, community leaders, and health service providers, to name but a few. The two important guidelines with regard to school PE were recommendations three and four (CDC, 1997). These recommendations outlined the role that health-related knowledge, attitudes and behaviour should play in school curricula. More specifically, the recommendations stated:

3. Physical education: Implement physical education curricula and instruction that emphasize [sic] enjoyable participation in physical activity and that help students develop the knowledge, attitudes, motor skills, behavioral [sic] skills, and confidence needed to adopt and maintain physically active lifestyles.

4. Health education: Implement health education curricula and instruction that help students develop the knowledge, attitudes, behavioral [sic] skills, and confidence needed to adopt and maintain physically active lifestyles (CDC, 1997, p.6).

While the document produced by the CDC (1997) encompassed guidelines relating to promoting physical activity in both school- and community-based settings, it stopped short of actually outlining how the recommendations should be implemented. The advice that was given concerning the implementation of recommendations was quite vague and would need to be administered by schools with caution; depending on individual institutions' circumstances. In any case, the recommendations outlined in the document relating to the development of

children's motor and behavioural skills and the promotion of enjoyable lifelong physical activity should already be adopted by, and ingrained into, the ethos of many schools' PE departments as they form the aims of PE (Whitehead, 2010).

In recent years, further physical activity guidelines have been produced (DoH, 2011; U.S. Department of Health and Human Services [HHS], 2008; Howley, 2008; DoH, 2004; Scottish Executive, 2003; CDC, 2000) that are not too different from previous guidelines or consensus statements (HEA, 1998; Corbin *et al*, 1994; Sallis and Patrick, 1994). Although not all of these latest guidelines have focused solely on children and young people, the messages with regards to children's recommended amounts of physical activity appear to be the same; that is, children and young people should achieve a total of 60 minutes or more of moderate intensity physical activity every day, or nearly every day, as well as undertake activities on two or three days a week that improve bone health, muscular strength, and flexibility (DoH, 2011; HHS, 2008; Howley, 2008; DoH, 2004; Scottish Executive, 2003; CDC, 2000). This common ground amongst the different guidelines (the message of one hour of moderate physical activity), provides a useful starting point for individuals and organisations working to promote children's and young people's physical activity (Cale and Harris, 2005d).

However, physical activity recommendations do have their limitations and need to be interpreted with caution (Cale and Harris, 2005d, 2001, 1993; Twisk, 2001). The scientific evidence on which most of these recommendations are based is relatively weak due to the temporal nature of the manifestation of

behaviours on health; therefore, there is little indication in the research literature to suggest that physical activity is beneficial for health during childhood and adolescence (Twisk, 2001). With this in mind, Cale and Harris (2005d, 2001, 1993) believe that physical activity guidelines should be personalised, differentiated, and individualised; taking into account young people's physical activity histories, functional capacities, physical fitness levels, and personal circumstances (including preferences and dislikes). Further to this, Cale and Harris (2005d, 2001, 1993) state that the physical activity recommendations should be seen as a set of 'guidelines' that are applied using a common sense approach and viewed as a goal to be progressed towards rather than as a starting point or 'rigid prescriptions' or 'strict rules'. As a result of the limited evidence concerning children's and young people's physical activity levels and the benefits for health, it is clear that further studies are needed in order to bridge the gap between policy and practice (Cale and Harris, 2005d; Twisk, 2001).

In summary, current physical activity guidelines for children and young people vary considerably concerning the specific dose for good health (Sallis and Patrick, 1994). While children's physical activity guidelines and consensus statements will continue to be produced and developed, Morgan (2001), in agreement with Corbin *et al* (1994), suggests that a departure away from a 'one-size-fits-all' exercise prescription model is needed in order to advance health and exercise adherence among children and young people. A paradigm shift has already occurred in physical activity, from a fitness-based perspective towards a more health-related approach (Fox and Harris, 2003; Harris and Cale, 1997a;

Wimbush, 1994). However, Morgan (2001) now advocates another shift towards what he calls a new ‘prescription paradigm’.

This section on physical activity guidelines and consensus statements is not exhaustive by any means. It merely highlights some of the key physical activity recommendations from the US and the UK that have been produced in recent years; outlining some of their similarities and differences. Also, the section emphasises the issues surrounding physical activity guidelines and those that need to be taken into consideration by physical educators when planning and implementing the PE curriculum.

2.2 Health-Related Exercise

2.2.1 Background and Definitions

Health has always had an association with PE (Williams, 1988). The concept had a close relationship with PE programmes at the beginning of the twentieth century and was seen as the main objective (although it was probably a rather basic concept compared to the term known today). Later on, health became less of a concern as other objectives such as skill development and self-discovery became dominant (Sleap, 1990). Health emerged once again as an important objective of the PE curriculum in the early 1980s (Harris, 1989; Sparkes, 1989; McNamee, 1988; Kirk, 1988, 1986; Almond, 1988, 1983; HPEP, 1986; Biddle, 1981). A shift in focus occurred during this period from performance-related fitness towards a more experiential and individualised learning approach (Williams, 1988). As a result, during the 1990s academics stated their preference for the term health-related exercise (HRE) over health-related fitness (HRF); the

latter emphasising the relationship between health and ‘fitness’ rather than ‘physical activity’ (HPEP, 1992, 1991a, 1991b).

Subsequently, the concept of HRE gained momentum within UK schools, highlighting the promotion of health and physical activity and becoming an important objective of the PE curriculum (Whitehead, 2010; Harris, 2009; Almond, 1989; Williams, 1988). In general terms, HRE is, “... physical activity associated with health enhancement and disease prevention” (HEA, 1998, p.2). However, within an educational context, HRE has been defined as, “... the teaching of knowledge, understanding, physical competence and behavioural skills, and the creation of positive attitudes and confidence associated with current and lifelong participation in physical activity” (Harris, 2000a, p.2). Essentially, HRE is the component of the PE curriculum that is concerned with health and fitness (Cale and Harris, 2009a).

2.2.2 Philosophy and Interpretation

Over the years, the philosophy behind HRE has been interpreted in different ways by various individuals (Cale and Harris, 2009a, 2005a; Harris, 2000a). Despite having a clear definition of the concept for some time, the term HRE has come to be used interchangeably, even synonymously, with phrases such as health-related fitness (HRF), health-related physical fitness (HRPF), health-related physical education (HRPE), health-based physical education (HBPE), and health-focused physical education (HFPE), to name but a few (Harris, 2000a). For the purpose of this study, only the term health-related exercise (HRE) will be used, referring specifically to the definition stated by Harris (2000a).

The conflicting views and (mis)interpretation of HRE has led to variation across the country with regards to the provision of health, fitness and HRE in PE (Penney and Evans, 1999; Cale and Harris, 1998). Pupils should learn HRE through participation in a range of physical activities that include sport, dance and exercise experiences (Cale and Harris, 2009a). Further to this, the physical activity concerned should be purposeful and health enhancing (Cale and Harris, 2009a). However, some narrow interpretations of HRE have been adopted and include the following for example, lifting and carrying equipment, ‘boring’ theory, cross-country running, safety and hygiene issues (such as, warming up and cooling down), and fitness testing (Cale and Harris, 2009a; Harris, 2005). These narrow interpretations of HRE may well lead to undesirable practices such as, “... forced fitness regimes; directed activity with minimal learning; inactive PE lessons involving excessive theory or teacher talk; dull, uninspiring drills; or an over-emphasis on issues relating to safety and hygiene ...” (Harris, 2005, p.85).

Other limiting interpretations of HRE within the PE curriculum include the scheduling of activities such as aerobics or cross-country running in blocks of work (Harris, 2009). These ‘blocks’ normally occur over a number of weeks (for example, a half term) and usually result in minimal learning or involvement on the part of the pupil (Harris, 2009). In addition to this, many HRE programmes in schools have been reported to concentrate on ‘fitness for sports performance’, whereby the emphasis is placed on the physical and physiological effects of exercise; as opposed to adopting a ‘fitness for healthy lifestyles’ approach (Harris, 2009, 2005, 2000a, 1995). These programmes are normally associated

with fitness testing and often neglect other aspects of health and fitness such as social and psychological well-being (Harris, 2009, 2005; Fox and Harris, 2003).

In order for HRE provision to be successful, it is necessary for PE teachers to convey the following key principles to their pupils:

- » Exercise can be a positive and enjoyable experience.
- » Exercise is for all.
- » Everyone can benefit from exercise.
- » Everyone can be good at exercise.
- » Everyone can find the right kind of exercise for them.
- » Exercise is for life.
- » Excellence in health-related exercise is maintaining an active way of life (Harris, 2000a, p.18).

Furthermore, the development of certain desirable qualities of HRE practice have been established in order to aid PE teachers in their provision (Cale and Harris, 2009a). These desirable practices as well as those that should be eradicated are highlighted in Table 1 (page 25).

2.2.3 The National Curriculum

The National Curriculum for Physical Education (NCPE) in England outlines the programme of study and the statutory requirements that need to be implemented by co-ordinators, subject leaders and teachers in PE (until the 2007 NCPE this covered the requirements for both England and Wales) (DCSF and QCA, 2007). The NCPE has evolved over the years with a strengthened position for health within its requirements (DES and WO, 1992; DFE and WO, 1995; DfEE and QCA, 1999; DCSF and QCA, 2007).

Table 1 – Desirable and Undesirable Practices for Delivering HRE
(Cale and Harris, 2009a, p.120; Harris, 2000a, p.17)

HRE	Desirable Practices	Undesirable Practices
Status	Explicit, valued, planned, evaluated.	Implicit, low status, incidental, not monitored.
Breadth and relevance	Comprehensive, meaningful, focus on health/activity participation.	Narrow, superficial, emphasis on fitness testing/hard training/elite performance.
Coherence and status	Coherent, co-ordinated, clear links with other areas of physical education/personal, social and health education and related subjects, integrated.	Ad hoc, hit and miss, limited links with other areas of physical education/personal, social and health education and related subjects.
Equity	Inclusive, involving all pupils.	Exclusive, reduced or minimal involvement of pupils such as the least active, less competent and those with disabilities and health conditions.
Action	Requires guidance and support.	Requires change.

The term HRE appeared in the 1992 Physical Education Non-Statutory Guidance document which accompanied the NCPE of the same year (DES and WO, 1992). The term appeared under the section entitled ‘Cross-Curriculum Matters’ and was outlined as a programme of study within the PE curriculum. Interestingly, the 1992 NCPE itself had no reference to the term HRE. This trend continued with the 1995 NCPE again making no reference to the term (DFE and WO, 1995).

Despite still no reference to HRE in the 1999 NCPE document (DfEE and QCA, 1999), the requirements stated, however, that pupils were expected to gain 'knowledge and understanding of fitness and health'. This fourth core strand (at Key Stage 3) stated that pupils should be taught:

- a) how to prepare for and recover from specific activities.
- b) how different types of activity affect specific aspects of their fitness.
- c) the benefits of regular exercise and good hygiene.
- d) how to go about getting involved in activities that are good for their personal and social health and well-being (DfEE and QCA, 1999, p.20).

Likewise, the document outlined that pupils should be taught the following (at Key Stage 4), according to the fourth core strand:

- a) how preparation, training and fitness relate to and affect performance.
- b) how to design and carry out activity and training programmes that have specific purposes.
- c) the importance of exercise and activity to personal, social and mental health and well-being.
- d) how to monitor and develop their own training, exercise and activity programmes in and out of school (DfEE and QCA, 1999, p.23).

However, during this period, a more explicit approach to HRE was considered for Curriculum Wales 2000; which adopted a detailed programme of study for HRE at all key stages, including non-competitive exercise activity as an area of experience at Key Stage 4 (Welsh Assembly, 1999).

The latest and current National Curriculum (DCSF and QCA, 2007) still does not contain the term HRE within the PE section, although health-related issues now have a stronger base within the curriculum (Cale and Harris, 2009a). For

example, health-related issues are included in the document under the key concept 'healthy, active lifestyles' and the key processes 'developing physical and mental capacity' and 'making informed choices about healthy, active lifestyles' (DCSF and QCA, 2007). Further to this, one of the six areas within the range and content section includes 'exercising safely and effectively to improve health and well-being, as in fitness and health activities', which should be incorporated by practitioners when teaching the key concepts and processes at Key Stages 3 and 4 (DCSF and QCA, 2007). An outline of the key concepts and processes concerning health at Key Stages 3 and 4 are provided in Table 2 (page 28).

The current curriculum (DCSF and QCA, 2007) was implemented to all year 7 pupils in September 2008 and all year 8 and 10 pupils in September 2009 (Qualifications and Curriculum Development Agency [QCDA], 2009). As the programme rolled out across the key stages, the year 9 and 11 pupils experienced the new PE programme of study in September 2010 (QCDA, 2009). The latest PE programme of study (DCSF and QCA, 2007) was used in conjunction with the 1999 NCPE document (DfEE and QCA, 1999) until full implementation was achieved in September 2010. During this period of transition, some year groups experienced health-related issues through the key concepts and processes while others were taught using the fourth core strand of the previous National Curriculum (DCSF and QCA, 2007; DfEE and QCA, 1999). The first assessment of health-related issues using the new curriculum was conducted in 2011 (QCDA, 2009).

Table 2 - Key Concepts and Key Processes Concerning Health at Key Stage 3 and 4 (DCSF and QCA, 2007, p.190-193 and p.200-203)

	Key Concept	Key Process	Key Process
Key Stage 3	Healthy, active lifestyles <ul style="list-style-type: none"> a) Understanding that physical activity contributes to the healthy functioning of the body and mind and is an essential component of a healthy lifestyle. b) Recognising that regular physical activity that is fit for purpose, safe and enjoyable has the greatest impact on physical, mental and social wellbeing. 	Making informed choices about healthy, active lifestyles <p>Pupils should be able to:</p> <ul style="list-style-type: none"> a) identify the types of activity they are best suited to. b) identify the types of role they would like to take on. c) make choices about their involvement in healthy physical activity. 	Developing physical and mental capacity <p>Pupils should be able to:</p> <ul style="list-style-type: none"> a) develop their physical strength, stamina, speed and flexibility to cope with the demands of different activities b) develop their mental determination to succeed.
Key Stage 4	Healthy, active lifestyles <ul style="list-style-type: none"> a) Understanding that physical activity contributes to the healthy functioning of the body and mind and is an essential component of a healthy lifestyle. b) Recognising that regular physical activity that is fit for purpose, safe and enjoyable has the greatest impact on physical, mental and social wellbeing. 	Making informed choices about healthy, active lifestyles <p>Students should be able to:</p> <ul style="list-style-type: none"> a) identify the types of physical activity available to them and the roles they would like to take on. b) link physical activity with diet, work and rest for personal health and wellbeing. c) make informed decisions about getting involved in a lifetime of healthy physical activities that suit their needs. 	Developing physical and mental capacity <p>Students should be able to:</p> <ul style="list-style-type: none"> a) analyse how mental and physical capacity affects performance. b) maintain and develop their physical strength, stamina, speed and flexibility to cope with the demands of different activities and active lifestyles. c) prepare mentally for successful involvement in physical activity, performance and engagement in healthy, active lifestyles.

2.2.4 Guidance Material

Since the inception of HRE, PE teachers have acquired relatively limited knowledge and understanding of the concept, as is evident from HRE's expression within the PE curriculum (Almond and Harris, 1997a; Cale, 1996; Fox, 1992). This has led to an attempt to devise good practice plans, schemes of work, and lesson ideas in order to aid PE teachers' planning and implementation of HRE into PE lessons (Health and Physical Education Project [HPEP], 1992). For example, Doyle (1989) outlined a series of dance sessions that incorporated HRE as a permeated theme. These sessions involved various games and activities to music but incorporated explanations of the function of the blood and various organs. On a similar note, Caldecott (1992) devised HRE lesson ideas for all year groups. His year-by-year format was designed in a progressive manner, starting with the basic fitness components in year 7 through to the implementation of weight training programmes in year 11. The intention was that pupils would gradually obtain knowledge of HRE principles and issues throughout their time at secondary school (Caldecott, 1992).

In addition to this, McKenzie (1994) presented an example of how a year 7 HRE unit of work could be planned and implemented into a PE curriculum. McKenzie (1994) believed that his example would enable teachers to provide a quality PE programme through the specific unit of work approach. Moreover, Green and Lamb (2000) created a method for pupils to determine their perceived exertion level during HRE lessons. They felt that this pupil self-monitoring during HRE activities would aid PE teachers' monitoring and assessment of pupils and lead to the development of more autonomous young people (Green and Lamb, 2000).

Nevertheless, while most of the HRE good practice plans and ideas produced were published in peer-reviewed professional journals aimed at disseminating information to the PE profession, many of the schemes and creations (although not all) were inadequate, difficult to adapt to individual schools, too expensive and impractical for large groups or mixed ability classes (Green and Lamb, 2000; McKenzie, 1994; Mahoney, 1993; Caldecott, 1992). In contrast, Len Almond, Lorraine Cale and Jo Harris have been the main proponents for the development and structure of HRE in the UK in recent years, having produced numerous books, articles and resources for academics, students and teachers alike; with the main aim of facilitating the implementation of good quality HRE programmes within schools.

Over the last twenty years or so, Almond, Cale and Harris have conducted research on various aspects of HRE: notably, good practice guidelines; teachers' and young people's perceptions; rationales and recommendations; and monitoring and assessment, to name but a few (Almond, 1990, 1983; Almond and Harris, 1997a, 1997b; Cale, 1996, 1993; Cale and Harris, 1998; Harris, 2000b, 1998a, 1998b, 1997, 1995, 1994a, 1994b, 1993; Harris and Cale, 1997a, 1997b). Their work has helped to establish a consensus approach to HRE (after consultation with an HRE working group comprising representatives from sport, health and PE organisations, the advisory service, higher education, and schools); culminating in the production of an initial useful resource for PE teachers (Harris, 2000a). The significant contribution made towards the development of HRE and the huge body of work produced by these Loughborough University colleagues over the years has established themselves as some of the country's

leading authorities on the subject. These individuals have been referred to as the 'Loughborough University Group' by Stratton (1995) in recognition of their superb work on HRE which can be best summarised as follows:

[They] ... have worked tirelessly to promote the values of exercise and physical activity ..., [and they have produced] ... a whole range of well planned, progressive curriculum materials available for teaching health related exercise, ... As a result, a number of physical education departments are now designing and delivering quality programmes of health related exercise (p.23) [my insertion].

In addition, Harris has also worked with freelance educational consultant Jill Elbourn to produce documents concerning HRE in PE activity areas at primary school level (Harris and Elbourn, 1998, 1997a, 1997b, 1996), as well as articles highlighting numerous components of HRE within the National Curriculum at secondary school level (Harris and Elbourn, 1992a, 1992b, 1992c). Elbourn has also gone on to produce some HRE resources, in conjunction with the Young Men's Christian Association (YMCA), to support teaching at Key Stage 4 (YMCA, 2002, 2000; Elbourn and YMCA Fitness Industry Training, 1998; Elbourn, Brennan, and YMCA Fitness Industry Training, 1998a, 1998b, 1998c). However, despite the volume of literature and resources produced by the Loughborough University Group and others in recent years, there is still no guarantee that these materials are being accessed by PE teachers and that any change will occur in current HRE programmes, both from a philosophical and implementational perspective (Harris, 2005).

2.2.5 Organisation and Delivery

The philosophy and interpretation of HRE within the PE curriculum has led to different methods of delivery (Harris, 2009). The four main approaches to the delivery of HRE are: permeation; discrete; combined; and topic (Harris, 2009, 2000a). The permeated (or integration) method is primarily concerned with the delivery of HRE through the PE activity areas (athletics, dance, games, gymnastics, swimming, and outdoor and adventurous activities). In contrast to this, the discrete (or focused) approach involves the teaching of HRE in specific designated lessons; usually as a ‘block’ or unit of work over a number of weeks (Harris, 2000a), with the purpose of these PE lessons being the concept of HRE itself rather than the activity (Harris, 2009). The topic-based approach, on the other hand, delivers HRE through a series of lessons, focusing on a specific topic or theme (Harris, 2000a). This method tends to be delivered as a holistic approach across other Curriculum subjects such as science or PSHE and is usually classroom-based (although it can still be delivered in PE and in a practical manner) (Harris, 2009). The combined approach (also known as the mixed or multi-method) is any combination of the permeated, discrete, or topic-based delivery methods. The strengths and limitations of the main HRE delivery methods used in PE are displayed in Table 3 (page 33).

The delivery of HRE has been discussed and debated for some time, especially during the early years after the inception of HRE and when expression of the concept was limited and practice varied considerably (Harris, 2009, 1995). Many schools of thought developed during this period and opinion was becoming increasingly divided on the subject (Piotrowski, 2000). Initially, due

Table 3 – Approaches to HRE within the National Curriculum (Harris, 2009, p.86; Harris, 2000a, p.41).

Approach	Strengths	Limitations
<p><i>Permeation/integration</i></p> <p>An integrated approach in which HRE is taught through the PE activity areas (i.e. through athletics, dance, games, gymnastics, swimming, and outdoor and adventurous activities).</p>	<p>HRE knowledge, understanding and skills can be seen as part of and integral to all PE experiences. Children learn that all physical activities can contribute towards good health and can become part of an active lifestyle.</p>	<p>HRE knowledge, understanding and skills may become ‘lost’ or marginalised amongst other information relating to skills and performance; there may be an overload of information for pupils; much liaison is required to ensure that all pupils receive similar information from different teachers; the approach may be somewhat ad hoc and piecemeal.</p>
<p><i>Focused/discrete</i></p> <p>An approach involving teaching HRE through specific focused lessons or units of work either within PE or health education programme. During PE lessons, the main focus is the learning concept rather the activity itself.</p>	<p>A specific focus can help to ensure that HRE does not become lost or take second place to other information; there is less likelihood of HRE being regarded as an assumed ‘by-product’ of PE lessons; HRE is perceived as important through having its own time slot and identity; the value and status of the associated knowledge, understanding and skills is raised.</p>	<p>HRE may be seen in isolation and not closely linked to the PE activity areas; the HRE knowledge, understanding and skills may be delivered over a period of time with long gaps in between which is problematic in terms of cohesion and progression (e.g. one short block of work per year); the knowledge base may be delivered in such a way as to reduce lesson activity levels (e.g. through ‘sitting down’ lessons with too much talk).</p>
<p><i>Combined/multi-method</i></p> <p>Any combination of permeation, focused and topic based approaches is possible.</p>	<p>A combination of approaches can build on the strengths of different approaches and, at the same time, minimise their individual limitations; it can ensure that value is placed on HRE and that the area of work is closely linked to all PE experiences and other health behaviours.</p>	<p>Combined approaches may be more time consuming initially to plan, structure, implement and co-ordinate within the curriculum.</p>
<p><i>Topic</i></p> <p>An approach involving a series of lessons following a specific topic or theme that is taught through PE and classroom lessons. This may incorporate both permeation and focused units.</p>	<p>HRE may be delivered in a more holistic manner with closer links to other health behaviours (such as eating a balanced diet) and other national curriculum subjects. The area can be covered in more depth and be closely related to pupils’ personal experiences. The amount of time engaged in physical activity in PE lessons might be increased if introductory and follow-up work is conducted in the classroom.</p>	<p>A topic or theme-based approach may be more time consuming with respect to planning. This approach could be less practically orientated than other approaches (if it incorporates a high degree of classroom based work).</p>

to the absence of an activity area for HRE in the NCPE (DES and WO, 1992; DFE and WO, 1995; DfEE and QCA, 1999) many authorities advocated the permeated approach to HRE delivery (OFSTED, 1995; Oxley, 1994), despite the fact that the NCPE only outlines the content to be taught and not the delivery method to be used (Harris, 2009). It was believed that HRE should be promoted as a cross-curricular subject, that is, it should be taught across all six activity areas in PE lessons, as well as by topic work in PSHE lessons and other subject lessons (a whole-school philosophy) (OFSTED, 1995; Oxley, 1994).

However, many secondary school PE departments adopted a modular approach, involving teaching HRE as a discrete unit of work (Cale, 1996). The popularity of delivering HRE as a discrete model was highlighted by inspection findings from Wales (OHMCI, 1995), which stated that, "... 80% of secondary schools are developing health-related exercise courses, often as part of a modular approach" (p.16). Similarly, Harris (1995) found that 43.7% of PE heads of department favoured HRE being delivered in specific units at Key Stage 4. In addition, in Northern Ireland the issue had been taken further as HRE was implemented as a compulsory unit in PE programmes of study at Key Stage 4 (Gilbert, 1998). Despite this, the government and key physical educators claimed that permeation was the 'right' approach, with regard to HRE delivery (Almond and Harris, 1997a).

Reaction against the permeated method of delivery came out of the belief that many PE departments were merely paying lip-service to this core strand because health and fitness were still being given marginal status within the NCPE at that

time (and HRE no status at all) (Penney and Evans, 1999). Some reported that the majority of permeated HRE was being delivered in an ad hoc manner and at times, it was not being implemented at all (Stratton, 1995), while others claimed that pupils being taught HRE via a permeated method of delivery, "... still leave school with little understanding of the value of exercise and the effects it can have on the body" (Mahoney, 1993, p.22). Furthermore, the subordinate status of HRE in relation to the six activity areas prompted some individuals to call for HRE to be incorporated into the NCPE as an activity area in its own right (Fox, 1992).

According to some, there remains a gap in the research concerning the most appropriate and effective method for delivering HRE in the PE curriculum (Piotrowski, 2000; Harris, 1997; Harris and Cale, 1997b). This has led Almond and Harris (1997a) to suggest that no one method or approach should be considered to be more desirable or worthier than another, although by their own admission they have become outraged by key physical educators who claim that the permeated approach is the best method, in spite of an absence of published documented evidence. They continue by insisting that physical educators need to engage in evidence-based practice relating to HRE delivery and that more school-based research projects need to be conducted in order to eradicate what they call 'personal points of view' on the matter (Almond and Harris, 1997a).

In recent years, the combined approach to delivering HRE has reportedly become the most common (Cale, 2000b). Indeed, many academic texts now advocate this approach (Harris, 2009, 2005; Cale and Harris, 2009a; Fairclough *et al*,

2002; Cale, 2000a) stating that it builds upon the strengths of each method. While this is a logical assumption to make, more evidence is needed in order to confirm or reject the notion that the combined approach to HRE is the most common, appropriate and effective. A similar question for the combined approach could be asked to that of Almond and Harris' (1997a) query concerning the permeated approach, namely: "Where is the evidence to support this point of view?" (p.27).

In addition, a recommendation in the literature is to place the decision as to which approach or approaches to adopt with that of the PE heads of department and the PE teachers, as they are in the best position to decide (Harris, 2009, 2005; Cale and Harris, 2009a). Again, this seems to be a logical recommendation; however, with the flexibility and freedom that the position of health now holds within the National Curriculum (DCSF and QCA, 2007), a wider gulf is likely to exist between desirable and undesirable HRE practices conducted in schools (Harris, 2009). In other words, more extremes of practice will occur, especially if PE departments adopt a narrow interpretation of the concept as has been evident in the past (Cale and Harris, 2009a, 2005a; Harris, 2005; Green, 2002; Penney and Evans, 1999). In light of this, the evidence requested by Almond and Harris (1997a) should draw on a wider perspective than that dictated by the government through the NCPE; for example, the views of a range of individuals and organisations within the PE community, including teachers, heads of departments, pupils, academics, and advisers.

At this time, more guidance is needed for PE teachers with regards to the most appropriate and effective delivery of HRE (Harris, 2009). Also, further research in this area is required as: “The importance of effective HRE delivery cannot be underestimated as it provides a contextual framework for the teaching of lifetime activities” (Fairclough *et al*, 2002, p.80). Otherwise, the “... design and delivery of effective activity promotion initiatives [such as HRE] will remain uninformed, undirected and sporadic” (Fox and Harris, 2003, p.198) [my insertion].

2.2.6 Review of Relevant Literature

Previous studies have explored elements of the delivery of HRE but not as the main focus of the research (Fairclough *et al*, 2002; Cale, 2000a, 2000b; Raudsepp and Päll, 2000; Curtner-Smith, Kerr, and Clapp, 1996; Harris 1994a, 1994b, 1993). The two studies conducted by Harris (1994a, 1993) investigated young people’s (Key Stage 3; 11-14 years) perceptions of health, fitness and exercise and the implications these have for the teaching of HRE, respectively.

In the first study, Harris (1993) found that young people had a limited knowledge about health, fitness and exercise despite appearing to be knowledgeable and informed. Further to this, Harris (1993) reported that young people had a limited biomedical view of health, which excluded social and psychological dimensions and included a negative perception of fitness, associated with uncomfortable physical exertion and normative measures of performance. It is difficult to say whether or not these findings are similar to others reported in the literature, due to the different methodological procedures used (Backett and Alexander, 1991; Brustad, 1991; Williams, Wetton and Moon, 1989; Head, 1987; Murray and

Jarrett, 1985; Silman, 1979). However, Harris (1993) suggested that young people received many conflicting messages about health, fitness and exercise as a result of fragmented learning experiences.

It was concluded by Harris (1993) that effective planning and implementation of HRE programmes was needed in order to ‘bridge the gap’ between young people’s health knowledge and their everyday health behaviour. Harris (1993) claimed that this could only be achieved if educationalists and health professionals became familiar with young people’s experiences and world-views. She suggested that more exploration was needed so that ‘recommendations for action’ could be derived; especially in areas of promoting social-psychological aspects of health, fitness, and exercise and the development of effective learning situations to avoid inconsistent health messages (Harris, 1993). The delivery methods used for the implementation of HRE in the PE curriculum play an important role in addressing this gap between knowledge and behaviour. Furthermore, understanding young people’s experiences and preferences for how HRE is implemented in the curriculum will enhance the design of HRE programmes.

The second study by Harris (1994a) followed up on the findings from her previous research (Harris, 1993) and considered the implications for teaching HRE. Initially the same concerns were raised regarding the need to provide HRE programmes that focus on the psychological and social aspects of health, fitness and exercise, as well as those related to the physiological benefits and the need to help young people deal with the inconsistent health messages they received

(Harris, 1994a). However, Harris (1994a) also suggested a whole-school approach to promoting health that reaches beyond the curriculum, making young people's exercise experiences positive, encouraging them to adopt an 'active lifestyle' philosophy, and helping them to make informed choices.

In concluding, Harris (1994a) reported that educators need to consider promoting health and exercise earlier in young people's lives so that progress can be monitored throughout childhood. Further to this, Harris (1994a) reiterated the need for educators to increase their understanding of young people's perspectives of health, fitness and exercise. Harris (1994a) continued by stating that this increased understanding is necessary in order to evaluate the effectiveness of HRE teaching models and programmes and ultimately to create practices that help young people to adopt active ways of life.

The two investigations by Harris (1994a, 1993) sought to explore young people's views on health (amongst other things). However, they (Harris, 1994a, 1993) did not specifically investigate young people's perspectives of the HRE delivery methods used in secondary school PE lessons. Furthermore, the methods adopted by Harris (1994a, 1993) involved focus group interviews with pupils. It is possible, with multiple interviewees, that one individual may dominate more than another, some individuals may be reluctant to reveal certain information in front of others, and that little in the way of personal views are thus revealed (Arksey and Knight, 1999; Watts and Ebbutt, 1987).

Another study by Harris (1994b) conducted in the same year as the investigation into young people's perceptions of health, fitness, and exercise and the implications for teaching HRE, surveyed PE teachers about their views and approaches to HRE within the National Curriculum. In the study, Harris (1994b) found that just less than two-thirds (63.4%) of the PE departments taught HRE using the discrete method; that is, on its own and in combination with other approaches. In contrast to this, 7.9% of PE heads of department reported that members of their department delivered HRE through a permeated-only method (Harris, 1994b). Nevertheless, when the data were analysed further, it was revealed that less than a fifth (18.4%) of PE teachers actually delivered HRE in a discrete-only method; thus, making a combination of approaches to delivering HRE the most commonly used method (Harris, 1994b).

In addition, Harris (1994b) claimed that over half of all schools delivered HRE in some capacity through a permeated approach, whether it was delivered only to certain year groups or in conjunction with other approaches to curriculum areas. Harris (1994b) also noted that much of the HRE delivered through a permeated approach was unstructured. As a result, she (1994b) suggested that teachers needed support in the form of in-service training and resources, as well as to consult with colleagues about appropriate media for teaching HRE, in order to rectify this situation. Harris (1994b) concluded that most PE heads of department were positive about the place of HRE within the PE curriculum and that the majority of secondary school PE curricula contained HRE content. Harris (1994b) also noted that further research was required in order to establish the effectiveness of different HRE approaches and that this research should focus

on those approaches related to activity-based units of work, such as aerobics and circuit training (Harris, 1994b).

Whilst the above investigation by Harris (1994b) sought PE teachers' views on the approaches to teaching HRE it did this through PE heads of department only. They provided information, through a postal questionnaire, about the school, the PE department, the timetable and lesson content, the National Curriculum, and in-service training in relation to HRE, which may or may not have been the consensus of the department (Harris, 1994b). This also only produced information about what was being provided in the schools and not PE teachers' professional opinions and views about what is effective and appropriate in the delivery of HRE. While it is important to consider practice in schools in terms of HRE provision, it is also important to consider the experiences of both teachers and pupils. Furthermore, while it may be assumed that PE heads of department select a delivery method for their school based on their own personal views of HRE delivery methods, this may not always be the case. PE heads of department fulfil multiple roles and may experience a conflict between their own views and opinions on HRE delivery as a PE teacher, and the implications for the planning and management of a PE department and curriculum.

Two studies by Cale (2000a, 2000b) investigated PE teachers' views and understanding of physical activity promotion and the nature and extent of physical activity promotion in secondary schools, respectively. In the first study, Cale (2000a) reported that almost 30.0% of the PE heads of department surveyed revealed health as an important cultural practice within their school. However,

61.9% felt that health was only partially important. In addition, only 40.0% of schools had a written policy for the promotion of exercise and physical activity. With regards to the PE heads of departments' general views on physical activity, Cale (2000a) claimed that there was a strong consensus for schools to promote physical activity, despite the fact that many teachers referred to the term 'physical fitness' rather than physical activity.

In relation to HRE, 73.8% of the PE heads of department had positive views about the inclusion of the concept as a compulsory component in the NCPE, less than a fifth (19.0%) were undecided or neutral on the matter and only 7.1% had negative views about its inclusion (Cale, 2000a). However, when analysed further and ranked against the six activity areas, HRE was considered less important than games (28.6%) but more important than dance (21.4%). Cale (2000a) put this finding down to the contrasting status of these two activity areas within the PE curriculum. The teachers in the study also preferred different HRE delivery methods; some thought it should be taught as an area 'in its own right' while others believed that it should be delivered throughout the PE curriculum (Cale, 2000a). The most common method though was a combination of approaches (33.3%) (Cale, 2000a).

Most PE heads of department in the study believed that they were doing their 'bit' for the promotion of physical activity (Cale, 2000a). The majority of PE departments were found to be promoting physical activity either through curricular PE, extra-curricular PE or a combination of the two. However, an interesting finding was that few PE heads of department had explored or

recognised the promotion of physical activity as a whole-school issue (Cale, 2000a). Cale (2000a) concluded the study by stating that PE teachers are key players in the efforts to promote physical activity among young people.

The second study by Cale (2000b) echoed most of the findings from the previous study; that is, 30.0% of PE heads of department reported that health was an important cultural practice within their school, with 62.0% claiming it to be partially important, and that the most common method of delivering HRE (in a third of schools) was through a combination of approaches. Cale (2000b) also found that 48.0% of schools implemented HRE in a fully structured manner, while 45.0% of schools reported that HRE was only partially structured. Furthermore, 83.0% of PE departments had a written scheme of work for HRE, with 76.0% having written or revised it within the last five years (Cale, 2000b). In addition, Cale (2000b) found that 88.0% of schools taught HRE in a practical manner; the main focus being on stamina (95.0%), strength (86.0%), and suppleness (93.0%). The most popular activities in HRE sessions were cross-country, skipping, weight training, circuit training, and aerobics. The majority of HRE programmes (83.0%) also included fitness testing (Cale, 2000b).

In conclusion, Cale (2000b) reported that many schools were undertaking a wide range of physical activity promotion practices. These practices, which varied considerably, were within the formal and informal curriculum as well as in the wider whole-school environment and community setting (Cale, 2000b). Cale (2000b) also confirmed that HRE was being taken seriously by the majority of schools but that time constraints were the main limiting factor on PE teachers

being able to effectively promote physical activity within the curriculum. In a final statement, Cale (2000b) suggested that schools should familiarise themselves with all the avenues available for the promotion of physical activity.

Similar to the investigation by Harris (1994b), Cale (2000a, 200b) focused only on PE heads of departments' views of HRE. Furthermore, Cale's investigations (2000a, 2000b) utilised postal questionnaires to obtain the bulk of the data, although the earlier investigation used selected interviews as well. The focus of Cale's (2000a, 2000b) studies was also on the nature and extent of physical activity promotion in secondary schools from a whole-school perspective. Thus, while HRE was a topic that was investigated in the survey, it was not the main focus of the study.

The investigation by Fairclough *et al* (2002) was similar to the two studies by Cale (2000a, 2000b) in that the researchers attempted to determine whether current PE provision promoted lifetime participation in physical activity. In the study, Fairclough *et al* (2002) found that team games were significantly more prevalent in the PE curriculum at Key Stages 3 and 4, for both boys and girls, than lifetime activities. While lifetime activities remained constant between Key Stages 3 and 4, they were more readily available as extra-curricular activities than within the PE curriculum. One of the main reasons for this imbalance between the amount of time spent on team games, as opposed to lifetime activities, was claimed to be due to the traditional games-based curriculum adopted by many PE departments, which caters for the more-able majority as well as reinforcing gender stereotypes (Fairclough *et al*, 2002).

In addition to this, Fairclough *et al* (2002) reported HRE to be a useful context for the delivery of lifetime activities. They found the most popular HRE approach in schools to be the permeated method (reported by 50.0% of male heads of department and 68.0% of female heads of department). This was followed by the discrete method (reported by 39.0% of male heads of department and 60.0% of female heads of department) and then the topic-based approach (reported by 39.0% of male heads of department and 48.0% of female heads of department).

Fairclough *et al* (2002) concluded their study by stating that the promotion of lifetime physical activities in PE is severely hampered by the restrictive National Curriculum, traditional boys' and girls' activity biases, teacher expertise, and the influence of the media. They continued by suggesting that PE programme content should be revised to include more lifetime physical activity and that physical educators should implement more activities that have a greater 'carry-over' value into adult life (Fairclough *et al*, 2002). However, as with most of the studies by Harris (1994b) and Cale (2000b), their study administered postal questionnaires to PE heads of department only, with the intention of investigating the contribution of secondary school PE to lifetime physical activity.

Another study by Green and Thurston (2002) examined the extent to which health promotion had become part of PE teachers' philosophies and practice. Green and Thurston (2002) found that many PE teachers encouraged in pupils a commitment for, and enjoyment of, a wide range of physical activities. PE teachers reported a desire to encourage healthy, active lifestyles and a choice of

options in the curriculum, but also emphasised sport as the primary vehicle for health promotion. Furthermore, many of the PE teachers reported delivering HRE in discrete blocks.

In conclusion, Green and Thurston (2002) found that the ‘gap’ between policy and practice remained within PE with respect to health promotion. They commented that this was likely to be due to the strong sporting ideology that has been adopted; especially as ‘tradition’ has been a “... vehicle for legitimising the status quo” (p.121). Furthermore, Green and Thurston (2002) stated that PE teachers’ thoughts and practices were likely to be unchanged from a sport ideology if policy implementation in relation to health and physical activity was not made more coherent and consensual. The study by Green and Thurston (2002) was similar to the research by Fairclough *et al* (2002), Cale (2000a, 2000b), and Harris (1994b) with regards to determining PE teachers’ views on health promotion, but it also sought information from both PE teachers and PE heads of department (43% and 57% of the sample, respectively). Moreover, Green and Thurston (2002) used semi-structured interviews and not postal questionnaires in order to gauge the gap between policy and practice. The favouring of the discrete approach to delivering HRE in the study was at odds with the trend in the literature which favours a combined approach (Fairclough *et al*, 2002; Cale, 2000a, 2000b).

2.2.7 Summary

PE, and HRE in particular, have a key role to play in influencing young people’s knowledge, skills and understanding of how and why they need to adopt a

healthy, active lifestyle both within and beyond the school setting. For some pupils, the PE curriculum is the main opportunity to develop the knowledge, skills and understanding that will help them to develop physical activity habits in their present and future lives. This important role of HRE cements the need for continuing research in this area. From the preceding review of the literature, the following have been identified as areas for future research:

- Much of the research on HRE delivery has focused on current provision within schools, with limited attention given to evidence-based knowledge of the delivery methods to be used. Furthermore, HRE delivery methods have not formed the sole focus of research studies in the area. The way in which HRE is delivered in schools can impact on the quality of pupils' experiences and the development of their knowledge and understanding of HRE and the transferability of this into lifelong physical activity habits.
- Research has tended to focus predominantly on PE heads of department as the 'voice' of HRE practice. However, while PE heads of departments may have implemented HRE programmes based on their preference for HRE delivery as a teacher of PE, they may have a conflict of interest with their planning and management role. Acquiring a wider perspective on HRE delivery methods would provide a greater understanding for future practice.
- Little is known about PE teachers' perceptions of the range of delivery methods available within HRE. This could provide a valuable insight into, and have implications for, practice.

- HRE develops pupils' knowledge, skills and understanding of healthy, active lifestyles. However, little if any research has examined pupils' perceptions of the way in which HRE is delivered. Pupil perceptions could provide important insights that would aid the planning of a meaningful HRE curriculum.
- Finally, previous research which has addressed delivery methods has utilised focus groups and postal surveys (and to a lesser extent interviews). It has determined the current provision in schools from a PE heads of department perspective, rather than developing an understanding of the views and opinions of HRE from the wider PE teaching community or the 'in situ' practice.

The purpose of the present research is to provide an in-depth investigation into the methods of delivering HRE in secondary school PE. Specifically, drawing on the key areas highlighted above, the study will focus on teachers' and pupils' perceptions of the discrete, permeated and combined approaches of delivery and how teachers incorporate HRE into their lessons when using the different delivery methods. Although the topic-based method can be incorporated into PE lessons, it is generally considered to be delivered in other subjects and as part of a wider, whole-school approach to promoting physical activity and health (Harris, 2009, 2000a) and therefore will not be considered within this research. Similarly, while a whole-school approach to health and physical activity promotion is advocated and deemed important and necessary (Harris, 2009; Cale and Harris, 2005a; Fox and Harris, 2003), this too will not be part of the focus of

the present study. Any mention of the combined method of HRE delivery in this study will refer to a combination of the permeated and discrete methods only (due to the exclusion of the topic-based approach). Furthermore, the study will adopt a qualitative perspective to provide an insight into pupils' and teachers' perceptions of HRE delivery methods and the 'in situ' practice of delivering HRE in school PE lessons.

Chapter 3

METHOD

3.1 Research Approach

The purpose of this research was to provide an in-depth investigation into the methods of delivering HRE in secondary school PE. The research sought to understand teachers' and pupils' perceptions of the different methods of delivering HRE from their experiences of working in, or being taught in, secondary school PE settings. Two research questions guided the study. Firstly, what are teachers' and pupils' perceptions of the different methods of delivering HRE? Secondly, how do teachers incorporate HRE into secondary school physical education lessons when using the different delivery methods? A qualitative approach to the study allowed these central research questions to be explored.

Qualitative research provides an insight into the nature of human experiences and allows the 'complexity' and 'embeddedness' of interactions and processes that occur in social situations to be examined because they are conducted in the 'real world' (Lofland, Snow, Anderson, and Lofland, 2006; Merriam, 1998; Lincoln and Guba, 1985). The observation of the lived experience of individuals through the investigation of social situations, and indeed the social world in natural

settings allows unique features to be captured that may be overlooked or lost with large scale data collections (Bryman, 2008, 1988; Lofland, 1976). Furthermore, qualitative research allows information to be gathered and analysed about a large number of features, something that cannot be easily achieved with quantitative approaches (Bogdan and Biklen, 2007; Merriam, 1998). The identification of these unique features can often aid understanding of a particular situation or assist with interpretations of similar situations (Bryman, 2008, 1988), and through taking this multi-faceted approach numerous avenues can be explored, adding to the authenticity and trustworthiness of the data collected (Cohen, Manion and Morrison, 2011). Similarly, the likelihood of misinterpreting data is reduced due to the cross-referencing of sources and the use of multiple perspectives (Creswell, 2009).

3.2 Methods of Data Collection

Gathering data for qualitative research usually combines several data collection methods (Rossman and Rallis, 2012; Cohen *et al*, 2011; Bogdan and Biklen, 2007). The use of several methods within qualitative research is important because it allows for multiple perspectives to be obtained (Cohen *et al*, 2011). Multiple perspectives of a social phenomenon are essential in qualitative research as they: (i) provide assurances that the data collected is authentic through the cross-referencing of sources; (ii) enable meanings to be clarified and reduces the likelihood of misinterpretation of data; and (iii) provide stronger substantiation of constructs and hypotheses (Robson, 2011; Newby, 2010; Cohen *et al*, 2011; Meyer, 2001). The most commonly used sources of evidence for qualitative data collection are: interviews, direct observations, participant observation,

documentation, archival records, and physical artefacts (Cohen *et al*, 2011; Creswell, 2009). Other methods sometimes used to collect data in qualitative studies are: surveys, photographs, films, video recording, proxemics, psychological testing, kinesics, and life histories (Marshall and Rossman, 2006; Meyer, 2001).

No one data collection method has an advantage over the other sources in terms of the quality or richness of the data that can be acquired; usually the methods are complementary of each other (Bryman, 2008). Although a good qualitative study should strive to use a number of techniques for data collection, in order to obtain multiple perspectives, the choice of methods used in an investigation may be subject to access, time and financial resources (Newby, 2010). However, the overriding choice of data collection methods for a qualitative study should be directed by the research design and the research question (Robson, 2011).

The strengths and weaknesses of data collection methods for qualitative research have been well documented over the years and do not need to be replicated here (Cohen *et al*, 2011; Robson, 2011; Creswell, 2009; Bryman, 2008; Lofland *et al*, 2006; Delamont, 2002; Gerson and Horowitz, 2002). However, a brief overview and justification of the two main methods used in the present study, interview and observation, will be discussed. These two methods were chosen to address the research questions of the study (Table 4, page 53).

Table 4 – Research Questions, Methods and Justification

Research Question	
<i>What are teachers and pupils perceptions of the different methods of delivering HRE?</i>	
Research Method	Justification
Semi-structured interview	In-depth information on individual experiences was required and this method allowed the topic area to be focused on while providing the opportunity for the interviewee to be free to elaborate on their experiences and preferences.
Research Question	
<i>How do teachers incorporate HRE into secondary school physical education lessons when using the different delivery methods?</i>	
Research Method	Justification
Direct observation	Data concerning the ‘in situ’ practice of HRE was required for this research question. This method allowed the practice of teachers to be recorded and eliminated reliance on teacher discrepancy between perceived and actual practice.

3.2.1 Interviews

Interviews are one of the most important and essential sources of evidence in qualitative research (Bryman, 2008). This is because they provide evidence and insight into social forces, social processes and human affairs; albeit through a particular individual’s perspective (Holstein and Gubrium, 2003; Gerson and Horowitz, 2002; Kvale, 1996). Interviews can also provide a researcher with knowledge about the prior history of a given situation and as a result, help them to identify other relevant sources of evidence (Holstein and Gubrium, 2003). However, interviews should be considered as verbal reports that are subject to inaccurate recall, bias, and poor articulation (Kvale, 1996). Only when a number of interviews have been conducted and the evidence has been corroborated with

other data sources can theoretical conclusions be drawn (Gerson and Horowitz, 2002).

Traditionally, interviews within qualitative research have been conducted on one person, a group of individuals, or a focus group using either a structured, semi-structured, or unstructured approach (Robson, 2011; Creswell, 2009; Drever, 1995). However, in recent years the preferred approach within qualitative research has been to adopt an unstructured interview that is more akin to a guided conversation than a formal interview scenario (Rubin and Rubin, 2005; Holstein and Gubrium, 2003; Kvale, 1996; King, 1994). Although there will inevitably be some formality associated with the situation, the fluid nature of an unstructured interview helps to put the interviewee at ease and as a result, allows them to reveal more in-depth information (Rubin and Rubin, 2005; King, 1994).

The main problem associated with unstructured interviews centres on the potential for a lack of direction during the interview process (Cohen *et al*, 2011). The direction of the unstructured interview needs to be monitored carefully so that the line of inquiry of the investigation is followed; something that can be achieved by a trained interviewer (Rubin and Rubin, 2005; Kvale, 1996). In this instance, the need to obtain ‘thick description’ about specific situations and sequences far outweighs the risk of deviation from the main line of inquiry (Rubin and Rubin, 2005; Kvale, 1996; Geertz, 1973).

Semi-structured interviews allow the line of inquiry of the investigation to be followed, while at the same time being ‘fluid’ in nature and helping to put the

interviewees at ease (Rubin and Rubin, 2005; Gerson and Horowitz, 2002; Kvale, 1996; King, 1994). This interview format has a degree of structure that can adequately reflect the research question but is flexible enough to clarify participant's understanding or explore a particular viewpoint further (Newby, 2010). On the other hand, structured interviews are rarely used in qualitative research because there is little flexibility in the interview format to relate to particular individuals or circumstances (Cohen *et al*, 2011). This rigid format can limit the naturalness of responses by participants and is more akin to a 'spoken' questionnaire than an actual interview (Newby, 2010).

Most qualitative researchers prefer to record interviews using a recording device (Patton, 2002; Kvale, 1996). An accurate replication of the interview can be obtained using this method, allowing the interviewer to focus on the direction of the interview rather than concentrating on making notes of the evidence (Patton, 2002; Kvale, 1996). Qualitative researchers do not use recording devices if an interviewee feels uncomfortable with disclosing certain issues during a particular part of the interview (anxiety about going 'on record') or if they refuse permission for its use from the beginning (Patton, 2002; Kvale, 1996).

3.2.2 Interview Procedures

Two semi-structured interview question guides were developed after a review of relevant qualitative literature (Patton, 2002). The interview question guides were developed to allow the interviewer to explore the participants' experiences and perspectives of HRE and its delivery. The questions were worded in an open-ended format and the wording and sequence of questions were determined in

advance. Furthermore, separate question sets were used for the teachers and pupils; with one set of questions used for all teachers and a different set used for all pupils. This allowed for intra-group comparisons.

The two question guides were pilot tested with a teacher and a pupil that possessed the same demographics as the participants, resulting in only minor changes. The final two question guides containing either five (teacher version) or four (pupil version) main questions with additional probing questions (Appendix 1, page 227) were used in all interviews; however the flow of the conversations were dictated by the participants. The teachers' interview questions related to: (i) HRE in the National Curriculum (status, position, and interpretation of health and fitness; and government policy); (ii) HRE and the PE curriculum (incorporation of health and fitness in PE lessons; and methods of delivery); and (iii) HRE and lifelong learning (achievement; knowledge, skills and understanding; and methods of delivery). The pupils' interview questions related to: (i) background in PE (used to build a rapport – participation, enjoyment); (ii) health and fitness activities (used to build a rapport - participation); and (iii) HRE and the PE curriculum (incorporation of health and fitness in PE lessons; methods of delivery; knowledge, skills and understanding; achievement; and lifelong learning).

Fifteen teachers and forty-seven pupils were interviewed on one occasion in the Autumn, Spring or Summer terms during one academic school year. Interviews were conducted by the researcher. The teacher interviews were conducted on a one-to-one basis and in the PE department office of the school concerned. Pupils

were interviewed either on a one-to-one basis, in pairs, or in threes; depending on lesson circumstances and the availability of the participants in a given lesson. Group interviews of children can be useful as they encourage interactions and give young people the opportunity to use their own language with each other (Sandford, Armour and Duncombe, 2010; Cohen *et al*, 2007). Similarly, group interviews of children can be less intimidating than having children speak to an adult on their own (Cohen *et al*, 2007). The pupil interviews took place in a PE lesson setting; for example, on a playing field or in a sports hall.

Prior to the start of the interviews, an explanation was given to each participant about the purpose and rationale behind the study. In addition to this, each participant was informed about the interview process and given assurances concerning confidentiality. All interviews were recorded using an audio-recording device in order to provide an accurate record. Furthermore, in order to seek clarification and elaboration of a specific point during the interviews, specific probing questions were identified so that the depth of response was consistent across participants (Patton, 2002). Examples of the specific probes that were identified include the following: “Why do you favour that method?” and “What parts of the lesson do you like or dislike?” An example of transcripts from the interviews can be found in Appendix 2 (page 229).

3.2.3 Observation

The two main types of observation technique used in qualitative research are direct observation and participant observation (Cohen *et al*, 2011; Robson, 2011; Bogdan and Biklen, 2007). Direct observation is an important source of

evidence in qualitative research but is not usually the primary data collection method in an investigation; providing only additional information about the topic being studied (such as ‘relevant behaviours’ and ‘environmental conditions’) (Gillham, 2008). However, direct observations can be conducted in a formal or informal manner (Gillham, 2008), the former being conducted as part of an investigation’s protocol in a particular setting during a particular period of time (for example, the observation of a specific classroom-based lesson) and the latter being carried out in a casual fashion throughout the field visit (for instance, observations made whilst walking down a corridor, moving from one formal observation site to another) (Gillham, 2008).

Direct observations in qualitative research are usually recorded in the form of a written account (Gillham, 2008; Wragg, 1999). The written account may contain words, codes, symbols or a combination of all three and generally covers all the events available during the time of observation (except when critical incidents are sought) (Gillham, 2008; Wragg, 1999). This makes direct observation an efficient and effective method of data collection as it is available for discussion immediately after the observation has finished (Wragg, 1999).

Participant observation, on the other hand, allows the qualitative researcher to actually participate in events and activities within the study; assuming a variety of roles (Cohen *et al*, 2011; Bryman, 2008; Lofland *et al*, 2006; Lofland, 1976). In participant observation the researcher can view the ongoing social behaviour of a group or organisation from an ‘insider’ perspective; gaining access to events that may previously have been inaccessible (Bryman, 2008). However, potential

problems with participant observation include, to name but a few: (i) the researcher may become too immersed in the group or organisation and have difficulty maintaining an objective stance; (ii) the researcher's presence may distort and effect the phenomenon under study; (iii) the researcher may find it difficult to be in the 'right place at the right time' in order to participate in or observe particular events if the organisation or group is spread over some distance; and (iv) the researcher may have limited opportunities to take notes in the field, having to write-up events at a later date and rely more heavily on memory (Lofland *et al*, 2006; Lofland, 1976; Becker, 1958). A trade-off between these potential biases and the opportunity for rich data needs to be considered prior to the adoption of this method in a qualitative study (Cohen *et al*, 2011).

3.2.4 Direct Observation Procedures

Lessons were selected for observation by the author in negotiation with the respective PE heads of department at the schools concerned. The choice of lessons to observe was dependent on the day and time of the observation, the PE timetable at the school concerned, and the willingness of staff and pupils to be observed. This procedure enabled a wide range of activities and age groups to be investigated across the year as well as different members of staff and pupil groups (Appendix 3, Tables A1 and A2, page 252).

Forty-two lesson observations were undertaken during one academic school year. The lesson observations were evenly distributed across the three school terms (Autumn, Spring, and Summer) with fourteen observations conducted in each

term. All lesson observations were carried out by the author. Thirty-five permeated and seven discrete lessons were observed. No combined lesson observations were made as a combined approach is the combination of both the permeated and discrete methods within the curriculum (see section 3.7.2 for further discussion, page 82).

Of the forty-two lessons observed, thirty (7 discrete and 23 permeated) were considered 'formal' lesson observations; that is, field notes were used to record information. The remaining twelve (all permeated) lesson observations were termed 'informal' because field notes were not allowed to be taken. This was at the request of the teachers responsible for those particular lessons and was due to specific circumstances that arose once the lesson had started; even though the lesson was part of the formal schedule of lesson observations for that day. The absence of a written record during these lessons meant that they could not be included in the analysis. Formal direct observations provide an important source of primary data (Creswell, 2009), while informal direct observations provide additional information about individuals that inform the focus of future direct observations (Creswell, 2009).

A direct observation format was adopted for all lesson observations (Patton, 2002) with an observer-as-participant role due to the degree of involvement in the social setting (Gold, 1958). For example, the researcher was present within the social setting to observe participants and as such was involved in the lesson but not to the extent that this involved the establishment of rapport or relationships with participants. During some observations a brief interaction

occurred with participants, such as when returning equipment to them, whereas in other observations no interaction was had directly with the participants. In addition to this, the focus of the direct observations was specific to HRE-related material, events or incidents. Other physical, human, interactional, and programme aspects of the settings were also observed to support the HRE-focused elements (Morrison, 1993).

The field notes that were taken during the formal lesson observations comprised two sections; descriptive field notes were made on the left-hand side of the paper and reflective field notes on the right (Bogdan and Biklen, 2007). The descriptive field notes consisted of an ongoing written account of all aspects of the lesson, logged in order of occurrence (Wragg, 1999; Lincoln and Guba, 1985). These field notes recorded, in a neutral tone, the processes, interactions, and activities that took place in the lessons (Wragg, 1999); they were structured in a manner that attempted to record ‘everything that was going on’ (Cohen *et al*, 2011; Adler and Adler, 1994), but with a specific focus on HRE. The reflective field notes, on the other hand, included subjective comments or ‘reflections’ (Bogdan and Biklen, 2007). These interpretive notes accompanied the written chronological account and expressed either a positive, negative, or neutral judgement (Wragg, 1999), thus providing additional content, insight or speculation about meaning (Bogdan and Biklen, 2007; Patton, 2002). An example of the lesson observation field notes can be found in Appendix 4 (page 253).

3.2.5 Methods of Data Collection Summary

Interviews and direct observations are two methods of data collection that complement each other well (Creswell, 2009, 2007). Direct observations allow information to be recorded in real-time, thus enabling events to be placed in context, while interviews provide insight into thoughts and opinions on specific matters (Creswell, 2009, 2007). Additionally, direct observations allow first-hand experience with the participants, while interviews provide knowledge about prior histories (Creswell, 2009, 2007). An example of the interrelatedness of data collection methods is given by Stake (2005) who states: “What details of life the researchers are unable to see for themselves [by direct observation] is obtained by interviewing people who did see them ...” (p.453) [my insertion].

Collecting data for a qualitative study does not operate in a linear fashion and there are usually no clear stages (such as, planning the data collection, gaining access to the field site, data gathering, analysis, and write up) (Rossman and Rallis, 2012; Patton, 2002). While a research plan may be formulated for the data collection part of the investigation, very rarely do procedures follow a straightforward path (Rossman and Rallis, 2012). Some opportunities for data gathering present themselves during the study, while other chances become terminated (Rossman and Rallis, 2012); for example, the chance to interview a previously unavailable individual may present itself as the opportunity to access a particular lesson, for observation, becomes denied due to unforeseen reasons. The ability of a qualitative researcher to be able to anticipate events and adapt to the surrounding environment is essential for data collection to be successful (Patton, 2002).

3.3 Sampling

It is important for qualitative researchers to outline their sampling selection processes and justify why they select certain people, events and situations but eliminate others (Burgess, 1984). The different sampling techniques available to qualitative researchers will be outlined followed by their application to the research study in terms of selection of research sites and the participants within these sites.

Burgess (1984) claims that:

It is never possible for the researcher to be able to study all the people and all the events in a social situation. While a researcher may have general access to a research setting, it may not automatically mean that access is given to every person and every event on a research site. Furthermore, there may well be restrictions on time and money with the results that sampling procedures become essential. The events, situations and people which a researcher decides to observe usually depend upon the researcher's theoretical and substantive interests which will result in the use of different sampling strategies (p.54).

In addition, Merriam (1998) suggests that a sample, "... might be selected for its very uniqueness, for what it can reveal about a phenomenon, knowledge we would not otherwise have access to" (p.33). This view seems to hold for many qualitative researchers (Bryman, 1988; Burgess, 1984) who agree that selection of an unusual or unique sample, as opposed to typical samples, often leads to rich information: which may, (i) help illustrate matters; (ii) extend emergent theory; and (iii) provide examples of polar types.

Most sampling approaches in qualitative research tend to utilise non-probability forms of sampling (Newby, 2010). That is, particular units of analysis (for example, people, events, organisations, or processes) are chosen according to pre-selected criteria that directly relate to the research question (Newby, 2010). These approaches are typically referred to as ‘purposive sampling’ because they have a particular objective or purpose (Robson, 2011; Bryman, 2008).

Sample sizes for purposive sampling will often vary according to the research design, question or objective (Rossman and Rallis, 2012; Robson, 2011). Purposive sample sizes may also be dependent upon time and resources and may be fixed or unknown prior to data collection (Newby, 2010), although, sample sizes for purposive sampling are usually determined through ‘theoretical saturation’ (Bryman, 2008; Burgess, 1984). That is, the point during data collection at which no new insights or concepts emerge from the new data that has been collected (Bryman, 2008; Burgess, 1984). As a result, the most successful purposive sampling is that which combines data analysis and review while data collection is being carried out (Bryman, 2008).

The four most common purposive sampling methods used in qualitative research are: snowball; theoretical; quota; and specialist group sampling. Snowball sampling involves participants that have already been recruited to a study identifying other potential contacts for the researcher (Bryman, 2008). This is usually achieved through the participant’s social networks, in the belief that individuals with similar attitudes, beliefs or behaviours can be recruited (Newby, 2010). This ‘chain’ continues until the trail goes cold or the desired sample size

has been achieved (Newby, 2010; Burgess, 1984). This purposive sampling technique allows ‘hidden populations’ or ‘hard to reach groups’ to be accessed that may not otherwise be easily accessible to the researcher (Bryman, 2008).

Theoretical sampling is, “... the process of data collection for generating theory whereby the analyst jointly collects, codes and analyzes (sic) his (sic) data and decides what data to collect next and where to find them, in order to develop his (sic) theory as it emerges” (Glaser and Strauss, 1967, p.45). This sampling technique, often used in grounded theory, allows the selection of participants, settings or events to be guided by the emergent theory (Bryman, 2008). The researcher’s data collection and simultaneous coding and analysis, creates conceptual categories, which in turn generates hypotheses (Bryman, 2008). Further sampling is then conducted in relation to these hypotheses and is continued until theoretical saturation of the conceptual categories has been reached (Burgess, 1984). This constant comparative sampling method allows researchers to test their emerging theoretical ideas by extending, modifying or developing existing theory (Robson, 2011; Patton, 2002).

In quota sampling, participants are often recruited to a study based on specific characteristics (Newby, 2010). The researcher enters a research setting (for example, a culture, a location, or a community) and seeks participants that fit predefined criteria (Newby, 2010; Pitney and Parker, 2009). Sampling continues in this manner until a prescribed quota is achieved (Newby, 2010). This quota can be representative of the population being investigated or non-proportional, depending on the research question or design (Robson, 2011; Newby, 2010).

However, despite the fact that quota sampling can be representative of a population it is not usually conducted in a probability-based manner, like random or systematic stratified sampling (Robson, 2011; Newby, 2010). That is, every person does not have an equal chance of appearing in the sample (Robson, 2011). However, the participants selected are usually those who will have revealing insights into the topic being investigated (Pitney and Parker, 2009).

Specialist group sampling involves recruiting participants to a study that have a particular understanding, insight or experience that directly relates to the research question (Newby, 2010). In this technique, the researcher selects participants based on certain criteria (for example, age, sex, occupation or specialist knowledge) with the intention of obtaining a rich understanding of the phenomenon being investigated rather than a representative sample (Newby, 2010). This form of sampling is often known as judgement sampling as the researcher formulates an opinion as to whether participants will conform to the specific criteria (Burgess, 1984). Specialist group sampling is an efficient method for seeking participants that are in the best position to provide the information necessary for a study, although the researcher needs an awareness of the population from which the participants are drawn to ensure that they meet the distinct criteria (Burgess, 1984).

3.3.1 Multiple Sites

Qualitative research can involve the investigation of a single research site or multiple sites (Robson, 2011; Bogdan and Biklen, 2007). It is widely acknowledged (Cohen *et al*, 2011; Creswell, 2009; Freebody, 2003; Patton,

2002; Merriam, 1998; Lincoln and Guba, 1985) that a single site design can produce a rich source of data through the exploration of the complex interactions between a phenomenon and its context. However, many authors (Robson, 2011; Bogdan and Biklen, 2007; Meyer, 2001; Leonard-Barton, 1990; Bryman, 1988; Burgess, 1984) believe that a multi-site study has more advantages over the single site design.

Within a qualitative design the use of multiple sites allows richer sources of data to be gathered than from a single site (Cohen *et al*, 2011), as comparisons can be made across sites as well as within sites. Using multiple sites also adds confidence to findings by limiting observer biases and therefore enhancing external validity (Miles and Huberman, 1994). Furthermore, there is less likelihood of, “... exaggerating the salience of a datum”, or “... misjudging the representativeness of a single event ...” (Leonard-Barton, 1990, p.250). The decision to use either a single or multiple site design in qualitative research ultimately depends upon various methodological considerations; such as sampling, time, context, generalisability, and the phenomenon itself, to name but a few (Bogdan and Biklen, 2007; Meyer, 2001).

3.3.2 Site and Participant Samples

Multiple schools were selected to take part in the study to reflect the diversity of HRE delivery methods available. The school sites and participants were selected using specialist group sampling as it was important for the purpose of the research that teachers and pupils had experience of a different HRE delivery method. This sampling method ensured that a range of HRE delivery methods

(specifically, discrete-only, permeated-only, and combined approaches) that are part of current practice were explored.

Four schools were selected from the partnership schools involved with the Postgraduate Certificate in Education (PGCE) course at the University of East Anglia (UEA) based on their PE departments' HRE delivery method. Of the four selected schools, one was selected to provide an insight into the permeated-only approach, one for the discrete-only approach, and two for the combined approach to PE HRE delivery. One of the combined approach schools provided an insider perspective to the researcher due to the school being the place of employment, while all other schools provided an outsider perspective (see section 3.7.1, page 79 for further discussion). All four schools were mixed-sex state schools. All but one of these schools were classified as 11 to 18 schools; the other being classified as an 11 to 16 school. Similarly, three schools were classified as rural schools and one as a city school. The size of the four secondary schools, in terms of total pupil numbers, were considered to be medium-to-large; with the number of pupils on roll ranging from 810 to 1550 at the start of the research.

Fifteen PE teachers (eight male and seven female) and forty-seven pupils (thirty-five male and twelve female) from four secondary schools in Norfolk participated in the research. The pupils were mixed academic ability and aged 11 to 16 years in Years 7 to 11 (Year 7 = 8; Year 8 = 14; Year 9 = 6; Year 10 = 11; Year 11 = 8). The PE teachers were aged between 22 and 54 years and had a range of experience and responsibilities. All teachers currently delivered the Key

Stage 3 and Key Stage 4 PE curriculum. Although ethnicity data was not formally recorded, the vast majority of teachers and pupils were white.

Teachers were selected for interviews in negotiation with the respective PE heads of department for the school concerned (four teachers were interviewed at the discrete school, four at the permeated school and seven at the combined schools). The teacher selection was based on availability on the day that the researcher visited the school. Pupils were selected for interview by the PE teacher delivering the lesson, and were asked if they wished to participate (15 pupils were interviewed at the discrete school, 14 at the permeated school and 18 at the combined schools). PE teachers were advised to select a mixture of pupils in terms of academic and physical ability. This approach was used as the PE curriculum is experienced by all young people regardless of physical or academic ability, it was therefore important for the purpose of the study to ensure that the perceptions and opinions of all children who may experience the delivery of HRE in schools were represented. Furthermore, this strategy also ensured that the interviews were not used or seen by pupils as a way of opting out of the PE lesson or focused only on those who enjoyed PE and wanted to talk about their experiences.

3.4 Data Analysis

3.4.1 Transcription

After recording an interview, qualitative researchers tend to either transcribe the interview in full or paraphrase the interview into a short report (Gerson and Horowitz, 2002; Drever, 1995). Partially transcribing selective parts of

interviews to form interview summaries rather than transcribing the whole interview has the benefit that it can "... preserve a large proportion of the important information, with a significant economy of effort" (Drever, 1995, p.63). In deciding which method to adopt, researchers must consider factors such as the time it takes to transcribe a full interview (which can be as much as ten times the length of the original interview) and the possibility of missing out on some of the 'nuances' of the interview process if the interview is paraphrased into a short report (Poland, 2003).

All interviews were partially transcribed (Drever, 1995). That is, selective parts of the interviews, which focused specifically on HRE delivery, were transcribed verbatim while other parts that did not contain aspects of HRE delivery were paraphrased into short reports (Drever, 1995). The combination of verbatim transcription and paraphrased reports resulted in interview summaries being produced for each teacher and pupil. The interview summaries were transferred onto an analysis sheet in relation to the particular question answered and the individual concerned, in preparation for coding and analysis (Drever, 1995). Separate analysis sheets were used for the teachers and pupils.

The field notes were transferred verbatim to analysis sheets in preparation for coding and analysis. Separate analysis sheets were used for each lesson observation. The field notes were arranged on the analysis sheet in chronological lesson order and divided into descriptive and reflective field note columns.

3.4.2 Category Definitions

Category definitions were determined prior to data analysis to reflect the focus of one of the central research questions on understanding teachers' and pupils' perceptions of the three different HRE delivery methods. Six categories (Positive Discrete; Positive Permeated; Positive Combined; Negative Discrete; Negative Permeated; and Negative Combined) were created for the interview summaries (based in-part on existing research relating to HRE) so that the data could be organised (Patton, 2002). Although a positive and negative dichotomy was used in the category descriptions, these terms encompass a broad range of views and opinions and are not limited to advantages and disadvantages across a range of magnitudes. A seventh category (Unclassified Responses) emerged from the data as a result of statements that did not fit into one of the six pre-existing categories; that is, statements which did not express a concern about the delivery of HRE or which were ambiguous in nature. The interview summary and lesson observation analysis sheets were coded and analysed using the following seven category definitions:

- 1) Positive Discrete – A statement that expressed a positive leaning towards or favourability for the discrete delivery of HRE and its associated activities.
- 2) Positive Permeated – A statement that expressed a positive leaning towards or favourability for the permeated delivery of HRE and its associated activities.
- 3) Positive Combined - A statement that expressed a positive leaning towards or favourability for the combined delivery of HRE and its associated activities.

- 4) Negative Discrete - A statement that expressed a negative leaning towards or an unfavourability for the discrete delivery of HRE and its associated activities.
- 5) Negative Permeated - A statement that expressed a negative leaning towards or an unfavourability for the permeated delivery of HRE and its associated activities.
- 6) Negative Combined - A statement that expressed a negative leaning towards or an unfavourability for the combined delivery of HRE and its associated activities.
- 7) Unclassified Responses – A statement that expressed neither a positive nor negative leaning towards, or favourability for or against, either the discrete, permeated, or combined deliveries of HRE. This category also included statements concerning the concept of HRE itself which were not related to the method of delivery, as well as any statements that were ambiguous.

3.4.3 Coding and Analysis

The first stage of analysis consisted of examining the sentences and phrases on the analysis sheet and assigning a category to these individual meaning units or statements (Wragg, 1999). It was at this point that a seventh category (Unclassified Responses) emerged from the data as a result of statements that did not fit into one of the six pre-existing categories. Teacher and pupil statements were analysed using these seven categories across and within schools, and within questions.

In the pupil interviews, questions one and two were designed to build rapport with the pupils (icebreaker questions). These questions were focused on PE and HRE activities in general and as a result did not adopt the above seven category coding criteria. The questions were coded in relation to frequency of activity reported. The questions provided useful information about pupils' experiences of PE and HRE activities, even though they were not directly of interest to the central research question.

However, while individual perceptions were important to the research focus, the study also sought to examine the current consensus of perceptions across a range of teachers and pupils. Therefore, once the categorisation had been completed, the statements were grouped according to frequency. This was undertaken in relation to the school and interview summary category. At this stage, links were made with the existing literature. A colleague who was unfamiliar with the data then acted as a critical friend to check the analysis and gave an unbiased opinion regarding its validity (as outlined by Rossman and Rallis, 2012; Lincoln and Guba, 1985). Disagreement regarding analytic decisions resulted in discussions taking place around the interpretations of the data until an agreement was reached. All interview summaries were then re-read in order to check that the categories were correctly identified and the analysis valid and in this way to try to ensure a true representation of the teachers' and pupils' perspectives.

The same process of coding and analysis was conducted for the lesson observation analysis sheets; however, only four of the pre-determined categories (Positive Discrete; Positive Permeated; Negative Discrete; and Negative

Permeated) were used. The Positive and Negative Combined categories were not required because the lessons observed delivered HRE in either a discrete or permeated manner. It was not possible to observe lessons in the combined schools as this would have required the observation of the same teacher delivering both a permeated and discrete lesson to the same class (a 'true' combined approach observation). In addition to this, the Unclassified Responses category was not used for coding because other non-HRE-related aspects observed in the lessons were not considered for analysis; only HRE-related events or situations that related to delivery were used.

3.5 Ethical Approval

Ethical approval for the research was obtained from the School of Education and Lifelong Learning's Ethics Committee at UEA. The headteacher at each of the secondary schools gave permission for the research to be conducted. Teacher and pupil consent was obtained through the headteacher at each of the secondary schools; in their capacity as gatekeepers (Homan, 2001). Furthermore, the teachers and pupils were briefed on the nature and purpose of the research and were informed that they could withdraw their participation from the study at any time. Participants were assured that all information collected would be anonymous and would remain confidential. Pseudonyms were used for reporting all pupil, teacher, and school names. Specifically, the combined approach schools were named North Fen Community High School and Woodside Comprehensive, the permeated-only approach school was named Riverway High School, and the discrete-only approach school was named Foxburgh High School.

3.6 Validity and Reliability

Validity and reliability are important criteria for establishing and assessing the quality of research (Newby, 2010; Bryman, 2008). However, these terms tend to be used within the positivist paradigm and carry connotations of ‘measurement’ associated with quantitative research (Cohen *et al*, 2011; Bryman, 2008). Within qualitative research, the terms ‘credibility’ and ‘dependability’ are more appropriate (Bryman, 2008; Lincoln and Guba, 1985). This is primarily due to the unease that researchers working within the interpretive paradigm have about applying the validity and reliability standards to qualitative research (Cohen *et al*, 2011); especially as qualitative researchers are critical of the view that absolute truths can be determined about the social world and that complete objectivity can be achieved (Bryman, 2008). Despite these interpretive terms drawing parallels with those used in quantitative research, they do not translate exactly and have quite different meanings and criteria (Bryman, 2008).

Credibility can be achieved within qualitative research by ensuring that data collection and analysis are carried out according to good practice and that research findings are submitted to participants of the social world for confirmation (Bryman, 2008; Lincoln and Guba, 1985). In addition, the credibility of qualitative research can be enhanced by using multiple sources to provide different perspectives on the phenomenon being studied. This triangulation method of gathering data has long been established as a technique that can aid in the elimination of bias (through careful monitoring) and to help add ‘weight’ to the findings (Freebody, 2003; Lincoln and Guba, 1985).

Further to this, qualitative research can demonstrate dependability by ensuring that records are kept of the various phases of the research process (Cohen *et al*, 2011; Bryman, 2008). It is not possible to recreate identical circumstances in the social world for replication to be achieved, so it is important that qualitative researchers adopt an audit trail approach (Robson, 2011). That is, records of aspects such as field notes, interview transcripts, selection of participants and analysis decisions should be available for peer auditing to establish whether procedures have been followed (Bryman, 2008). However, due to the frequent large data sets generated from qualitative research, auditing all processes has not been a popular approach amongst qualitative researchers; and the selection of specific processes for auditing is the preferred option (Cohen *et al*, 2011). Other strategies for enhancing dependability in qualitative research include prolonged engagement and persistent observations in the field, member checking, and the use of a critical friend (Cohen *et al*, 2011; Robson, 2011; Creswell, 2009).

Research findings from qualitative studies can be generalised to other situations if enough ‘thick description’ is provided from multiple techniques and perspectives (Bryman, 2008; Lincoln and Guba, 1985; Geertz, 1973). This ‘transferability’ (as it is known in the interpretive paradigm) of unique features of qualitative studies to other similar situations can help to solve new problems, develop emergent theories, inform educational policy making, aid staff development, and provide formative evaluation and within-institutional feedback (Cohen *et al*, 2011; Robson, 2011; Newby, 2010; Lincoln and Guba, 1985; Kuhn, 1962). However, it is difficult to say whether findings in qualitative research will hold in another context or at some other time, as the main goal from

such research is usually ‘depth’ of understanding rather than ‘breadth’ (Cohen *et al*, 2011; Robson, 2011; Bryman, 2008). A practice which has become common in qualitative studies is for researchers to allow ‘others’ to make judgements and draw comparisons from research findings (Bryman, 2008); however, this can only be achieved if ‘thick description’ is provided for the transfer of themes or trends to other situations, events, or settings (Geertz, 1973).

The trustworthiness and authenticity of qualitative research is further enhanced through the use of multiple sites (as mentioned in section 3.3.1) (Meyer, 2001). When multiple sites are used in combination with multiple perspectives, and a number of the credibility and dependability strategies, then the likelihood of ambiguity, error, or bias entering the qualitative research process is severely reduced (Cohen *et al*, 2011; Robson, 2011; Bryman, 2008). The use of multiple sites and perspectives along with the associated strategies can add confidence to research findings by controlling or minimising the ‘threats’ to credibility (and dependability), but can never completely eliminate them from qualitative research (Creswell, 2009; Norris, 1997; Miles and Huberman, 1994; Bryman, 1988). The adoption of rigorous processes and procedures merely ensures a degree of accuracy of qualitative research findings (Norris, 1997).

3.6.1 Trustworthiness and Authenticity of the Data

The present study contained several features that helped ensure the trustworthiness and authenticity of the data, such as the use of multiple sites and data collection methods, triangulation, and a critical friend. The use of multiple sites and data collection methods enabled several perspectives of the delivery

methods of HRE to be explored than either a single site or single method would have provided. Triangulation across different methods (observations and interviews) and within methods (across teacher and pupil interviews), enabled richer data to be gathered that took into account not only teacher and pupil perceptions and opinions but also the actual HRE practice during lessons. The use of both teacher and pupil interviews provided data from multiple sources about the delivery of HRE in secondary school PE lessons taking into account both ‘teaching’ and ‘being taught’ HRE. Interview participants were asked to confirm at the end of the interview that the views and opinions they had expressed during the interview could be placed on record, this added further credibility to the data as a form of member validation. Finally, a critical friend checked the analysis and gave an unbiased opinion regarding its credibility.

Furthermore, due to the researcher’s dual role as practitioner-researcher, it was important to engage in a reflexive process to acknowledge and understand their own beliefs on HRE delivery methods. From experience of working as a PE teacher, the researcher had developed a preference for the discrete method. However, when constructing the interview guides care was taken with regards to the phrasing of questions and potential probes so as not to convey these personal preferences to the teachers and pupils. The interview guides and probes were checked by an independent researcher for clarity, sequencing and impartiality (Patton, 2002).

In summary, the adaptive nature of qualitative research methodology provides a strong basis for credibility and dependability (Creswell, 2009; Guba and Lincoln,

2005). Being flexible and responsive to various situations allows qualitative research to probe meanings and cover topics from a number of angles, providing findings that are considered trustworthy and authentic (Creswell, 2009). However, it must be said, “Validity enhancing practices do not ensure that research is accurate, correct, certain, ... or any of the other surrogates we use for truth. There are no guarantees, no bedrock from which varieties can be derived” (Norris, 1997, p.175). Issues relating to validity and reliability for the present study are discussed in the ‘Reflections on Method’ (section 3.7).

3.7 Reflections on Method

3.7.1 Insider-Outsider Relations

In the present study insider-outsider relations were complex due to the dual role as a practitioner and researcher and the multiple layers of working within a school but belonging to the wider PE community. The researcher was conducting research in his own school, with teachers from schools with whom he had contact in his professional role, and pupils at both his own and other schools. In order to understand outsider-insider relations Elliott (1988) identified five dimensions of belief that are used to consider the effects of outsider-insider relations on research.

The ontological dimension, concerning beliefs, assumptions and relationships, was relevant to the present study. The topic of interest, HRE, was related to the researcher’s work as a practicing PE teacher and evolved from several years of experience from working with and observing variable and often poor delivery of HRE in schools. This prior experience can create assumptions and ideas about

what the research may find (Drake and Heath, 2008) and therefore provide a potential source of bias.

Furthermore, the relationships between the researcher and participants were complex and often characterised by elements of insider and outsider. Although being an insider at one of the schools and to the PE community had the advantage of providing access to participants, this created complexity in the relationships with participants. For example, in one of the combined schools the researcher was an insider due to the school being his current place of employment, but in other schools the researcher was an outsider. However, the researcher could have been considered an insider with regards to some of the teachers at other schools as they had established relationships with him through their professional work, but for other teachers the researcher was an outsider as the researcher had not met them in their professional lives prior to the research.

Similarly, the relationship with pupils is characterised by a complex outsider-insider relation. When conducting research with young people adults can achieve an insider perspective through the use of memories of their youth and experiences. Nevertheless, this can be influenced by the relevance of age to the topic being studied, the shared conceptualisations of youth and the perception of how far the researcher is from the age of the participants (Raby, 2007). With this in mind, the researcher could be considered to be an outsider in relation to the pupils in the study. However, as some pupils in the research may have been taught by the researcher in previous years or believe they could be taught by the researcher in their future PE lessons, the researcher could be considered to hold

an insider perspective. It was important for the researcher to be aware of these dual and often competing roles and perspectives when conducting the research and the likely influences on the data collected, such as the willingness or reluctance to provide and elaborate on information during interviews.

The political dimension, concerning ideological characteristics, was also pertinent to the outsider-insider relation in the present study. The researcher's experience of delivering HRE and working within a department with a policy to deliver HRE through the combined method provided an insider perspective to the combined approach. This had the advantage of allowing the researcher to experience both the permeated and discrete HRE delivery methods but could also provide a potential source of bias through the forming of judgements about the delivery methods from personal experience. It was therefore important to acknowledge the outsider researcher and insider practitioner roles and ensure they were separated when conducting the research.

However, this insider perspective at one of the combined schools provided an interesting consideration with regard to the theory-practice dimension. In this school, the researcher was trying to create an outsider perspective to allow teachers to feel comfortable during interviews with divulging information about their experiences of and preferences for delivering HRE, some of which may be based on their current place of employment. The role of the researcher as an insider colleague may have influenced the willingness of colleagues to share negative comments and experiences due to the joint place of employment. It was

important for the researcher to be aware of this during the conducting of the interviews and any influence this may have had on the data collected.

3.7.2 The Combined Approach

The combined approach to delivering HRE provides a challenge for research in this area. In order for a school to adopt a combined approach to HRE they will use both the permeated and discrete methods of delivery. However, in any specific lesson, a teacher or pupil will only be experiencing either the permeated or discrete approaches as it is the combination of both within the curriculum that provides the combined approach to delivering HRE. This unique aspect could be a potential limitation of the study as the combined approach cannot be observed as distinct from the other two approaches as they (permeated and discrete) cannot coexist during a single PE lesson. Therefore, no combined lesson observations could be made. In the combined schools both discrete and permeated lessons were observed to show that a combined approach was used. However, due to the constraints placed on the researcher with regards to time and access to schools (see section 5.5, page 199 for discussion) it was not possible to observe the same teacher delivering both a permeated and discrete lesson to the same class (a ‘true’ combined approach observation). Nevertheless, the combined approach was included in the present study as it is a recognised HRE delivery method (Harris, 2009, 2000a) and as such the views and opinions of teachers and pupils on the method were deemed important to the research to ensure HRE delivery methods were fully explored.

3.7.3 Interviews with Pupils

The nature of the PE context and the range of activities and different settings that pupils participate in during lessons meant that interviews with pupils were conducted in sports halls, gymnasiums and on the sports field. Tammivaara and Enright (1986) highlight that it is important to create a natural setting for interviews with children to reduce formality, avoid power relationships and encourage openness in responses. However, there was a need to minimise the distractions to pupils while the interviews were being conducted so that the children were focused on their responses. In the present study, this balance between creating a natural setting and ensuring focus on responses was achieved through taking the children away from the lesson (in a sports hall alcove or to the side of the pitch) and positioning the child so that they could not see the lesson being delivered. This enabled the child to still feel a part of the natural PE setting but allowed them to focus on their responses.

Furthermore, conducting interviews with children in educational settings whereby they are not participating in a lesson can be a potential source of bias, due to eagerness (or not) of pupils to return to their lessons. This could have been exacerbated by conducting interviews in the natural setting rather than removing the pupils from their lessons. In the present study, the advantages of conducting interviews in the natural setting outweighed those relating to removing pupils from the setting. The researcher sought to address the above issue through working closely with teachers to create a context for the study so that they communicated to their pupils the importance of the study and fully concentrating on their answers when being interviewed.

3.8 Chapter Summary

Chapter 3 has provided an overview of the approaches used within the present study to explore the key research questions which aim to provide an insight into pupils' and teachers' perceptions and 'in situ' practice of HRE delivery methods. Direct observation and semi-structured interviews were identified as the main methods of data collection to allow the research questions to be addressed. Issues concerning the validity and reliability of data including complex insider-outsider relations, the observation of the combined approach to delivering HRE and conducting interviews with pupils have provided a context for the subsequent analysis and discussion of the data.

Chapter 4

ANALYSIS AND DISCUSSION

4.1 Structure of the Chapter

The analysis and discussion of the results is structured around the three HRE delivery methods, discrete, permeated and combined. The sub-sections of the chapter relate to the teacher interviews, pupil interviews and lesson observations. These three sources provide the structure for analysing the key themes that were used in the coding of the data. The final section of the chapter refers to pupils' experiences of PE and HRE activities. Throughout the chapter the findings are discussed in relation to relevant literature. It is useful at this point to provide a reminder of the schools and their delivery methods: North Fen Community High School and Woodside Comprehensive adopted a combined approach; Riverway High School a permeated-only approach; and Foxburgh High School a discrete-only approach to HRE delivery.

Note: The teacher interviews were conducted prior to the implementation of the fourth NCPE (DCSF and QCA, 2007) in September 2008 and as a result, some teachers refer to the 1999 NCPE (DfEE and QCA, 1999) and the term 'activity areas' associated with earlier versions of the curriculum. Reference to the document and term will remain in this chapter, with regards to the teachers' interview summaries, to reflect the time and circumstances when the data were collected. The activity areas are now identified within the range and content areas of the latest NCPE (DCSF and QCA, 2007).

4.2 Discrete Category

4.2.1 Teachers' Interviews

Executive summary. The teachers had a positive view of the discrete approach to delivering HRE. They reported that the designated time slot of a discrete HRE unit of work allowed more in-depth HRE content to be covered. However, they recognised the weaknesses of the discrete approach in that there can be long delays between units of work, its association with fitness testing, the isolation of HRE knowledge from other parts of the curriculum, and the replacement of time in the curriculum that could be spent on other activities. In analysing the results two key themes emerged in the discussion: i) teachers' knowledge, skills and training regarding the delivery of HRE; and ii) the effects on pupils' progression across and within a key stage.

Positive statements concerning the discrete approach to delivering HRE emerged as the most frequently occurring response from the teachers' interview summaries. Negative statements concerning the discrete approach were the least frequently occurring. Across all schools a total of 332 statements were made during the teachers' interviews, the positive discrete category obtained a frequency count (and percentage) of 125 (37.7%), and the negative discrete category a frequency count (and percentage) of 16 (4.8%). The frequency distribution for the teachers' interview statements for each school is displayed in Table 5 (page 87).

The popularity of the positive discrete category was also reflected in the individual schools' frequency counts. Foxburgh High School (discrete-only)

Table 5 – Frequency Distribution: Teachers’ Interview Statements for each School

School	Positive Discrete	Positive Permeated	Positive Combined	Negative Discrete	Negative Permeated	Unclassified Responses	Total
Foxburgh High (D)	29	17	0	0	14	5	65
North Fen Community High (C)	45	30	12	5	24	17	133
Riverway High (P)	16	11	3	6	6	4	46
Woodside Comprehensive (C)	35	18	9	5	14	7	88
Total	125	76	24	16	58	33	332

Note: D = discrete-only approach; C = combined approach; P = permeated-only approach

obtained the greatest frequency count in relation to the number of statements made with 29 out of 65 (44.6%). This was followed by Woodside Comprehensive (combined approach) with 35 out of 88 (39.8%), Riverway High School (permeated-only) with 16 out of 46 (34.8%), and North Fen Community High School (combined approach) with 45 out of 133 (33.8%). Further to this, for all but Riverway High School, the negative discrete category was the least popular response in the individual schools' frequency counts. Riverway High School (permeated-only) produced the highest frequency count for the negative discrete category in relation to the number of statements made, with 6 out of 46 (13.0%). This was followed by Woodside Comprehensive (combined approach) with 5 out of 88 (5.7%) and North Fen Community High School (combined approach) with 5 out of 133 (3.8%). No statements originated for the negative discrete category from the teachers' interviews undertaken at Foxburgh High School (discrete-only).

The high number of positive discrete and low number of negative discrete statements produced by the Foxburgh High School teachers' interview summaries was not surprising considering the PE department advocated a discrete-only policy for HRE delivery. Furthermore, it is not inconceivable to assume that PE teachers from a school where HRE was only taught discretely may portray the discrete approach in a positive light when interviewed about their views surrounding HRE and its delivery. Mr Scott, from Foxburgh High School, illustrated this point in the following statement:

... you can really go in-depth, a lot more in-depth than with permeated, as with permeated you have to just gloss over it, ... whereas

in fitness [discrete HRE] you can spend a while doing something [an HRE activity] ... I would have a block, definitely.

This positive view by Mr Scott is interesting given that the effective use of any of the methods should provide the necessary depth of content to ensure pupil learning. Teachers' perceptions of the delivery methods may be related to their knowledge of, and confidence to use, the different methods which in turn may be influenced by not only their departmental ethos but also their ITE training. ITE providers interpret the Professional Standards for Teachers (Training and Development Agency for Schools' [TDA], 2007) and the NCPE to determine the HRE content to be delivered and the time allocated to it. This results in variations across providers in the training of PE teachers and may impact on PE teachers' knowledge, understanding and confidence to use the different HRE delivery methods effectively in their practice. Furthermore it is interesting that Mr Scott used the term 'fitness' when referring to HRE as this reflects a narrow interpretation of the concept. This was common amongst the teachers' interviews and may be a legacy of many PE teacher's prior educational training (usually through an undergraduate sport science degree prior to an ITE programme) and the bio-physical view of health that this developed (Fox and Harris, 2003; Colquhoun, 1994).

The frequency counts for Riverway High School in the positive and negative discrete categories were surprising given that the school's PE department delivered HRE through the permeated approach. It generated its highest frequency of statements (34.8%) for the teachers' interview summaries in the

positive discrete category. An example of such a statement was given by Mr Rayner who strongly defended the discrete approach:

... it's easier to deliver it [HRE] as a block ... you can concentrate on aspects and because there's such a wide variety of health and fitness and there are such a wide variety of things you can cover, drip feeding it [permeated approach] ... is difficult to get over the amount of information that you want to, so doing it in a block you can ... use a lesson on cardiovascular fitness, you can use a lesson on ... methods of training, principles of training, how much you should exercise for a week and things like that.

The school also produced the same number of statements in the negative discrete category (13.0%) as the negative permeated category, which meant that overall the discrete delivery of HRE was the most popular in the school. Mr Austin, from Riverway High School, explained why he did not favour discrete HRE: "If you teach in a block, then pupils don't cross it over to other things, in other PE lessons". The linking of HRE knowledge to other aspects of PE is important when considering that one of the aims of HRE is to help young people develop knowledge, skills and understanding for later life. It is this connection that will enable young people to lead, and make healthy, active lifestyle choices in the future. The negative statement above supports the point made by Harris (2000a), who suggests that one of the limitations with the discrete approach is that, "HRE may be seen in isolation and not closely linked to the PE activity areas" (p.41). However, discretely delivered HRE could incorporate links with a variety of PE experiences if teachers possess the knowledge, skills and understanding to plan effective discrete units of work.

Although Mr Scott and Mr Rayner used different HRE delivery methods in their professional lives, both teachers recognised that one of the strengths of using an in-depth focused unit of work is that it gives HRE a real identity within the PE curriculum. This provides evidence from PE teachers which support the view held by Harris (2000a), who believes that the specific focus obtained from delivering HRE in a discrete fashion will ensure that it, "... does not become lost or take second place to other information. [In this format] HRE is less likely to be regarded as an assumed by-product of PE lessons", (p.41) [my insertion]. Mr Cashmere, a PE teacher from North Fen Community High School who usually adopts a combined approach to delivering HRE, echoed the above comments with regards to the identity of HRE as a discrete method. He emphasised the identity benefit that discrete HRE can offer the pupils in the following statement: "... to do it in a block is good because they [the pupils] really begin to focus in on what the aspect is, so they know that when they turn up [to a discrete HRE lesson] they're going to learn all about health and fitness".

Interestingly, Riverway High School which delivered HRE in a permeated-only format had a similar percentage of statements for the positive discrete category to the two schools, North Fen Community High School and Woodside Comprehensive, which delivered HRE in a combined method. This finding illustrates the incompatibility that can be evident between a teacher's professional opinion on HRE delivery methods and the departmental practice they have to adopt. This emphasises, therefore, the importance of establishing teachers' perceptions of HRE delivery methods and preferences for practice, rather than simply reporting the provision in schools, as previous research had

done. Furthermore, it is interesting that the two schools which adopted a combined method with regards to HRE delivery and supposedly allocated equal weightings to the two methods (permeated and discrete) in terms of PE curriculum time in the schools both had their highest scores in the positive discrete category and their lowest scores in the negative discrete category for the teachers' interview summaries.

A potential explanation for the similar high frequency counts for the positive discrete category amongst the schools adopting the permeated and combined delivery approaches for HRE, and within the combined approach schools themselves, could be the identity and value placed on the discrete delivery of HRE by PE teachers. According to Armour and Jones (1998), PE teachers strive for the Holy Grail within physical education, that being, the promotion of lifelong health and fitness amongst young people. The designated time slot which PE teachers have with discretely delivered HRE, in terms of conducting some meaningful health and fitness work, may well be a reason for the strong positive response to this category from the teachers' interview summaries, regardless of their departmental delivery method.

This point is further substantiated by Harris (2000a) who claims that the strength of discrete HRE is that it, "... is perceived as important through having its own time slot and identity. The value and status of the associated knowledge, understanding and skills are raised", (p.41). Similarly, Mr McDowell from Woodside Comprehensive provided additional support for this approach when he summarised the value and passion he had for discrete HRE:

I do firmly believe that schools should have discrete health and fitness education for children and I'm talking about, not talking just in terms of a block of providing a programme which provides knowledge and understanding for students, but a programme where they are physically working across a range of fitness areas and physically working in demanding situations, we're not talking about punishing, we're talking about children working at their own ... level of ability as they do in all areas of curriculum but actually areas which are physically challenging them ... they're learning what it's like to actually raise the heart rate and what it's like to work a muscle repeatedly and so on.

Nevertheless, as the teachers at the two schools delivered a combined approach to HRE, it was safe to say they were probably aware of the strengths and weaknesses of both methods. One of the weaknesses of the discrete method of delivering HRE, according to Mr Kent from Woodside Comprehensive, lay in the image it portrays:

... there is a tendency to just do tests, for example, one week bleep test, one week Harvard step test, one week Cooper run ... that puts a lot of children off. ... pupils associate health and fitness with fitness testing, not good for lifelong learning.

On a similar note, Miss Saunders, from North Fen Community High School, outlined her concerns with the discrete approach to delivering HRE: "The disadvantage of a block is that it's not always viewed as a positive activity by students and I don't want to turn them off PE, doing pure exercise doesn't turn them on". These teacher perspectives suggest that little has changed within HRE practice in schools with the image of discretely delivered HRE being linked to fitness, pure exercise and testing, indicating a narrow interpretation. According to Cale (1996) this image of doing only exercise and fitness testing was a

common myth surrounding discretely delivered HRE during its inception and has now all but disappeared. Although it must be noted that some PE teachers (usually males but not exclusively) are still inclined to favour formal fitness testing and fitness-orientated programmes during discrete HRE lessons (Harris and Penney, 2000). The teachers' comments suggest that there is still some inclination to view discretely delivered HRE in this manner, which when coupled with the tendency for PE departments to use the term 'fitness' within the definition of the unit of work, may negatively impact on pupils' perceptions of this aspect of the curriculum. Furthermore, this perception could be exacerbated by some teachers' focus on components of fitness, pure exercise and fitness testing as the key elements of a discretely delivered HRE unit of work.

The notion that discrete HRE is sometimes synonymously linked with fitness testing is disappointing, according to Harris (2000a), as, "... some children view fitness tests as painful, negative experiences" (p.25). This was also recognised by Mr Harper at Woodside Comprehensive who claimed that, "... sessions on just strength, just agility ... some kids will be turned off by it". However, Green and Lamb (2000) expect this practice of fitness testing in discrete HRE to continue as it offers activities for the pupils that can easily be performed and measured, as well as being easily monitored by the PE teacher. In this instance, the practicalities of delivering discrete HRE far outweigh any philosophical considerations (Green and Lamb, 2000). Moreover, many PE teachers enter the profession from a sport science background that promotes testing as an accepted norm for practice. It is therefore not surprising that when teachers, who may have received little, if any, HRE content in their ITE programme are faced with

delivering HRE material that they draw upon their prior undergraduate educational knowledge, leading to the poor perception of discrete HRE.

A further problem of delivering HRE only through a discrete approach is highlighted by Harris (2000a), who claims that, "... HRE knowledge, understanding and skills may be delivered over a period with long gaps in between, which is problematic in terms of cohesion and progression ..." (p.41). Another problem with the discrete approach is that if a school only delivers HRE through a specific unit of work then another sport will have to be omitted from the timetable in order for it to be included; something that can have an adverse affect on the PE activity areas (Harris, 1997). This was supported in the present study by Mrs Murdock, from North Fen Community High School (combined approach), and was expressed through her rhetorical question reported in the teachers' interviews: "... to what extent will other sports be missing out during curriculum time?".

However, despite this comment and although the narrow interpretations and misunderstandings of discretely delivered HRE, which include forced fitness regimes, are well documented (Cale and Harris, 2009a, 2005a, 2005b; Harris, 2000a, 1998a; Cale, 1996; Stratton, 1995; Fox and Biddle, 1988), very few statements in the present study were made to this effect. Furthermore, Green and Lamb (2000) believe that the preference shown by PE teachers for discretely delivered HRE has an historical context:

... despite being aware of the requirement for permeation of HRE throughout the six activity areas of NCPE, there is little evidence that

teachers have, in practice, made any substantial move away from the preferred delivery of HRE; that is to say, in concentrated 'blocks' The 'block' approach emerged as the 'traditional' method of delivery prior to the emergence of NCPE and has remained popular, in part, for pragmatic reasons; for example, ease of time-tabling and delivery, but also as a means of allaying concerns among teachers regarding the identification of suitable opportunities for, as well as the delivery of, HRE material in some activity areas such as games ... (p.90).

Furthermore, the within question analysis also highlighted the popularity of the discrete approach to HRE. The positive discrete category gained the highest number of statements across all schools, for all but one of the five questions asked during the teachers' interviews. The one exception was the question concerned with what the teachers thought about the current position of HRE within the National Curriculum. For this question, the positive discrete category produced the second highest number of statements with 18 (26.1%) out of 69. This was only two statements less than the positive permeated category. The negative discrete category produced a low number of statements across all schools, for all five questions asked during the teachers' interviews. The category had the lowest number of statements for three of the five questions. The frequency distribution for the teachers' interview summaries for each question is displayed in Table 6 (page 97).

When asked which method of HRE the teachers favoured only 8.4% (9 out of 107 statements) had anything negative to say about the discrete method of delivering HRE. The positive discrete category had the highest number of statements for this question with 44; followed by 25 statements for the positive permeated category and 17 statements for the negative permeated category. The difference between the statements for the positive and negative discrete

Table 6 – Frequency Distribution: Teachers’ Interview Statements for each Question

Question		Positive Discrete	Positive Permeated	Positive Combined	Negative Discrete	Negative Permeated	Unclassified Responses	Total
1	<i>Position of HRE within the NC</i>	18	20	1	1	15	14	69
2	<i>Views on different HRE methods</i>	44	25	8	9	17	4	107
3	<i>Views on contrasting perspectives of HRE delivery methods</i>	26	9	1	2	16	10	64
4	<i>Method that allows knowledge and understanding for lifelong learning</i>	15	13	3	2	5	2	40
5	<i>Method favoured if they were a PE HOD</i>	22	9	11	2	5	3	52
Total		125	76	24	16	58	33	332

categories (35) far outweighed that of the two permeated categories (8) and suggests a preference for discrete HRE amongst the PE teachers in the present study.

One of the few PE teachers to mention something negative about discretely delivered HRE was Miss Saunders, from North Fen Community High School (combined approach). She believed that HRE should be delivered through the combined method and stated why a discrete-only approach was problematic: “If you don’t use it in relation to other sports, apply it, then that knowledge is lost”. This supports Harris (1995) who reported that minimal learning can occur during discretely delivered HRE:

One would have to question the educational value of half-term blocks of cross-country, aerobics or circuit-training, under the guise of HRE, which involve a minimal cognitive element and add little to a pupil’s knowledge or understanding of HRE concepts” (p.31).

Nevertheless, Green (2004, 2003, 2002) believed that discrete HRE can deliver knowledge, understanding and skills for lifelong participation in physical activity providing it incorporates recreationally-orientated sports of lifestyle activities, such as walking, swimming, cycling, weight training and aerobics.

The results for the positive discrete category for the question about the current position of HRE within the National Curriculum may be attributed to the absence of the concept of HRE from the NCPE since 1992. In other words, when the PE teachers were asked about their views and opinions on the current position of HRE within the National Curriculum, discretely delivered HRE may not have

been something that was at the forefront of their thinking; due in part to the present policy of having to teach knowledge and understanding of healthy, active lifestyles across a range of activities. Furthermore, numerous authors (Cale and Harris, 2009a, 2005a, 2005b; Fox and Harris, 2003; Penney and Evans, 1999; Fox, 1992) have raised concern over the lack of a separate HRE programme of study within the NCPE. Without a formal and explicit programme, some (Penney and Evans, 1999; Fox, 1992) believe that health-related issues could be overlooked and neglected.

This view was also highlighted by some of the PE teachers during the interviews. Mrs Murdock, from North Fen Community High School, gave her opinion about elevating HRE to the status of having its own area within the National Curriculum: "... if the government are really serious on the drive for increasing the fitness of young people, then maybe that's what they ought to do". Nevertheless, Mrs Hayden who taught discrete HRE at Foxburgh High School, while agreeing with Mrs Murdock, reported in a more dispirited manner on the topic: "It's a shame actually, I think it's better taught in its own right than across the curriculum". On the other hand, Mr McDowell's response was more upbeat regarding the future of discrete HRE within the National Curriculum: "It wouldn't surprise me at all if actually exercise, or health and fitness, does become an area of study in its own right in the National Curriculum, I'd certainly welcome it".

The above three statements by the PE teachers in this study are in partial agreement with those of Cale (2000a). In her study, Cale (2000a) reported that

PE heads of department portrayed HRE in a positive light. According to Cale (2000a), “Most believed that it was an important area of the PE curriculum and that “it should be statutory” and that it “warrants maximum effect”,” (p.162). In the same study, interview data for the PE heads of department led Cale (2000a) to also conclude that, “... the preferred method of delivery was through a combination of approaches”, (p.163). The variation between the data in this study and the study by Cale (2000a) could be explained by the different participant samples. For example, PE teachers in the present study are not constrained by the multiple roles and influences that a PE head of department experiences, in terms of delivery, planning and management.

Together, these findings extend previous research by allowing PE teachers to express their own views and opinions on the subject of HRE and its delivery and not merely stating what takes place from the perspective of a PE head of department (Fairclough, 2002; Fairclough *et al*, 2002; Harris, 1995). Although the preference that teachers show for the discrete method in the present study is aligned with previous research whereby, for example 39% of male heads of department, 60% of female heads of department (Fairclough, 2002; Fairclough *et al*, 2002), and 78.3% of PE heads of department (Harris, 1995) reported delivering HRE in a discrete manner, the results are based on perceptions; thus the information obtained may or may not reflect the actual delivery method in the school concerned. Furthermore, the data were obtained through interviews, whereas in the studies by Fairclough (2002), Fairclough *et al* (2002), and Harris (1995) the information was gained through a postal questionnaire. The method

used thus allowed for a more in-depth exploration of PE teachers' views and opinions about the range of HRE delivery methods.

In summary, regardless of the schools' HRE delivery method, the main findings were that the PE teachers identified with, and placed greater value on the discrete method of delivering HRE in terms of promoting lifelong health and fitness, something that is considered to be the Holy Grail within PE (Armour and Jones, 1998). Very few PE teachers had anything negative to say about the discrete method of delivering HRE. The PE teachers reported that the discrete delivery of HRE provided a designated time slot in the curriculum where meaningful health and fitness could be conducted. However, the few PE teachers that did make negative statements about the discrete approach reported that: (i) long gaps occur between delivery periods; (ii) pupils associate the method solely with fitness testing; (iii) the method replaces other sports on the curriculum; and (iv) with this method, HRE may be seen in isolation. They also reported narrow interpretations and misunderstandings traditionally associated with discrete HRE delivery. However, they were also concerned that without a more formal or explicit programme for discrete HRE within the PE curriculum that health-related issues may be lost, or at least, be overlooked.

4.2.2 Pupils' Interviews

Executive summary. The pupils also had a positive view of the discrete approach to delivering HRE. They liked being able to concentrate on only HRE and not have to consider other PE activities at the same time. There was only one negative comment produced by the pupils regarding the discrete approach and

this related to the long gap between units of work that can occur with this approach. In analysing the results two key themes emerged in the discussion: i) the contribution of pupil perspectives to the understanding of pupils' HRE experiences, and ii) the effects on pupils' progression across and within a key stage.

The pupils' interview summaries, in agreement with the statements obtained from the teacher interviews, also identified the positive discrete statements as the most frequently occurring and the negative discrete statements as the least frequently occurring response. Across all schools a total of 71 statements were made by pupils, the positive discrete category obtained a frequency count (and percentage) of 25 (35.2%) and the negative discrete category a frequency count (and percentage) of 1 (1.4%). The frequency distribution for the pupils' interview statements for each school is presented in Table 7 (page 103).

In the individual schools' frequency counts the positive discrete category was the most popular response for pupils at Foxburgh High School (discrete-only) and Woodside Comprehensive (combined approach). Foxburgh High School obtained the greatest percentage (44.4%; 8 statements out of 18) of positive statements for the discrete approach, as it did for the teachers' interview summaries. This was followed by North Fen Community High School (combined approach; 35.7%; 10 statements out of 28), then Riverway High School (permeated-only; 33.3%; 3 out of 9 statements) and finally Woodside Comprehensive (25.0%; 4 out of 16 statements). The number of statements made for the positive discrete category by the pupils at both North Fen

Table 7 – Frequency Distribution: Pupils’ Interview Statements for each School

School	Positive Discrete	Positive Permeated	Positive Combined	Negative Discrete	Negative Permeated	Unclassified Responses	Total
Foxburgh High (D)	8	4	0	0	6	0	18
North Fen Community High (C)	10	11	1	0	3	3	28
Riverway High (P)	3	3	0	0	1	2	9
Woodside Comprehensive (C)	4	3	3	1	4	1	16
Total	25	21	4	1	14	6	71

Note: D = discrete-only approach; C = combined approach; P = permeated-only approach

Community High School and Riverway High School were similar to those obtained in each school for the positive permeated category (North Fen Community High School, 11 out of 28 statements; 39.3%; Riverway High School, 33.3%; 3 out of 9 statements). The only school to obtain a statement for the negative discrete category was Woodside Comprehensive. The other three schools did not produce any statements for this category.

Given the tendency for discrete approaches to HRE to sometimes be associated with fitness testing, forced fitness regimes and directed activity with minimal learning, it was surprising that only one statement was produced against discrete HRE. James, a Year 9 pupil from Woodside Comprehensive (combined approach) emphasised why he disliked the discrete approach to HRE: "... doing it for one hour at a time is too much ... it's boring in a block ... I don't like the fact that you do a block and then you don't do any more until next year". This provided a pupil perspective to support the view held by Harris (1997), who claims that discretely delivered HRE can fragment and distort the PE curriculum; especially if there are long gaps between specific units of work. The length of time between discrete HRE units of work can affect pupils' progression within and between key stages (Harris, 2009, 2000a). Typically, traditional discretely delivered HRE blocks occur a year apart, meaning that pupils are likely to find it difficult to recall information that has not been reinforced. This could lead to much repetition of content between school years in order for progression of material to occur and a cohesive HRE curriculum to be provided. Furthermore, while most concerns involving negative attitudes to discrete HRE in the literature tend to be linked to fitness testing within the specific unit of work (Jones and

Cheetham, 2001; Figley, 1985) and the pain and discomfort associated with such testing (Lake, 2001; Harris, 2000a), this was not supported by the views of the pupils in the present study.

Pupils from the present study had a tendency to portray HRE in a positive light, especially with regards to the discrete delivery approach. An example of a pupil's perception of discrete HRE was given by Robert, a Year 10 pupil from Woodside Comprehensive (combined approach). He emphasised the importance of having a specific HRE unit of work and being able to concentrate on just one aspect during a lesson stating:

I think you get more, more out of it ... just like a fitness lesson [discrete], but then you're focusing on fitness, you've got your mind, you know, set on what you're doing, but if you do it like with, if you incorporate it in sports [permeated] then your mind's in two places, you don't really take it in as well.

The above statement was a typical response with regards to the positive discrete category from the pupils' interviews across all schools, regardless of the pupils' experiences of HRE in their schools. These findings differ with regards to the emphasis that pupils place on HRE from those reported by Jones and Cheetham (2001). They claimed that many of the pupils in their study failed to see the relevance of HRE in their lives and considered it to be not a very pleasurable experience within PE lessons (Jones and Cheetham, 2001). Furthermore, this notion has been confirmed in previous studies which have revealed that pupils find it difficult to attach any personal relevance to exercise-orientated activities (Underwood, Bird, and Farmiloe, 1993; Underwood, 1988). However, in their

study Jones and Cheetham (2001) discovered that two out of the ten pupils interviewed found some positive experience through HRE.

In addition, the pupils in the study by Jones and Cheetham (2001) were not directly questioned on HRE within their curriculum. HRE responses were derived from general comments the pupils made about PE lessons. Similarly, HRE was not categorised with regards to a particular approach or method. The above made it difficult to determine whether the pupils' comments were directed at a particular approach, activity or HRE *per se*. Moreover, while other studies (Sleap and Wormald, 2001; Chen, 1998; Harris 1994a, 1993) have interviewed pupils about health, fitness and exercise, the delivery of HRE within the curriculum was, again, not a particular focus of this research. Thus the present study, with its focus on HRE delivery methods, provides an important insight into pupils' perceptions of HRE; especially as, "... there is limited awareness of young people's starting point [with regards to knowledge of health and fitness] and it is therefore quite possible that health related fitness or exercise programmes and their related messages are less effective than they could be ...", (Harris, 1993, p.6) [my insertion].

The seeking of pupil perspectives on issues relating to teaching and learning has become popular within the education literature and suggests that consulting pupils can lead to positive outcomes for teachers, pupils and schools (Flutter and Rudduck, 2004). This focus on 'pupil voice' is important for HRE as it enables teachers and schools to develop HRE curricula that foster pupil attainment and promote lifelong physical activity participation. It was interesting that the pupils,

regardless of the HRE delivery method advocated by a school, also stated a preference for the discrete approach to HRE. Similar to the teachers' perspectives, pupils could see the value of being able to concentrate on one aspect at a time and thought that this would promote learning of HRE knowledge. However, if HRE is to deliver on its aim of developing young people with the knowledge, skills and understanding to make decisions about healthy lifestyle choices it would seem that HRE would need to be integral to all PE experiences.

In the analysis of specific questions, the negative discrete category produced the lowest number of statements across all schools, for the questions asked during the pupils' interviews. The only statement for the negative discrete category (out of 42; 2.4%) came when the pupils were asked which method of HRE they preferred. The positive discrete category produced the highest number of statements across all schools for this question with 45.2% (19 out of 42 statements) of statements in this category. This was from pupils across all schools and regardless of the delivery method they experienced in their school. When pupils were asked about what they thought when health-related issues were incorporated into their other PE lessons (permeated), the positive discrete category received the third highest number of statements with 6 (20.7%) out of 29, this was three less than both the positive and negative permeated categories. However, it should be noted that a question concerned with the pupils' views and opinions about health-related issues within other PE lessons would produce responses that have a permeated theme (regardless of whether they are positive

or negative in nature). A breakdown of the frequency distribution for the pupils' interview statements for question 3 and 4 are displayed in Table 8 (page 109).

Typical pupil statements concerning the positive discrete category tended to highlight the functional nature of conducting HRE as a discrete unit of work. For example, Charlotte, a Year 11 pupil from Foxburgh High School (discrete-only), stated: "I like it in a block ... it's easier for us to know what kit to bring to every lesson". Similarly, Matthew, a Year 9 pupil from North Fen Community High School (combined approach) reported: "I ... would like it in a block because I think it takes up too much time if you did it at the beginning of the lesson".

The pupil in the example from the combined school would have experienced both permeated and discrete HRE delivery. It is therefore interesting that he preferred discrete HRE not because of the benefits that it can offer but because the experience of permeated HRE that he described suggests undesirable practice. His focus on permeated HRE taking up too much time at the beginning of the lesson suggests that the permeated HRE in this combined school was not delivered effectively through integrating it into relevant aspects of the lesson. HRE using undesirable practices, such as including HRE content only at the start of the lesson, is unlikely to provide a high quality pupil experience. Placing too much emphasis on delivering HRE information through warm-ups has been criticised as contributing to narrow interpretations of HRE (Cale and Harris, 2009a).

Table 8 – Frequency Distribution: Pupils’ Interview Statements for Question 3 and 4

Question		Positive Discrete	Positive Permeated	Positive Combined	Negative Discrete	Negative Permeated	Unclassified Responses	Total
3	<i>Pupil views of permeated HRE</i>	6	9	2	0	9	3	29
4	<i>Pupils HRE delivery method preference</i>	19	12	2	1	5	3	42
Total		25	21	4	1	14	6	71

These findings extend the current HRE literature by enhancing our understanding of pupils' perceptions of HRE delivery methods, which have been neglected in previous research (Fairclough *et al.*, 2002; Cale, 2000a, 2000b; Harris, 1994a, 1994b, 1993). Knowledge of pupils' perceptions of HRE and delivery methods can help to 'bridge the gap' that Harris (1993) identified between young people's health knowledge and their everyday health behaviour and ensure HRE programmes are effectively planned and implemented in schools.

Overall, the main findings from the pupil interviews were that the majority of pupils reported a positive view of the discrete delivery of HRE, the main reason being that the delivery method is 'functional' in nature. In particular, the pupils reported that they could just concentrate on one aspect during a discretely delivered HRE lesson (e.g. health or fitness) and not have their minds in two places at once as is the case with the permeated approach (e.g. health or fitness and sports specific objectives). They also reported that they preferred discretely delivered HRE because it was a dedicated lesson specifically for health-related topics (for example, they cited that it was easier to remember the correct PE kit with designated lessons); whereas health-related material delivered in permeated lessons took too much time away from the sports and skill development. The one negative statement regarding the discrete method of HRE delivery referred to the long gap between undertaking a unit of work one year and then not revisiting the HRE topics until the following year which is something that can fragment and distort the PE curriculum (Harris, 1997). It is difficult to explain why the negative discrete category produced so few statements in the pupils' interview

summaries. Future research should continue to investigate pupils' perceptions of HRE delivery methods to build upon the present study's initial findings.

4.2.3 Lesson Observations

Executive summary. The lesson observations revealed that a positive aspect of the discrete approach to HRE was the greater opportunity for in-depth questioning. However, they also revealed that discretely delivered HRE can result in low physical activity levels (due to too much teacher talk), a focus on fitness testing, and a lack of explanation of why activities are being performed. In analysing the results a key theme emerged in the discussion regarding teachers' knowledge, skills and training regarding the delivery of HRE.

The positive discrete and negative discrete categories emerged with the highest and lowest, respectively, number of statements from the formal observations. Across all schools 113 formal observation statements were made, the positive discrete category produced a frequency count (and percentage) of 45 (39.8%), and the negative discrete category a frequency count (and percentage) of 13 (11.5%). This was despite only 7 formal observations being conducted on discrete HRE lessons out of a total of 30 observations. A breakdown of the frequency distribution for the lesson observation statements for each school is displayed in Table 9 (page 112).

The high value for the positive discrete category and the low value for the negative discrete category were also reflected in the individual schools' frequency counts. North Fen Community High School (combined approach)

Table 9 – Frequency Distribution: Lesson Observation Statements for each School

School	Positive Discrete	Positive Permeated	Negative Discrete	Negative Permeated	Total
Foxburgh High (D)	18	2	4	9	33
North Fen Community High (C)	5	0	1	0	6
Riverway High (P)	n/a	21	n/a	8	29
Woodside Comprehensive (C)	22	6	8	9	45
Total	45	29	13	26	113

Note: D = discrete-only approach; C = combined approach; P = permeated-only approach.

obtained the greatest percentage of positive statements with 83.3% (5 out of 6 statements). However, it must be said that only one formal lesson observation was conducted at North Fen Community High. The percentage score for this school was no doubt inflated as the observation was of a discretely delivered HRE lesson. The second highest frequency count in relation to the number of statements made was Foxburgh High School (discrete-only; 18 out of 33 [54.5%]), followed by Woodside Comprehensive (combined approach; 22 out of 45 [48.9%]). For the negative discrete category, Woodside Comprehensive obtained the highest frequency count in relation to the number of statements made with 8 out of 45 (17.8%). This was followed by North Fen Community High School with 1 out of 6 (16.7%) and Foxburgh High School with 4 out of 33 (12.1%).

According to Harris (2000a), health-related information can be imparted at various periods throughout a discretely delivered lesson; notably during the introduction, during the warm-up, throughout the main activity, during the cool-down, and in the lesson plenary. A positive discrete observation statement made during the plenary of a Year 11 girls' step aerobics lesson at Foxburgh High School is given below: "Teacher explains working on interval training, where HR is raised and lowered during work and rest periods". This statement was typical of the HRE lessons observed in the present study and provides a good example of discrete HRE information being explained during a plenary; especially as this period of time (the plenary) is useful for monitoring and assessing pupil achievement through focused questioning (Harris, 2000a). In addition, it must be said that formative methods, such as questioning during a plenary, can, "... help ensure that assessment is integral to teaching and learning ...", (Harris, 2000a, p.23). This is especially important during discretely delivered HRE as the opportunity for in-depth questioning is likely to occur more often than with other delivery methods. Furthermore, the above lesson observation statement provided a practical example which supported the suggestion by Harris (2000a) that pupils at Key Stage 4 should learn about an 'active way of life' through a specific fitness activity, such as step aerobics.

On a similar note, a Year 8 mixed HRE lesson observation at Woodside Comprehensive (combined approach) produced the following statement: "Good HRE knowledge and understanding demonstrated by pupils in most groups (seem aware of correct warm-up/main activity/cool-down procedures)". This subjective statement highlights the typical learning outcomes that were achieved

during some discrete HRE lessons. The statement further emphasises good discrete HRE practice at the school concerned, as the ability to be able to: "... plan and perform each component of a warm-up and cool-down ... for general activity ... and for a specific activity (e.g. ... circuit training)", (Harris, 2000a, p.38), is an important HRE learning outcome for pupils at Key Stage 3.

On the other hand, the negative discrete observation statements highlight some of the issues with the discrete approach to HRE, most notably that sometimes there can be a lack of physical activity in discrete HRE lessons. A negative discrete observation statement made during the plenary of a Year 7 mixed fitness lesson at Woodside Comprehensive highlights this point: "Ten minutes of running – not so sure. Not much continuous activity really". The lesson was sixty minutes in duration although the pupils were only physically active, undertaking a continuous cross-country circuit, for only ten minutes. This limitation with regards to discrete HRE has also been noted by Harris (2000a) who claims that, "The knowledge base may be delivered in such a way as to reduce activity levels within PE lessons (e.g. too much teacher talk)" (p.41).

This point is further emphasised in the following statement obtained from a Year 8 mixed fitness lesson observation at Woodside Comprehensive: "Over half an hour into lesson and no physical activity – No HRE explanation as to why doing circuit training". The above subjective statement illustrates not just the lack of physical activity in the lesson but also the failure to explain to the pupils why the activity was being undertaken. Harris (2000a) claims that it is not uncommon in discrete HRE lessons to find pupils who have a limited understanding of why

they are engaging in certain activities, due primarily to a lack of teacher explanation.

In addition, a subjective lesson observation statement made during a Year 7 boys' HRE lesson at North Fen Community High School (combined approach) highlighted how fitness tests, specifically the multistage fitness test in this case, are often misused in discrete HRE:

Considering the test is a maximal effort I find the target of beating their previous score a difficult one for the pupils considering they have just run the test a few minutes ago – is this safe? Two supposedly maximal tests within a few minutes – potential for injury.

Despite the above example which demonstrates how fitness tests are sometimes used inappropriately within HRE, it must be noted that fitness testing *per se*, if used correctly as an educational tool and as one of a variety of tools can have a place within HRE (Harris and Cale, 2006; Harris, 2000a, 1998a; Mahoney, 1993; Caldecott, 1992; Armstrong, 1989). Furthermore, the emphasis placed on fitness testing should be centred on the 'process' as opposed to the 'outcome', in terms of sustaining pupils' lifelong participation in physical activity (Bailey and Pangrazi, 2004; Bailey, 2000).

The discrete lesson observations highlighted the variability that exists within and across schools with regards to HRE practice. Encouragingly, the observations showed desirable HRE practice in many of the discrete HRE lessons observed. However, while the teacher interviews suggested that the discrete approach could achieve depth of information, the lesson observations revealed an interesting

contradiction in practice. Some discretely delivered HRE lessons demonstrated excessive teacher talk with little physical activity occurring while other lessons offered no explanation to pupils as to the purpose of the activities. Such observations indicate potential issues with teachers' HRE knowledge, skills and understanding resulting in undesirable HRE practices and a potentially poor pupil experience. It is interesting that despite many teachers potentially receiving limited HRE input during their training (as mentioned earlier in section 4.2.1, page 89) that many do not engage with HRE CPD opportunities (Ward, 2009, 2008). This suggests that teachers feel they are able to effectively deliver HRE in their schools. However, the lesson observations show that for some teachers this is not the case, with those who have the knowledge perhaps lacking the skills to teach it effectively and vice versa. Importantly, the poor practice observed would be easy to rectify with more guided HRE input in the training of PE teachers and an increased uptake of HRE CPD to enable teachers to deliver high quality and effective discrete HRE.

Nevertheless, it must be remembered that the present research was the first attempt to undertake observations of both discrete and permeated HRE lessons with the objective of determining the extent to which such delivery methods were incorporated in PE. More research is needed in this area in order to add to the existing body of knowledge, especially with regards to the observation of HRE content in PE lessons.

These findings extend the current literature by establishing practice 'in situ' through the use of a different research method from previous research

(Fairclough *et al*, 2002; Cale, 2000a, 2000b; Harris, 1994a, 1994b, 1993). The lesson observations provided practical examples to corroborate what delivery methods, and whether those claimed to be used by the schools, were actually implemented in practice. Therefore, in conjunction with the interviews from teachers and pupils, richer data were obtained on HRE delivery methods. Although relatively few negative discrete lesson observation statements were made they did highlight some of the key issues that are prominent in the literature. These included limited physical activity (primarily due to excessive teacher talk), limited pupil understanding of why they were undertaking a particular activity (due to a lack of teacher explanation) and an emphasis on the ‘outcome’ of fitness testing rather than the ‘process’. On the other hand, positive discrete observations were more frequently made and revealed that discretely delivered HRE can provide more opportunity for in-depth questioning than other delivery methods. Furthermore, this opportunity for questioning, along with the opportunity for monitoring and assessing, can occur at any point during the lesson; making the discrete delivery method a very appropriate and adaptable approach.

4.2.4 Summary

The positive discrete category produced the most statements from the teachers’ interviews, the pupils’ interviews, and the lesson observations in the study. Statement frequency counts of 125 out of 332, 25 out of 71, and 45 out of 113 were reported for the teachers’ interview summaries (37.7%), the pupils’ interview summaries (35.2%) and the lesson observations (39.8%), respectively. Despite this, not all schools produced statements from the teachers’ and pupils’

interviews, as well as from the lesson observations, where the positive discrete category had the highest frequency count. This was notably in the schools in which HRE was delivered through a permeated or combined approach.

The negative discrete category produced the lowest number of statements in the study for the teachers' interviews, pupils' interviews, and the lesson observations. Statement frequency counts of 16 out of 332, 1 out of 71, and 13 out of 113 were reported for the teachers' interview summaries (4.8%), the pupils' interview summaries (1.4%), and the lesson observations (11.5%), respectively. However, within the schools themselves the negative discrete category did not always produce the lowest number of statements. Schools which adopted a combined HRE approach produced more negative discrete statements in relation to the other schools.

The study revealed that the PE teachers preferred the discrete method of delivering HRE because it offered a designated time slot. The pupils, on the other hand, reported that the approach was more 'functional' and allowed for concentration on only one aspect. Further, the lesson observations revealed that the discrete method provided a greater opportunity for in-depth questioning, monitoring and assessment. Many individuals in the study clearly outlined the benefits that discretely delivered HRE brings to PE lessons, so much so that a few teachers suggested that the profile of discretely delivered HRE should be made more formal or explicit in the NCPE. This is something that has been similarly echoed in the literature (Cale and Harris, 2009a, 2005a, 2005b; Fox and Harris, 2003; Penney and Evans, 1999; Fox, 1992).

However, a few concerns were raised by the PE teachers, and one pupil, in relation to the discrete method of delivery. Notably, the long delay between units of delivery (from one year to the next), its association with fitness testing, and its replacement of other sports on the curriculum. The lesson observations revealed that, on occasions, there were: periods of low physical activity (associated with excessive teacher talk); there was limited understanding being demonstrated by the pupils about why certain activities were taking place (due to a lack of explanation by the teacher); and the focus of fitness testing sometimes centred on the ‘outcome’ rather than the ‘process’. However, due to the fact that few PE teachers and pupils had anything negative to say about the discrete method of delivering HRE it is difficult to expand substantially on the findings in this study. Nevertheless, it is clear that narrow interpretations and misunderstandings of discretely delivered HRE still exist.

Finally, in analysing the results three key themes emerged in the discussion: i) teachers’ knowledge, skills and training regarding the delivery of HRE; ii) the effects on pupils’ progression across and within a key stage; and iii) the contribution of pupil perspectives to the understanding of pupils’ HRE experiences.

4.3 Permeated Category

4.3.1 Teachers’ Interviews

Executive summary. Teachers’ perceptions of the permeated approach to HRE were mixed, nearly as many teachers could find something negative about the delivery method as favoured it. It was evident that many teachers misunderstood

how to implement the permeated approach to HRE in practice as they referred to ‘every lesson’ in their comments about the approach. The teachers appreciated that the permeated approach could help reinforce the health and fitness message across all activities, however, they thought permeated HRE took time away from the other content and lacked the depth of content achieved in the discrete approach. In analysing the results three key themes emerged in the discussion: i) teachers’ knowledge, skills and training regarding the delivery of HRE; and ii) the effects on pupils’ progression across and within a key stage.

The positive permeated category was the second most frequently occurring response from the teachers’ interview summaries. Negative statements concerning the permeated approach to delivering HRE emerged as the third most frequently occurring. Of the 332 statements made across all schools in the teachers’ interviews the positive permeated category produced a frequency count (and percentage) of 76 (22.9%), and the negative permeated category a frequency count (and percentage) of 58 (17.5%). The positive permeated category received 49 fewer statements (14.8%) than the positive discrete category. A breakdown of the frequency distribution for the teachers’ interview statements can be seen in Table 5 (page 87).

The popularity of the positive and negative permeated categories was also replicated in the individual schools’ frequency counts, being the second and third most frequently occurring response, respectively. Foxburgh High School (discrete-only) obtained the greatest percentage of responses for the positive permeated category, in relation to the number of statements made, with 17 out of

65 (26.2%). This was followed by Riverway High School (permeated-only) with 11 out of 46 (23.9%), North Fen Community High School (combined approach) with 30 out of 133 (22.6%), and Woodside Comprehensive (combined approach) with 18 out of 88 (20.5%). For the negative permeated category, Foxburgh High School also obtained the greatest number of responses in relation to the number of statements made with 14 out of 65 (21.5%). This was followed by North Fen Community High School with 24 out of 133 (18.0%), Woodside Comprehensive with 14 out of 88 (15.9%), and Riverway High School) with 6 out of 46 (13.0%).

These findings for the positive permeated category are similar to those identified by Harris (1994b), who found that 29.2% of PE heads of department believed that HRE should be taught at Key Stage 3 through the activity areas only (permeated approach). Furthermore, 21.2% of the PE heads of department in the same study stated that they were in favour of teaching HRE through a permeated-only approach at Key Stage 4 (Harris, 1994b). Nevertheless, the figures reported by Harris (1994b) are in contrast to those substantiated in later research by Harris (1995) and Cale (2000a), concerning the positive views PE heads of department had about the inclusion of HRE in the National Curriculum (76.6% and 73.8%, respectively). On closer inspection it is evident that the comments are of a general nature about the wider issue of PE's contribution to health rather than HRE delivery methods. That said, Harris (1995) makes further claims about the permeated HRE approach, by suggesting that 82.3% of PE heads of department were using this method in their schools. Again when this is analysed in more detail it is revealed that the figure is distorted because it includes other methods

of delivery used in conjunction with the permeated approach; in other words, a combination of methods.

The actual values reported in Harris' (1995) study, by the PE heads of department, for the number of schools delivering HRE via permeation at Key Stage 3 and Key Stage 4 were 29.0% and 18.2%, respectively. These values are much closer to the 22.9% stated in the present study. Although when the figures are scrutinised further it is clear that only 9.9% of PE heads of department confirmed the permeated-only approach to be the most favoured way of implementing HRE into the physical education curriculum; a lower figure than the one revealed by the present study's findings.

However, as mentioned earlier in section 4.2.1 (pages 100-101) the different methods of data collection and samples may be a possible reason for the discrepancies in the findings. This point is actually noted by Cale (2000a), who conducted nine follow-up interviews to the forty-nine questionnaires administered to secondary school PE heads of department and found inconsistencies amongst the data derived from the two research techniques. The problem identified by Cale (2000a, p.162) is evident in the following statement:

Despite the PEHoDs' positive views and ratings of HRE [from the questionnaires], the interview data revealed that views were more mixed with regards to the status of HRE generally within PE and within their schools. A few HoDs felt that the status of the subject was high but others held differing views, [my insertion].

Furthermore, while it is assumed that PE heads of department responses may accurately represent HRE programmes in their respective departments, they did not investigate the PE teachers' own views and opinions on the subject of HRE and its delivery. This may also go some way to explaining the research findings in the studies by Fairclough (2002) and Fairclough *et al* (2002) who claim that the permeated approach to teaching HRE was the most prevalent (50% of male and 68% of female heads of department reported this).

A surprising finding in the present study was that the teachers' interview summaries for Foxburgh High School, the discrete-only school, produced the highest percentage (26.2%) of statements for the positive permeated category. This demonstrates that PE teachers' views on HRE were not always dictated by their department policy or practice. Mr Scott (Foxburgh) clearly outlined the positive perspective he had for the permeated approach to delivering HRE, regardless of the fact that he worked in a PE department which delivered HRE in a discrete-only manner: "I prefer [it] as a core strand, ... It's useful to teach in lessons [permeated approach] so kids understand it in relation to a sport". This view supports a point made by Harris (2000a) who states that a strength of the permeated approach is that, "HRE knowledge, understanding and skills can be seen as part of and integral to all PE experiences. Children learn that all physical activities can contribute towards good health and can become part of an active lifestyle"(p.41).

This was further supported by the strong ethos that PE teachers at Riverway High School (permeated-only) had for the permeated delivery of HRE which was

exemplified by Miss Danvers' statement: "[Pupils should have an] awareness and knowledge of why they're doing things and how it relates to their fitness ... linking it bit by bit, reinforcing each week, pupils become used to it". Moreover, Mr Austin at Riverway High School, outlined his opinions on permeated HRE even more firmly: "If you are doing the lesson properly you should be teaching it. Every lesson should be ... give out information [HRE] in dribs and drabs, not just pile it all on one lesson".

These statements regarding the permeated delivery of HRE are in agreement with those of Oxley (1994). From a government inspector perspective, Oxley (1994) states that, "Health Related Exercise pervades the whole spectrum of the Programmes of Study and should not be taught in isolation at Key Stage 3" (p.39). Oxley (1994) goes on to suggest that, "There is no need to have unrelated HRE units at Key Stage 3 if the Programme of Study are taught effectively ..." (p.39).

Furthermore, a recent OFSTED (2006) report, based on visits to eighteen schools, found that important health and well-being information could be disseminated in PE lessons through warm-ups and thereby allowing pupils to, "... develop their understanding of the impact of exercise and human anatomy ..." (p.16). This manner of implementing the permeated delivery of HRE into PE lessons would also be in agreement with the HRE philosophy of the PE teachers at Riverway High School and was summarised succinctly by Mr Rayner: "Warm-ups are important, this is how you can pass on [HRE] information". However, placing too much emphasis on delivering HRE

information through warm-ups has been criticised as contributing to narrow interpretations of HRE (Cale and Harris, 2009a).

It was interesting to note that the percentages of statements for the positive permeated category were very similar across all schools, irrespective of their HRE delivery method. This could be anticipated to some extent as some teachers have interpreted the permeated approach to HRE as being the expected approach as set out in the NCPE and, therefore it may be at the forefront of all PE teachers' thinking. Furthermore, the similar percentages between the permeated-only school and the two combined approach schools could be explained by the status and exposure that HRE has in schools which adopt a combined HRE delivery system (Cale and Harris, 2005a); in conjunction with the permeated method supposedly being 'implied' by the government (Penney and Evans, 1999; Oxley, 1994).

The status of permeated HRE within a combined approach school was highlighted by Mr Harper, from Woodside Comprehensive, who stated that it was, "important in each lesson, that's what PE is all about". Mr Harper went on to explain that combined approach schools can reduce the chances of permeated HRE becoming "piecemeal" or "ad hoc", something identified by Harris (2000a), through the development of a regular pattern of permeated HRE. He claimed that, "If you get into a regular routine with Year 7 then they will get used to it ... ingrained by Year 11, they're doing it automatically".

Another teacher from Woodside Comprehensive, Mr Kent, also held this view concerning the status of permeated HRE. He reported: “I think if it’s taught well ... then that’s the way it should be taught. It’s very much a stated learning outcome, so children know it’s a big part of whatever they are doing”. However, for Mr Cashmere, from North Fen Community High School, the status of permeated HRE was vital in order to develop good physical activity habits for lifelong learning and not just during an individual’s school career. He exemplified this in the following statement: “Every lesson, regardless of sport, they will benefit rather than do it in six weeks and not revisit it for a year”. The statement by Mr Cashmere is consistent with that of Oxley (1994) who believes that HRE should spread across all activity areas within the PE programme of study.

As expected, Riverway High School produced the lowest percentage of statements, and Foxburgh High School the highest percentage of statements in the negative permeated category. Teachers from the two combined approach schools, North Fen Community High School and Woodside Comprehensive, also produced some negative statements about the permeated approach to delivering HRE. This is perhaps not surprising as the use of a combined approach would afford them the opportunity to experience the strengths and weaknesses of both approaches to HRE delivery. Interestingly, however, across all schools the same concern with regards to the permeated approach emerged regardless of the school’s delivery method. The PE teachers at Foxburgh High School provided a number of statements in their interviews which highlighted a lack of time available for the implementation of permeated HRE into PE lessons. An

example of such a statement was made by Miss Kyle, who addressed the marginalisation of permeated HRE:

The main problem with the permeated method is that you haven't got enough time, if you're trying to get the objectives across about the sport you are doing, then you cannot fit it in, only got enough time for skill work ... five minutes in each lesson then gets overshadowed by who won the game of football or who scored the best goal.

Similarly, Mr Scott approached the issue of time from a workload perspective: "... it will require a lot more planning for the lessons ... every PE lesson you've got to think about how you're going to bring fitness into it". This concern is something that makes many PE teachers uncomfortable with delivering permeated HRE (Green and Lamb, 2000).

This concern with the lack of time was also evident in the statements made by teachers at Riverway High School where Mr Rayner made his view known about permeated HRE: "It's a time constraint, with regards to fitting it in every lesson". However, Miss Danvers, at the same school, sympathised with the pupils over the time issue:

... keeping kids interested is a big problem, if it becomes tedious, if pupils think 'oh no, talking about health and fitness for ten minutes' ... [they] want to get on with the activity ... don't want to bog them down with it [HRE], [they] want to get on with the sports.

Furthermore, Harris (1997) believes the issue surrounding limited time is often exacerbated by excessive teacher talk, an undesirable practice that can lead to inactive PE lessons.

The lack of time within PE lessons for delivering HRE using a permeated approach was further supported by the PE teachers at North Fen Community High School (combined approach). Mr Banner illustrated this concern in the following statement:

Permeated is paid lip-service, as and when ... haven't got time to put it into lessons. Although some lessons lend themselves to it more than others. Sometimes it's a lack of time and sometimes a lack of knowledge, with some members of staff. Time is a major component ... could incorporate more in lessons but this would impinge on other skills.

This view was also held by Mr Cashmere who believed that in terms of HRE content, "... you cannot do it all in five minutes each lesson". Further to this, Miss Saunders suggested that, "... there is not enough time to go into detail".

The issue of a lack of time within PE lessons to deliver permeated HRE is supported by the literature (Green and Lamb, 2000; Harris, 2000a). Green and Lamb (2000) for example, suggest that PE teachers have to respond to numerous constraints within the workplace, during the everyday "hurly-burly" of teaching PE, the requirements of the National Curriculum being one of them. They continue by claiming that PE teachers' everyday practice is more reactive than proactive and as a result, they often:

... modify the requirements of the NCPE to fit, amongst other things, with the everyday constraints of the job; especially where the full implementation of the NCPE would require potentially descriptive changes to the normal and established practice of teaching PE (Green and Lamb, 2000, p.91).

This is further exemplified in the following statements by PE teachers at North Fen Community High School (combined approach). Mr Banner reported that:

It's hard for PE teachers to deliver HRE as well as all the other stuff, four core strands and six activity areas ... we are in an ideal position to deliver the material, although it is difficult to get that into say lessons on football, where you need to get all the skills across.

Similarly, Mrs Mitton expressed her view about the implementation of permeated HRE into PE lessons:

Whether or not it gets done in every lesson is another thing, because of time, got so much to do, warm-up, skills, game, to try and incorporate it. Generally done in a warm-up, but in terms of logistics it's not always best. It doesn't get done every lesson, probably should, ideally it would, but it doesn't.

These findings from PE teachers are in agreement with previous research which has reported the delivery of permeated HRE to be often somewhat ad hoc and, if delivered at all, usually done so through the lesson's warm-up (Harris, 2000a, 1998a; Curtner-Smith, Kerr and Clapp, 1996).

However, the negative statements that were made by the PE teachers at North Fen Community High School surrounding the issue of a lack of time for permeated HRE in PE lessons, also highlighted the sacrifice made to other sports or activities. Miss Saunders suggested that as a PE teacher, "... your priority would be to teach them [the pupils'] the individual skills for that sport". Mrs Murdock agreed with this and reported that when teaching a specific sport in a

PE lesson a practitioner should, "... concentrate on the skills of that sport ... [you] don't have as much time to deliver [the] theory behind fitness".

PE teachers at Woodside Comprehensive, the other combined approach school in the present study, had similar reservations about the permeated method of delivering HRE. Mr Kent made the following comment on the matter: "The disadvantage of putting it in every lesson is that it takes time away from that topic you're teaching ... it takes time away from tactics or skills, a big disadvantage". On a similar note, Mr McDowell explained why he believes the implementation of HRE into every PE lesson was not a good idea:

... through experience of teaching PE over the last 26 years, I think the notion that real health and fitness is delivered across the curriculum is not a sensible one because the focus in other areas of the curriculum is the sport itself, so if teaching rugby, you would develop skills, knowledge, understanding, tactical awareness, refining skills ... my belief is that fitness takes a second place in that sort of scenario.

The findings within Riverway High School regarding the permeated approach to HRE were interesting. The positive permeated category received only five more statements than the negative permeated category, one might have expected this difference to be more considering the PE department at the school adopted a permeated-only approach. It is clear from the present study that the PE teachers at Riverway High School experienced a conflict in their professional opinions regarding HRE delivery and the practice adopted in the department. This highlights the importance of obtaining views from a range of individuals in the

PE teaching community and not just PE heads of department about the provision in their school.

Interestingly, a common theme that emerged within both the positive and negative statements was that many teachers misunderstood the permeated method of HRE delivery. In many of their statements they refer to teaching HRE in ‘every lesson’, yet the permeated method suggests that HRE is incorporated into the curriculum across activity areas. This misunderstanding shows a gap in teachers’ knowledge about the permeated HRE delivery method and it is therefore not surprising that teachers commented on the difficulty with integrating HRE into every lesson. Furthermore, other negative comments made with regards to taking time away from the activity being taught may be a consequence of this limited understanding. It is possible that when the permeated method is used effectively all curriculum content can be covered. The suggestion that HRE content is covered at the expense of activity specific content may reflect a lack of teaching skills to incorporate HRE effectively across an activity area. Improving teachers’ understanding of the permeated approach and equipping them with the skills to use the approach effectively would perhaps alleviate some of the concerns outlined in the present study with this approach.

Although the limitations of permeated HRE, which include the concept becoming marginalised, are well documented (Fairclough *et al*, 2002; Harris, 2000a; Almond and Harris, 1997a; Harris and Elbourn, 1992a, 1992b; Fox, 1992), there has been little, if any, previous research that has examined teachers’ negative perspectives of permeated HRE, and its delivery, through the medium

of interviews. The present study provided the first insight into this aspect of HRE delivery, but further research is needed to substantiate the findings. Green (2003) believes that the negative perspective that PE teachers have for permeated HRE is as a result of an historical preference in PE for discrete HRE units of work. Green (2003) continues by stating that:

For a number of years now, the NCPE has stipulated that HRE should be a permeating theme in PE programmes. This requirement for permeation does not appear to have left its mark on many PE teachers' thinking, let alone their practice (p.69).

On another level, Almond and Harris (1997a) claim that a top-down approach from government inspectors, advisors and lecturers, in promoting the permeated model has alienated some PE teachers in terms of pursuing this method of delivery. In addition, they state that, "It is particularly frustrating to hear key physical educators proclaiming that permeation is the 'right' approach. Where is the evidence to support this point of view?" (Almond and Harris, 1997a, p.27). It is not surprising then that PE teachers in the present study do not hold the permeated method of HRE in high regard; what with possibly being pressured into adopting an approach that spans the activity areas and coping with the traditional system of discretely delivered units of work.

In the within question analysis across all schools, the positive permeated category produced a mixed range of results for the number of statements reported for all five questions asked during the teachers' interviews. When teachers were asked what they thought about the current position of HRE within the National Curriculum (question one), the positive permeated category received the highest

frequency count, 20 (29.0%) statements out of 69; two more than the positive discrete category. The results for the negative permeated category indicated some opposition to the permeated approach to HRE by teachers in the study. Across all schools, for three of the five questions asked during the teachers' interviews, the negative permeated category emerged with the third highest frequency count in relation to the other categories. For questions three and five the category produced the second and fourth highest frequency counts, respectively. A breakdown of the frequency distribution for the teachers' interview statements for each question is outlined in Table 6 (page 97).

Whilst it was expected that the positive permeated category would receive the highest frequency count for question one, as some teachers interpret the NCPE to advocate a permeated approach, it was interesting to see the category obtain the second highest number of responses on two other occasions; in particular, for the questions concerning which method teachers preferred (23.4%) and which method best allowed pupils to achieve knowledge and understanding of health and fitness in relation to lifelong learning (32.5%). Although the positive discrete category was the most popular on both occasions, these values indicate that the positive permeated category was also popular amongst many teachers and thus potentially has a role to play in terms of children's lifelong knowledge and understanding of health and fitness.

The role that permeated HRE has in terms of lifelong knowledge and understanding of health and fitness was outlined in the following statement by Mrs Mitton, from North Fen Community High School: "It's good, if we can get

the information across in lessons ... small bit of information each week". Nevertheless, Mr Cashmere, from the same school, was much more explicit in his view of the implementation of permeated HRE in physical education lessons: "... you can talk about it in every lesson at some point". However, it must be said that these views differ to those revealed in previous literature (Cale, 2000a, 2000b; Harris, 1995) that have reported the combined approach as being PE teachers' most popular, and in Cale and Harris' view, the preferred method of delivering HRE. This of course does not mean that PE teachers adopting the combined approach to delivering HRE will not recognise the value of the permeated method.

This was further evident in the results when teachers were asked to consider HRE from the perspective of a PE head of department. The positive permeated category elicited 9 out of 52 responses (17.3%), the third highest frequency count, and two statements less than the positive combined category. Despite the mixed results for the five questions asked during the teachers' interviews, Mr Scott, from Foxburgh High School, expressed his opinion on the position of permeated HRE within the National Curriculum: "It's a good idea ... it gets the kids thinking about it. With regards to lifelong learning, permeated is [the] best method in theory".

However, despite these positive comments, when teachers were asked to comment on the interpretation that some teachers place on the NCPE as advocating a permeated approach and the results of research which indicated that 80% of PE heads of department were in favour of a discrete method, 16 out of 64

statements (25.0%) contained negative views about the permeated method of delivering HRE. The value of 25.0% in the teachers' interviews is the highest percentage against the permeated approach. It is clear from this result that the PE teachers in the present study are not satisfied with the permeated approach to HRE.

On a similar note, Mrs Murdock, from North Fen Community High School (combined approach), explained why she believed permeated HRE was inadequate, however, her statement highlighted that some teachers misunderstood the NCPE in relation to HRE:

The government says we must assess on the knowledge and understanding of health and fitness in every lesson, I think that's unrealistic. The government knows what needs assessing and I agree that children need to know health and fitness but the way it is accounted for, in every lesson, is not supportive to what we are trying to deliver.

Further to this, Miss Saunders, from the same school, suggested that the practice of permeated HRE varied considerably between different schools. She claimed that, "... even in the same school teachers are doing completely different deliveries". This problem with the incorporation of permeated HRE into the curriculum is also recognised by Harris (2000a), who claims that if permeated HRE is to operate effectively across the PE activity areas then, "... much liaison activity is required to ensure that all pupils receive similar information from different teachers" (Harris, 2000a, p.41). These comments highlight a key issue with permeated HRE with regards to ensuring the quality of each pupil's experience and that they make progress across a key stage. If the permeated

method is to be advocated by a school all teachers need to have planned to incorporate HRE into their activity area's scheme of work and Heads of Department should monitor the provision. This is even more important in schools where pupils change teachers for activity areas to ensure that the breadth and depth of HRE knowledge is covered.

Fox (1992) believes that the implementation of HRE through a permeated delivery method is an inadequate structure for the National Curriculum, as is evident in the following statement:

... a permeation model has been adopted whereby teachers are expected to teach new and unfamiliar content in a piecemeal fashion within schemes of work for the traditional activities such as gymnastics, athletics and games. This seems a little like telling the plumber to rewire a house using his bag of spanners! Although he is familiar with spanners, he doesn't know much rewiring and they are not the right tools anyway (p.10).

He continues by claiming that the typical line of thought for PE teachers, with regards to permeated HRE, "... will tend towards 'Have I done my bit for health-related exercise in this scheme of work for cricket'? rather than 'is this child truly educated as an exercise consumer'?" (Fox, 1992, p.11) and therefore developing the knowledge for lifelong physical activity participation. A concern with the permeated approach and the development of pupils' knowledge was apparent in the statement by Mr Harper, from Woodside Comprehensive: "... depends on the teacher how well permeated is delivered, an afterthought for some teachers ... you'll never get the depth unless teachers are told permeated must include this and that ... [at present] they just pay lip-service to it". This statement highlights

the importance of the teacher to the success of the HRE delivery method. Although the statement focuses on permeated HRE, the effectiveness of the delivery for all methods is paramount and thus ensuring the quality of teachers' knowledge, skills and understanding is important for HRE and the development of young people who are lifelong physical activity participants.

Overall, the PE teachers' interviews produced almost as many negative statements for the permeated approach as positive ones. PE teachers valued the permeated method of delivering HRE for its ability to relate health and fitness with sports. Further to this, they believed that the permeation of HRE across all activities reinforced the message of health and fitness (in other words, HRE was not seen in isolation) and that this method was probably more likely to promote health and fitness for lifelong learning. The PE teachers also reported that a regular routine for HRE delivery whereby a small part was taught in most lessons was important because pupils were less likely to be overwhelmed with health-related information (as may be the case with discretely delivered HRE). However, the PE teachers who produced negative responses towards the permeated method of delivering HRE tended to cite the following: (i) a lack of time within lessons to implement HRE effectively (not enough time to go into detail); (ii) a lack of knowledge, with some members of staff, in delivering permeated HRE; and (iii) the inclusion of HRE within lessons taking time away from the development of sports skills. In addition, they reported that the permeated delivery of HRE was usually delivered in an ad hoc manner (merely being paid lip-service to) and required a great deal of additional planning and liaison with other members of staff. However, some teachers misunderstood the

NCPE and had interpreted it to mean that HRE should be delivered using a permeated method and delivered in every lesson.

4.3.2 Pupils' Interviews

Executive summary. Pupils' perceptions of the permeated approach to HRE were mixed. The pupils appreciated that the permeated approach did not overwhelm them with health-related information. However, similar to the teachers, they thought permeated HRE took time away from the other content and lacked the depth of content achieved in the discrete approach. In analysing the results two key themes emerged in the discussion: i) teachers' knowledge, skills and training regarding the delivery of HRE; and ii) the contribution of pupil perspectives to the understanding of pupils' HRE experiences.

The pupils' interview summaries, in agreement with the statements obtained from the teacher interviews, also identified positive permeated statements as the second most frequently occurring and negative permeated statements as the third most frequently occurring response. Across all schools a total of 71 statements were made by pupils, the positive permeated category obtained a frequency count (and percentage) of 21 (29.6%) and the negative permeated category a frequency count (and percentage) of 14 (19.7%). The frequency distribution for the pupils' interview statements for each school is presented in Table 7 (page 103).

However, this popularity was not reflected in all of the individual schools' frequency counts for either the positive or negative permeated category. For the negative permeated category, Foxburgh High School (discrete-only) again

obtained the greatest frequency count (6; 33.3%) in relation to the number of statements made (18), just as it did for the teachers' interview summaries. This was followed by Woodside Comprehensive (combined approach) with 4 out of 16 statements (25.0%), Riverway High School (permeated-only) with 1 out of 9 statements (11.1%), and North Fen Community High School (combined approach) with 3 out of 28 statements (10.7%).

For the positive permeated category North Fen Community High School obtained the greatest percentage (39.3%; 11 out of 28 statements). This was also the highest frequency count within the school, in relation to the other categories; which was an interesting result as North Fen Community High School provided a combined method of delivering HRE. The second highest percentage was produced by Riverway High School with 33.3% (3 out of 9 statements). This result was to be expected as Riverway High School delivered HRE in a permeated-only manner; however, the result for the positive permeated category for this school was the same as the positive discrete category. Foxburgh High School (discrete-only) and Woodside Comprehensive (combined approach) had the third and fourth highest percentages with 22% (4 out of 18 statements) and 18.8% (3 out of 16 statements), respectively. For these last three schools the positive permeated category achieved the third highest number of statements with respect to the other categories within their own schools.

In general pupils in the present study portrayed permeated HRE in a positive light (although not as much as HRE delivered through a discrete approach). An example of the pupils' perceptions of permeated HRE was given by Stuart, a

Year 11 pupil from North Fen Community High School (combined approach): “... by incorporating it into every lesson you can relate the HRE knowledge well to a sport in particular”. The above statement was a typical positive permeated response from the pupils’ interviews of the way in which some pupils preferred HRE to be applied to sporting situations or activities and for the area not to be delivered in isolation. This point was further highlighted by Marcus, a Year 9 pupil also from North Fen Community High School, who stated, “I prefer to learn about muscles, heart, lungs within sports you are doing. I prefer five minutes in every lesson”. These findings add to the research in this area as whilst some studies (Sleap and Wormald, 2001; Jones and Cheetham, 2001; Chen, 1998; Harris, 1994a, 1993) have interviewed pupils on health, fitness and exercise, they have not focused on the delivery method of HRE.

The fact that Foxburgh High School produced the most statements in comparison to the other schools for the negative permeated category was not that surprising as the PE department delivered a discrete-only approach to HRE and the school had a strong discrete-only HRE ethos. It is possible that this curriculum focus could influence pupils’ preferences. The results within the school suggest that this was the case as 33.3% of the statements made by the pupils were against the permeated approach. The negative permeated category received the second highest number of statements made in relation to the other categories; just two statements less than the positive discrete category (44.4%).

The statements obtained from Foxburgh High School for the pupils’ interview summaries followed similar themes to those produced from the teachers’

interviews; specifically the issue of time and permeated HRE replacing parts of activities or sports. An example of such a statement was given by Jack, a Year 10 pupil: “I don’t want time taken up by doing other things [HRE], when I can be getting on with sports”. He continued: “I don’t want to get tired before I do the sports in PE lessons by having five or ten minutes of HRE”. In this situation HRE often took second place to the sport itself; especially team sports which are extremely popular amongst many pupils (although it is noted that for some pupils they are unpopular) and are often reported as generating the most enjoyment in PE lessons; while HRE itself has a low status in the curriculum (Harris, 2009; Fairclough, 2003; Jones and Cheetham, 2001; Sleaf and Wormald, 2001; Goudas and Biddle, 1993). Furthermore, this pupil’s negative perception of the permeated approach may have been a consequence of the PE teachers’ and PE department’s discrete-only ethos and the unintentional messages that may have been conveyed as a result of HRE not being given activity status in the curriculum.

Further to this, within Woodside Comprehensive the negative permeated category received the same number of statements as the positive discrete category (25.0%). Again the same themes emerged from the statements, notably, the issue of time and permeated HRE replacing parts of the activities or sports. Additionally, the pupils produced statements against the permeated delivery of HRE that were concerned with the depth of information provided and the ability to acquire HRE knowledge, skills and understanding from such an approach. An example of such a statement was provided by John, a Year 10 pupil: “If we’re stood around for fifteen minutes or more then I don’t like it. If you incorporate it

[HRE] into a sports lesson then your mind's in two places". On a similar note, Stuart, a Year 11 pupil reported the following: "You cannot go in as much depth when incorporating HRE into a lesson using the permeated approach".

These findings align with previous research (Harris, 2000a), but also provide pupils' perspectives on HRE delivery methods. Specifically, Harris (2000a) commented that HRE information delivered in the permeated manner can often take second place to other information as well as the concern that pupils may be overloaded with too much information. This anxiety surrounding the permeated delivery of HRE is shared by Fox (1992), who believes that, "The content is too important and complex to be delivered in piecemeal fashion as incidental to other activities on the football field or the gymnasium" (p.9). Furthermore, Harris and Elbourn (1992a) claim that, "... past evidence would suggest that permeation has not been effective in producing exercise literate, active young people" (p.19).

The issue of permeated HRE taking time away from the main activity or sport in a PE lesson was again reported in negative statements obtained from both North Fen Community High School (combined approach) and Riverway High School (permeated-only). The negative permeated category produced the third and fourth highest percentage of responses within the schools, respectively. An example of a statement about the issue of time and permeated HRE delivery was given by Nathan, a Year 10 pupil from North Fen Community High School: "... you would need more time, as we only get about forty minutes and by the time we do ten minutes of health and fitness, you only have about twenty minutes to do sport".

The within question analysis revealed that when pupils were asked what they thought about when health-related issues were incorporated into their other PE lessons the positive and negative permeated categories gained the highest number of statements in relation to the other categories. 31.0% (9 out of 29 statements) of pupils responded with positive and negative statements about the permeated approach to HRE. This result revealed the positive permeated category to be equally as popular as the negative permeated category. For the question, about which delivery method pupils preferred, the positive permeated category produced the second highest number of statements, with 12 out of 42 (29.0%), while the negative permeated category produced the third highest number of statements, with 5 out of 42 statements (11.9%). This finding seems to fit with the consensus from the pupils' interviews that the positive permeated category was the second most popular category, behind the positive discrete category, in terms of the number of statements made. These high values are consistent with the other findings for the negative permeated category reported in this study. A breakdown of the frequency distribution for the pupils' interview statements for question 3 and 4 are highlighted in Table 8 (page 109).

The following statements concerning the positive permeated category demonstrated the practicality of adopting a permeated method of delivering HRE. For example, Kevin, a Year 11 pupil from North Fen Community High School (combined approach), stated that, "... I prefer it taught in each sport, can relate it to different sports ... this type of fitness for this type of sport". On a similar note, Karen, a Year 7 pupil from Woodside Comprehensive (combined

approach), reported, “I prefer it in each lesson because I can remember it better ... little bits at a time, rather than all at once”.

The pupil perspectives on the permeated approach paralleled those of the teachers. Pupils highlighted the competing time issue between HRE and the activity being taught and the tendency for inactivity while HRE explanations are taking place. As with the teacher perspectives, many of the negative comments reflect poor permeated practice and consequently a poor pupil experience of permeated HRE. If we consider that many of the teachers in the study misunderstood the permeated approach to HRE it is perhaps not surprising that some pupils had negative experiences and drew similar conclusions about the approach. This again highlights the importance of teachers’ knowledge and skills with regards to effective HRE delivery, regardless of the method used.

In summary, the main findings were that pupils’ perceptions with regards to permeated HRE were mixed. Pupils reported only 9.9% more positive statements about the permeated approach to HRE than they did negative statements. Positive statements showed that some pupils favoured the permeated method of delivering HRE because it was applied to sporting situations or activities. In particular, the pupils reported that they liked to learn about the various health-related issues in combination with the skill development components of the lesson. Some pupils also reported that they preferred to receive health-related information in small chunks in each lesson rather than receiving it all in a few designated lessons each year. However, in the negative statements pupils reported that (i) they did not want PE lesson time being taken

up with HRE when sports skills were being taught; (ii) they did not want their mind being in two places at once (having to think about HRE and skill development); and (iii) they did not want to get tired by doing HRE work (particularly fitness) before undertaking sports activities. Additionally, they reported that the permeated method of delivering HRE did not go into as much depth, with regards to health and fitness knowledge, as discretely delivered HRE. Although some studies (Sleap and Wormald, 2001; Jones and Cheetham, 2001; Chen, 1998; Harris, 1994a, 1993) have interviewed pupils on aspects of health, fitness and exercise, these were not specifically concerned with the delivery method of HRE. This suggests that more research is needed to explore pupils' perspectives of HRE and its delivery.

4.3.3 Lesson Observations

Executive summary. The lesson observations showed permeated HRE practice to be variable, with some permeated content being delivered very well and no HRE content in some lessons. In analysing the results a key theme emerged in the discussion regarding teachers' knowledge, skills and training regarding the delivery of HRE.

The positive permeated and negative permeated categories emerged with the second highest and third highest, respectively, number of statements from the formal observations. Across all schools 113 formal observation statements were made, the positive permeated category produced a frequency count (and percentage) of 29 (25.7%), and the negative permeated category a frequency count (and percentage) of 26 (23.0%). A breakdown of the frequency

distribution for the lesson observation statements for each school is displayed in Table 9 (page 112).

The overall status of the negative permeated category was reflected in all but one of the individual schools' frequency counts. Riverway High School (permeated-only) produced the greatest percentage of statements with 27.6% (8 out of 29 statements). This was followed closely by Foxburgh High School (discrete-only) with 27.3% (9 out of 33 statements) and Woodside Comprehensive (combined approach) with 20.0% (9 out of 45 statements). However, North Fen Community High School (combined approach) produced no observations for the negative permeated category, although, with the only lesson observation conducted at the school being a discrete HRE lesson, this finding is not that surprising.

On the other hand, the overall status of the positive permeated category was not reflected in the individual schools' frequency counts, in relation to the other categories; a range of scores were obtained across all schools for this category. Riverway High School (permeated-only) produced the greatest percentage of statements with 72.4% (21 out of 29 statements). This was followed by Woodside Comprehensive (combined approach) with 13.3% (6 out of 45 statements) and Foxburgh High School (discrete-only) with 6.1% (2 out of 33 statements). North Fen Community High School produced no observations for the positive permeated category due to the reason outlined above.

The lesson observation statements that were produced for the positive permeated category proved to be insightful with regards to the implementation of permeated

HRE. For example, a positive permeated observation statement made during the warm-up of a Year 10 mixed dance lesson at Woodside Comprehensive (combined approach), demonstrated the pupils' ability to apply HRE knowledge to their own specific activity (dance warm-up): "Pupils follow dance warm-up on video. Teacher explains next part of lesson – pupils' own dance specific warm up. Pupils perform own warm-up, to increase flexibility (at the bar and then on the floor)". The above statement is evidence that the pupils in the present study were addressing one of the HRE learning outcomes that must be addressed by the end of Year 10; that is, pupils must be able to, "... evaluate warm-ups and cool-downs in terms of safety, effectiveness and relevance to the specific activity" (Harris, 2000a, p.47). Nevertheless, Cale and Harris (2009a) warn against the use of always using warm-ups and cool-downs to impart HRE knowledge within permeated HRE lessons; suggesting it leads to a narrow interpretation of the concept.

Furthermore, the statement from the Year 10 mixed dance lesson was a good example of how permeated HRE can be used to help young people to, "... shift from dependence on the teacher as activity leader to a situation in which they have acquired the understanding, competence and confidence to be independently active" (Harris, 2000a, p.19). However, the warm-up and cool-down parts of a lesson are not the only places where HRE information can be imparted. As well as at the beginning of a lesson and during the main activity itself, the plenary section is a useful period in which to deliver HRE content (Harris, 2000a), as outlined in the following lesson observation statement from a Year 8 boys' dance lesson at Woodside Comprehensive: "Teacher recaps lesson

– question and answer session. Explanation of muscles used in Haka (quadriceps, biceps)”. This further contributes to the literature in this area as, to date, no studies have undertaken observations of both discrete and permeated HRE lessons with the objective of determining the amount of HRE content covered, in the form of statements noted.

The lesson observation statements that were produced for the negative permeated category were very similar across all three schools; that is, they simply stated that no HRE took place. An example of such a statement, made during a Year 7 girls’ hockey lesson at Woodside Comprehensive, is given below: “No warm up on a cold day – straight into activity. No HRE content”. This statement, although subjective in nature, was typical of those produced for the negative permeated category in the present study. Another example from a Year 11 mixed gymnastics lesson at Riverway High School highlighted a concern over safety as well as a lack of HRE delivery: “No stretches, a possible safety issue for gymnastics. No HRE in lesson”.

The lack of HRE within the PE lessons in the present study, as was evident from the above statements, provides ‘in situ’ information about HRE practice as it was experienced by the pupils. This provides further support for the HRE literature as Cale and Harris (2005a) believe the permeated delivery method is “hit or miss”. Furthermore, as a result of this piecemeal delivery, many PE teachers, whilst acknowledging the value of HRE, do not favour incorporating it into their day-to-day teaching of sports and in particular games activities (Green and Lamb, 2000). Taken together, the observations from the present study and

findings from previous research suggests that PE teachers need more guidance about the goal, philosophy, content, organisation and delivery of HRE; because at present the NCPE merely states that health and fitness must be taught (Cale and Harris, 2009a).

It was clear from the teachers' interviews that a misconception was held about the delivery of permeated HRE being in every lesson. It was therefore, perhaps, surprising that the negative permeated observation statements focused on no HRE content being delivered rather than poor implementation of permeated HRE in practice. If, as the teachers in their interviews suggested, permeated HRE should be in every lesson, one would expect to have observed some HRE during a permeated lesson. The fact that no HRE content was observed across a number of permeated HRE lessons raises an interesting issue regarding teachers' knowledge of the permeated approach and its implementation in practice. Even if no HRE content is being integrated within the lesson a warm-up should be a fundamental part of any practical PE lesson, regardless of whether it is being used as a tool for HRE content. The observation of no warm-up or stretches prior to practical activities indicates again the importance of training teachers to understand the fundamentals of HRE and safe practice in PE.

The information derived from the lesson observations in relation to this category tended to lack depth for the most part, as the negative permeated statements acknowledged that no HRE was taking place in a particular lesson. For example, a Year 10 boys' rugby lesson at Foxburgh High School reported: "No health and fitness issues discussed". This fact, along with the limited amount of research in

the area using observations of HRE practice ‘in situ’, means that further research is required to elucidate the findings in relation to the negative permeated statements identified from the lesson observations. This research should also seek to determine the amount and quality of HRE material delivered in PE lessons.

Overall, the lesson observations revealed that permeated HRE delivery tended to be conducted during the warm-up and cool-down parts of the lessons. However, the frequency with which lesson observations reported positive permeated components varied considerably across the schools (irrespective of the HRE ethos of the PE department). This indicates that a ‘gap’ may exist between the teachers’ views and opinions about the permeated approach and the practical reality of implementing it. The lesson observations also revealed that the permeated approach to delivering HRE was very ‘hit or miss’. That is to say, in some PE lessons no HRE content was delivered at all, whereas in others HRE was delivered at appropriate points throughout the lessons in acceptable ways. Other incidents from the lesson observations revealed that, on occasions, no warm-ups were conducted. However, while this would have provided an opportunity to deliver HRE content in this part of the lesson, one must also note that the safety implications of this are quite considerable especially if pupils embark from the outset in moderate-to-vigorous physical activity. It is difficult to comment further as the lesson observation statements for the negative permeated category tended to lack depth.

4.3.4 Summary

The positive permeated category produced the second highest number of statements in the study, for the teachers' interviews, the pupils' interviews, and the lesson observations. Statement frequency counts of 76 out of 332, 21 out of 71, and 29 out of 113, were reported for the teachers' interview summaries (22.9%), pupils' interview summaries (29.6%), and the lesson observations (25.7%), respectively. Despite not receiving as many statements as the positive discrete category from the teachers' and pupils' interviews, many individuals expressed favourable opinions about the permeated HRE method of delivery. This was regardless of the method of delivery the teachers or pupils experienced in their schools. However, the negative permeated category produced the third highest number of statements in the study, for the teachers' interviews, the pupils' interviews, and the lesson observations. Statement frequency counts of 58 out of 332, 14 out of 71, and 26 out of 113 were reported for the teachers' interview summaries (17.5%), the pupils' interview summaries (19.7%), and the lesson observations (23.0%), respectively. In combination, the results indicate that pupils' and teachers' perceptions and 'in situ' practice of the permeated approach to HRE were mixed, nearly as many individuals could find something negative about the delivery method as favoured it. This finding goes against the trend recognised in the research literature (Fairclough, 2002; Fairclough *et al* 2002; Cale, 2000a, 2000b; Harris, 1995) which advocates a combination of approaches to delivering HRE.

The teachers and pupils from all schools in the study, regardless of the delivery method used within the school, were able to appreciate the strengths and

weaknesses of the permeated approach. In particular, the PE teachers highlighted the association the method has with sports, stating the permeated approach reinforced the health and fitness message across all activities. This sentiment was echoed by some of the pupils who also reported that they preferred HRE to be delivered in every lesson, in small chunks, so that they would not be overwhelmed with health-related information. In addition, some of the PE teachers and pupils in the interviews went as far as to state that it was the best method in terms of obtaining lifelong health and fitness knowledge, which is something many authors believe should be one of the main goals of HRE (Cale and Harris, 2009a, 2006, 2005a, 2005b; Green, 2004; Fairclough *et al* 2002; Harris, 2000a; McKenzie and Sallis, 1996).

However, the PE teachers also reported that the permeated method of delivering HRE takes too much time away from the teaching of sports skills and requires too much additional liaison with other members of staff. In addition, many believed that the permeated delivery of HRE is merely paid lip-service within PE lessons as it is not possible to implement effectively due to limited time available (this was especially the case when members of staff lack the knowledge to deliver effectively as well). Most of the PE teachers interviewed were not satisfied with the current position of HRE within the curriculum.

Similarly, the pupils stated that they did not want permeated HRE taking time away from the delivery of sports skills. The pupils also reported that they did not want their mind in two places at once (by learning about HRE and sports skills at

the same time) and that the approach did not go into as much depth as the discrete method.

The lesson observations, on the other hand, were rather inconclusive in terms of permeated HRE delivery. They revealed the delivery method to be very ‘hit or miss’ with very well delivered content in some lessons and no HRE content at all in others. One of the combined approach schools revealed no statements at all for the positive permeated category. This indicates that a ‘gap’ exists in some cases between the positive views and opinions of the PE teachers towards the approach and the actual occurrence of permeated HRE in PE lessons. In analysing the results three key themes emerged in the discussion: i) teachers’ knowledge, skills and training regarding the delivery of HRE; ii) the effects on pupils’ progression across and within a key stage; and iii) the contribution of pupil perspectives to the understanding of pupils’ HRE experiences.

Finally, while the findings for the most part were in support of those in the literature, any discrepancies that occurred could be attributed to the different methodological procedures and participant sample from previous research (as mentioned in section 4.2.1, pages 100-101). This highlights the different perspective that the present study takes to studying HRE and more specifically the delivery methods.

4.4 Combined Category

4.4.1 Teachers' Interviews

Executive summary. Very few PE teachers had anything positive to say about the combined method of delivering HRE. Those who did merely stated that they valued an HRE 'block of work' and delivery in every lesson. Equally, no teachers had anything negative to say about the combined approach. In analysing the results two key themes emerged in the discussion: i) teachers' knowledge, skills and training regarding the delivery of HRE; and ii) the personalising of pupils' learning in HRE.

Positive statements concerning the combined approach to delivering HRE emerged as the fifth most frequently occurring response from the teachers' interview summaries. No negative statements were made by the PE teachers for the negative combined category; this is despite the category being chosen as one of the pre-analysis codes. A frequency count (and percentage) of 24 (7.2%) out of 332 statements was identified across all schools, for the positive combined category. Each school's frequency distribution for the teachers' interview statements are presented in Table 5 (page 87).

This low value for the positive combined category was also reflected in the individual schools' frequency counts. In relation to the other categories, the positive combined category was the least frequently occurring response in the teachers' interviews at Riverway High School (permeated-only), the fourth most frequently occurring response at Woodside Comprehensive (combined approach) and the fifth and joint fifth most frequently occurring response at North Fen

Community High School (combined approach) and Foxburgh High School (discrete-only), respectively.

In relation to the other schools, Woodside Comprehensive (combined approach) obtained the greatest frequency count for the positive combined category in relation to the number of statements made, with 9 out of 88 (10.2%). This was closely followed by North Fen Community High School (combined approach) with 12 out of 133 (9.0%), and Riverway High School (permeated-only) with 3 out of 46 (6.5%). Foxburgh High School (discrete-only) did not produce any statements from the teachers' interview summaries for the positive combined category.

These findings differ to those reported by Fairclough (2002) and Fairclough *et al* (2002) who reported 39% of male heads of department and 48% of female heads of department to deliver HRE using a topic-based cross-curricular methods approach through PE and other subject areas. A possible reason for the discrepancy between this study's findings and those of Fairclough (2002) and Fairclough *et al* (2002) is that the present study investigated a combined approach to the delivery of HRE; that is to say, the study considered schools which adopted the permeated HRE delivery method used in conjunction with discretely delivered HRE units of work only (the definition of a 'combined approach' for the purpose of the present study). It did not investigate the topic-based HRE delivery or HRE conducted in other curriculum areas as well as PE; as Fairclough (2002) and Fairclough *et al* (2002) did. The approach used by

Fairclough (2002) and Fairclough *et al* (2002) could be seen as utilising a ‘combination of approaches’.

Although this does not present a direct comparison, it could be said that the values obtained for the ‘combination of approaches’ identified in the studies by Fairclough (2002) and Fairclough *et al* (2002) may have been lower if the HRE delivery in the other curriculum areas had been removed. In addition, the study by Harris (1995) identified the most common method of HRE delivery to be through a combination of approaches (33.2%). However, when the HRE content from the other curriculum areas was taken out of the analysis, a lower figure was reported for the permeated and discrete methods employed as a combined approach (29.4%) (Harris, 1995). Nevertheless, this figure is still a great deal higher than that reported in the present study (7.2%). A possible explanation for this could be the different data collection techniques used, along with the slightly different samples and the various foci adopted by the studies. These differences are discussed in more detail in the discrete section of this chapter (pages 100-101).

The high number of positive combined statements produced by Woodside Comprehensive and North Fen Community High School in relation to the other schools is not surprising as the two PE departments adopt a combined approach to delivering HRE. What is interesting is that, considering both schools delivered HRE through a combined approach, the number of statements made for the positive combined category at both Woodside Comprehensive and North Fen Community High School were less than those for the positive discrete and

positive permeated categories. This suggests that the teachers in these ‘combined method’ schools may have actually preferred a single method approach (either permeated or discretely delivered HRE) and highlights a difference between their beliefs and the delivery method advocated by their PE department.

Despite this, the teachers from the two combined approach schools produced statements that were in favour of the positive combined category. Mrs Murdock, from North Fen Community High School, illustrated this in the following statement: “There’s a place for both ... I don’t think it should be exclusive, one from the other ... I think there is value in a block of work and in each lesson ... they go hand in hand”. Similarly, Mr McDowell from Woodside Comprehensive outlined his view on the combined approach: “Combined is the best way forward, no doubt about that. People [teachers] believe that is the correct system”. These positive statements about the combined method of delivering HRE are in agreement with Harris (2000a), who explains that it, “... builds on the strength of each approach. It ensures that value is placed on HRE and that the area of work is closely linked to all PE experiences ...” (p.41).

Riverway High School had the third highest percentage for the positive combined category. Again, this was to be expected as the school adopted a permeated-only HRE philosophy and it was not inconceivable to assume that the two combined approach schools would produce more statements in this category. Despite the fact that the positive combined category was the least popular at Riverway High School in terms of the number of statements made, Mr Austin managed to find something favourable to say about the combined approach;

especially with regards to how he would deliver HRE: “It would be both [methods], include the children [in the decision] and decide what would be best for them. No hard and fast rules, no one way is better than the other ... mix it up and match it with the kids [relating the method to individual teaching groups]”.

The above statement, while highlighting the positive aspects of the combined approach, also draws upon current developments within PE. Mr Austin’s focus on including children in the decision making and matching the method to the needs of his different teaching groups echoes the current thinking on the importance of pupil voice and personalising learning in PE (Frapwell and Caldecott, 2011). This flexibility in the approach to delivering HRE should help to maximise pupil learning and attainment in HRE, but can only be achieved if teachers feel confident in their knowledge and skills to create a dynamic approach to HRE delivery and are willing to engage in a process of consultation with pupils.

Foxburgh High School produced the most surprising result from this category, with no statements in favour of a combined approach to delivering HRE. Although the school delivered HRE through a discrete-only programme, it would be plausible to assume that some teachers would appreciate the relative merits of a combined approach to the delivery of HRE. However, this was not to be the case. Further to this, Harris (2000a) does indicate that planning, co-ordination and implementation problems can arise from adopting a combined method. It is

thus possible that an issue such as this may have deterred the PE teachers at Foxburgh High School from making positive comments.

In the within question analysis, the positive combined category produced mixed results for the number of statements reported across all schools and for all five questions asked during the teachers' interviews. The number of statements was generally low for this category. It was clear from the teachers' interview summaries that most PE teachers favoured either the discrete or permeated method over that of the combined approach to delivering HRE; as was evident from the results of questions one to four. The frequency distribution for the teachers' interview summaries for each question is highlighted in Table 6 (page 97).

However, when asked which method of delivering HRE the PE teachers would adopt if they were heads of department, 21.2% (11 out of 52) of statements were in favour of the combined approach. This was the second most popular option and provided a similar value to that in the research literature (Cale, 2000a; Fairclough, 2002; Fairclough *et al*, 2002; Harris, 1995). An example of one of the few statements identified for the positive combined category with regards to this issue, was outlined by Mr Banner, from North Fen Community High School (combined approach), who expressed his future vision for combined HRE:

If I were a head of department, in an ideal world, it would be delivered as a practical and theory lesson, as a block, and permeated. ... Deliver it as a block early on in the year, setting the foundations for the rest of the year, then build on it as you go through, adapting the content, for every sport, in lessons.

The intention of Mr Banner may be to provide a comprehensive HRE curriculum, however, the inclusion of theory lessons may be detrimental to the pupil experience. One of the aims of HRE is to equip pupils with knowledge in relation to skills to lead physically active lifestyles. Therefore active PE lessons which provide a link between knowledge and skills rather than inactive lessons with excessive theory are desirable (Harris, 2005). Furthermore, the inclusion of theory lessons may reflect a teacher's lack of confidence in their skills and knowledge to deliver in-depth HRE knowledge in a practical setting.

It is difficult to explain why so few teachers had anything positive to say about the combined approach, especially as one of the desirable practices for the delivery of HRE, in terms of breadth and relevance, is that it should be "comprehensive" (Harris, 2000a), something the combined approach can reportedly achieve. It may be that the practicalities of delivering combined HRE in the schools concerned (those who had already adopted the practice and those who may have considered it as an option) was such that it is difficult to plan, co-ordinate and implement and, as a result, was not something that was viewed positively.

That said, it would seem reasonable to assume that the PE teachers, when interviewed, would appreciate that from a theoretical standpoint at least, the combined approach to delivering HRE would have the most benefits by drawing on the strengths of both approaches and, therefore, make some statements in favour of this category. However, Cale and Harris (2009a) claim that PE heads of department and their PE staff are the best people to decide what approach to

adopt as they are familiar with the students and the school and have a knowledge of the strengths and weaknesses of the different HRE delivery methods. If this is so, it may be that the PE teachers from the single-method schools (Riverway and Foxburgh High Schools) were content with their HRE delivery, as was evident from the number of statements made in these categories, and that the combined-method schools (North Fen Community High School and Woodside Comprehensive) were not. Further research into the congruence of PE teachers' perceptions about HRE and the HRE ethos in PE departments would help to explore the effects on the delivery of HRE in schools.

Overall, the main findings revealed that very few PE teachers had anything positive to say about the combined approach. Those who did make positive comments tended to focus on the fact that they valued a 'block of work' as well as delivery in every lesson, stating that the two approaches go hand-in-hand. It is difficult to explain why so few PE teachers commented in a positive manner about the combined delivery of HRE especially as, in theory at least, the approach should build upon the strengths of both permeated and discrete methods making it arguably the most desirable method for PE departments to adopt.

4.4.2 Pupils' Interviews

Executive summary. Similar to the teachers, very few pupils had anything positive to say about the combined method of delivering HRE. Those who did merely stated that they valued an HRE 'block of work' and delivery in every lesson. Equally, no pupils had anything negative to say about the combined

approach. In analysing the results a key theme emerged in the discussion regarding pupils' progression within and across a key stage.

The pupils' interview summaries, in agreement with the statements obtained from the teachers' interviews, also identified the positive combined category as the fifth most frequently occurring response. A frequency count (and percentage) of 4 (5.6%) out of a total of 71 statements across all schools was identified. No negative statements were made by the pupils for the negative combined category; this is despite the category being chosen as one of the pre-analysis codes. The frequency distribution of each school's statements for the pupils' interview summaries are displayed in Table 7 (page 103).

This low value for the positive combined category was reflected in all but one of the individual schools' frequency counts. In relation to the other categories the positive combined category was one of the least frequently occurring responses in the pupils' interviews at Riverway High School (permeated-only) and the fifth and the fourth most frequently occurring response at North Fen Community High School (combined approach) and Foxburgh High School (discrete-only), respectively. At Woodside Comprehensive (combined approach), the positive combined category was the third most frequently occurring response.

In relation to the other schools, Woodside Comprehensive (combined approach) obtained the greatest frequency count for the positive combined category in relation to the number of statements made, with 3 out of 16 (18.8%). This was followed by North Fen Community High School (combined approach) with 1

statement out of 28 (3.6%). Both Riverway (permeated-only) and Foxburgh (discrete-only) High Schools did not produce any statements from the pupils' interview summaries in favour of the positive combined category.

The fact that Woodside Comprehensive and North Fen Community High School produced more statements in comparison to the other two schools for the positive combined category is not surprising as both schools delivered HRE through a combined approach. However, what was interesting was that the positive combined category produced only the third highest and fifth highest frequency counts, respectively within these two combined-method schools, in relation to the other categories. This suggests that the pupils at these two schools may actually prefer a single-method delivery of HRE, such as either a permeated or discrete approach.

Any statements that were made by the pupils in support of the positive combined category gave no indication as to why they favoured the combined delivery of HRE, other than that they preferred it over the other methods of delivery. An example of such a statement was given by Neil, a Year 7 pupil from Woodside Comprehensive: "I like HRE in both blocks of work and in each lesson". Likewise, Oliver, a Year 8 pupil from the same school produced a similar statement: "I like a bit of both, in a block and in each lesson".

It would be unwise to offer any further comment on the above statements as they provided only "surface" levels of experience (Groves and Laws, 2000), that is, the statements are relatively superficial in nature. Further, the interpretation of a

pupil's statement, according to Groves and Laws (2000), "... may only be developed through further information offered by the child themselves and not on our own assumptions" (p.21). However, it should not be forgotten that some children do find it difficult to express themselves at a deeper level when assessing their experiences of PE (Groves and Laws, 2003).

Having said that, Joe, a Year 11 pupil from Woodside Comprehensive, offered further insight into why he preferred the combined method of delivering HRE:

I favour both methods of delivering HRE, but I believe that putting it into every lesson you can relate the HRE knowledge well to a sport in particular, marry the two together. Although you cannot go in as much depth when putting HRE into other lessons [permeated approach].

This also provided a pupil perspective on permeated HRE that echoed those of the teachers highlighting similar strengths and weaknesses. Nevertheless, this statement alone is not enough to reveal anything further with regards to the present study's findings about the pupils' views and opinions of the combined delivery of HRE. On a similar note, the absence of statements from the pupils at Foxburgh and Riverway High Schools makes it difficult to comment further on the positive combined category. It may be that as both schools adopted a single-method only approach to the delivery of HRE, then the pupils at these schools may not have had the knowledge or experience of a combined HRE approach. If this were so, then the pupils would not be inclined or able to make any favourable statements for this category.

The within question analysis revealed that the positive combined category was the second least popular response across all schools, for the questions asked during the pupils' interviews. When asked which method of HRE delivery the pupils preferred, only 4.8% (2 out of 42 statements) responded in a favourable manner with regards to the positive combined category. Similarly, a value of 2 out of 29 statements (6.9%) was recorded for the question concerned with what the pupils thought about when health-related issues were incorporated into their other PE lessons. These results are consistent with the other low values reported in the present study for the positive combined category. Furthermore, due to a lack of statements produced for the positive combined category, across all schools and for all questions asked during the pupils' interviews, it is not really possible to draw any further conclusions about the pupils' views and opinions of combined HRE delivery. The frequency distribution for the pupils' interview statements for questions 3 and 4 are displayed in Table 8 (page 109).

In summary, very few pupils responded in a positive manner towards the combined approach. Those who did make positive comments simply stated that they preferred HRE to be delivered in 'blocks' and across activity areas. However, these statements were rather superficial in nature.

4.4.3 Lesson Observations

No lesson observations were undertaken for the positive combined or the negative combined categories. The reasons for this decision were outlined in the method chapter.

4.4.4 Summary

The positive combined category produced the fifth highest number of statements in the study, for the teachers' and pupils' interviews. Statement frequency counts of 24 out of 332 and 4 out of 71 were reported for the teachers' (7.2%) and pupils' (5.6%) interview summaries, respectively. However, within the schools themselves the positive combined category produced a range of results in relation to the other categories for the questions asked during the teachers' and pupils' interviews. No lesson observations were undertaken for the positive combined category.

Very few PE teachers or pupils in the study had anything positive to say about the combined method of delivering HRE. Those who did merely stated that they valued an HRE 'block of work' and delivery in every lesson. This is in contrast to the research literature (Fairclough, 2002; Fairclough *et al*, 2002; Cale, 2000a; Harris, 1995) that claims the combined method is the most favourable approach to delivering HRE. However, due to the low number of statements produced for this category it is not possible to elaborate on why the disparities in popularity exist. Furthermore, as the present study was the first to specifically focus on pupils' perceptions of HRE delivery methods, there is limited evidence against which to make comparisons. What is evident is that more research is needed on the combined approach to fully explore this delivery method, especially from the pupils' perspective.

Finally, in analysing the results four key themes emerged in the discussion: i) teachers' knowledge, skills and training regarding the delivery of HRE; ii) the

personalising of pupils' learning in HRE; iii) the contribution of pupil perspectives to the understanding of pupils' HRE experiences; and iv) pupils' progression across and within a key stage.

4.5 Unclassified Responses

4.5.1 Teachers' Interviews

Executive summary. Teachers commented on their role in promoting health and physical activity to young people and the need for HRE to be more explicit in the NCPE. A key theme that emerged in the analysis of the results was the importance of personalising pupils' learning in HRE.

The statements obtained from the teachers' interviews which fell into the unclassified responses category, referred to general issues such as health, exercise, and physical activity. The HRE statements mentioned in this category referred to the concept itself and not to the permeated, discrete or combined methods of delivery. The teachers' interview summaries produced a frequency count (and percentage) of 33 (9.9%) out of a total of 332 statements across all schools, for the unclassified responses category. This was the fourth highest number of statements made; 25 statements (7.6%) less than the negative permeated category. The status of the unclassified responses category, in relation to the number of statements made in the other categories, was not replicated in all of the individual schools' frequency counts (in two schools the category was the fifth most frequently occurring response). A breakdown of the frequency distribution for the teachers' interview statements can be seen in Table 5 (page 87).

North Fen Community High School (combined approach) obtained the greatest frequency count for the unclassified responses category in relation to the number of statements made, with 17 out of 133 (12.8%). This was followed by Riverway High School (permeated-only) with 4 out of 46 (8.7%), Woodside Comprehensive (combined approach) with 7 out of 88 (8.0%), and Foxburgh High School (discrete-only) with 5 out of 65 (7.7%). The frequency distribution for the teachers' interview summaries for each question is presented in Table 6 (page 97).

One of the main issues raised by the PE teachers at North Fen Community High School was the importance of teaching health-related material in PE lessons. Mr Cashmere highlighted his opinion on the matter in the following statement: "It's really important, especially with the number of kids that are obese and not getting any exercise in society". Mr Cashmere continued by claiming that, "It's important, especially for us as PE teachers to promote physical activity and then [the pupils] to know why they're doing it". This view was in agreement with the literature (Cale, 2000a, 2000b, 1997; Pate and Hohn, 1994; Simons-Morton, 1994; Almond, 1990, 1983), which suggests that PE lessons are an appropriate setting for the delivery of health-related material and that PE teachers have an important role to play in the promotion of HRE and physical activity. However, Simons-Morton (1994) urges caution in relation to PE's role in the wider context:

Physical education cannot by itself be expected to reduce the prevalence of sedentary behaviour among the population. Also required are increased availability and improved quality of public areas and facilities, expanded community programs (sic), and changes in adult norms with respect to physical activity.... Nevertheless, PE is a critical element in the process because it alone has the opportunity to educate the nation's

youth in a systematic manner, thereby increasing the population's knowledge, improving attitudes and skills, and providing a substantial dose of correct practice (p.138).

Further to this, Mr Banner, also from North Fen Community High School, believed that within PE, "Activities are taught for fun, but also for health reasons, which is why we do the subject... [health] it's the crux of everything we do". This perspective of health, as the main focus of PE lessons, is common amongst PE teachers (Armour and Jones, 1998). PE teachers believe that a health and fitness agenda is part of their role as physical educators (Armour and Jones, 1998). However in reality, not as much health and fitness is achieved in PE lessons as they would like, due in part to the limited time PE teachers spend with pupils (Armour and Jones, 1998).

The importance of teaching health-related material in PE lessons was also one of the issues raised by PE teachers from Woodside Comprehensive (combined approach) and Riverway High School (permeated-only). Miss Parker, from Woodside Comprehensive, claimed that it was, "Very important, makes children understand why they're taking part, why they need to exercise to stay healthy... [and] the need to exercise regularly". Whereas, Miss Danvers, from Riverway High School, firmly stated her opinion: "I think it's vital, I think pupils need to know it to develop their knowledge, so they're aware of why they're doing activities and how it can benefit them". The health ideology, evident in the statements by Miss Parker and Miss Danvers, is something that has become more prevalent in PE teachers' 'philosophies' over the last decade (Green, 2009, 2003). The high profile that health and HRE have been afforded within PE in

recent years is important if the ‘movement’ is to continue to advance and not simply fade away (Harris, 2000a; Almond and Harris, 1997a; Cale, 1996; Fox, 1992).

Another issue that was raised by many PE teachers in the present study was that of the place of health and HRE within the National Curriculum for Physical Education. Mr McDowell, from Woodside Comprehensive, claimed that: “It isn’t given as much credibility, in the National Curriculum, as it deserves to be”. On a similar note, Miss Saunders, from North Fen Community High School, reported that: “It’s good that it’s in the Curriculum but it’s vague, people doing different things, doesn’t say what you should teach”. It is clear from the above statements that the PE teachers wanted to raise the status of health within the NCPE as well as needed more guidance and explanation on how best to plan and implement health-related material within PE lessons. Future research should investigate the quality and effectiveness of the different approaches to HRE delivery and the contribution they make to a personalised learning experience in HRE.

However, Cale and Harris (2009a, 2005a) believe that HRE should be implemented according to the professional judgement of curriculum leaders and heads of PE, as they are in the best position to make decisions based on their own settings. While this may be the case, several schools still adopt many undesirable practices such as a focus on fitness rather than health and adopting gendered practices rather than promoting equity and inclusion (Cale and Harris, 2009a, 2005a; Fox and Harris, 2003; Harris and Penney, 2000). This is despite

the stronger position that health-related issues have achieved in subsequent revisions of the NCPE (DCSF and QCA, 2007) and the useful guidance material produced by Harris (2000a); which covers numerous aspects of HRE, such as delivery and assessment, requirements and approaches, and schemes and units of work, to name but a few. It is evident then that the status of health and HRE needs to be raised even more so at a school level (Cale and Harris, 2009a, 2005a), as well as further guidance and instruction being given on it at a government level (Fox and Harris, 2003) and therefore feeding into ITE programmes more explicitly.

In summary, the main issues that emerged from the teachers' interviews for the unclassified responses category centred on the importance of teaching health-related material in PE lessons, the health ideology of PE teachers and the promotion of physical activity, and the place of health and HRE within the NCPE.

4.5.2 Pupils' Interviews

Executive summary. Pupils commented on the activities they did not enjoy in HRE lessons and also on the teaching styles that can be used during HRE lessons. A key theme that emerged in the analysis of the results was the importance of personalising pupils' learning in HRE.

The pupils' interview summaries, in agreement with the statements obtained from the teachers' interviews, also identified the unclassified responses category as the fourth most frequently occurring reply. A frequency count (and

percentage) of 6 (8.5%) was identified for the unclassified responses category across all schools, out of a total of 71 statements. The status obtained by the unclassified responses category was not, however, reflected in all of the individual schools' frequency counts. A breakdown of the frequency distribution for the pupils' interview statements is displayed in Table 7 (page 103).

Riverway High School (permeated-only) obtained the greatest frequency count for the unclassified responses category, in relation to the number of statements made, with 2 out of 9 statements (22.2%). This was followed by North Fen Community High School (combined approach) with 3 out of 28 statements (10.7%) and Woodside Comprehensive (combined approach) with 1 out of 16 statements (6.3%). Foxburgh High School (discrete-only) did not produce any statements from the pupils' interview summaries in the unclassified responses category. The frequency distribution for the pupils' interview summaries for each question is presented in Table 8 (page 109).

The limited number of statements obtained from the pupils' interviews for the unclassified responses category, along with the 'surface' levels of experience reported by the pupils' (Groves and Laws, 2000), meant that it was difficult to elaborate any further on the content of the statements. As was mentioned previously in this category, the HRE statements referred to the concept itself and not to any of the methods of delivery. It is therefore possible that this finding indicates pupils' knowledge of the HRE concept itself to be limited, despite the purpose of HRE being to develop pupils' knowledge and understanding as well as their skills.

The main issue expressed by the pupils in the study for the indifferent response category was concerned with what HRE activities or tasks they did not enjoy. An example of such a statement from this category was given by Thomas, a Year 9 pupil from North Fen Community High School (combined approach): “I am not into circuits, but I realise that it helps to improve my fitness”. On a similar note, Edward, also a Year 9 pupil from the same school, stated that he was: “... not keen on team activities, I prefer individual activities on my own”.

The above two statements highlight the need for pupils to undertake HRE activities or tasks which they enjoy. Enjoyment in HRE activities is essential if pupils are to develop a knowledge and understanding of health and fitness issues which they can utilise in later life (Cale and Harris, 2009a). Further to this, the PE curriculum content, and the activities selected, have been one of the major factors reported in turning pupils on to, or off, PE (Lake, 2001; Kirk and Tinning, 1990; Figley, 1985). However, this does not have to be the case with HRE, as “everyone can find the right kind of exercise for them” (Cale and Harris, 2009a, p.117). Furthermore, with the recent focus on personalising learning in PE and engaging in pupil consultation (Frapwell and Caldecott, 2011) there is no reason why HRE cannot be a more enjoyable learning experience.

Nevertheless, Almond (1990, 1983) believed that there was a need to change the focus of many PE curricula in order to incorporate more lifestyle activities. The activities offered to pupils should furthermore reflect those who they are likely to pursue decades after they have left school (such as walking, swimming, and cycling) (Green, 2004). The range of activities observed in the PE lessons in the

present study highlighted that this is still an area in need of change (Appendix 3, page 252). Furthermore, in order to be successful, the content needs to be designed so that it is:

... inclusive and reflects the activity needs, interests and preferences of the students. Focus on a broad range of activities including non-competitive, more individually orientated and unstructured activities. ... [and] Adopt student-centred methods and teaching styles which involve students in decision making (Cale and Harris, 2006, p.414).

On a similar note, the teaching styles used by PE teachers to deliver HRE sessions were also mentioned by some of the pupils in the study. For example, Adam, a Year 10 pupil from Riverway High School (permeated-only), reported the following: “I don’t like people correcting my technique, my peers that is [reciprocal teaching]... [also] I don’t like running with slower people during activities, I have to drop back and help out”. This finding provided a pupil perspective in support of previous research which claims that PE teachers need to be flexible in their teaching styles and approaches to delivering HRE (Harris, 2000a). Harris (2000a) identifies inclusive, modified, and parallel activities as being essential in HRE sessions in order to involve a wide range of pupil abilities.

In addition, the amount of physical activity undertaken in HRE sessions has a strong link with the style and approach used by PE teachers in such sessions (Harris, 2009; Cale and Harris, 2009a, 2005a, 2005b, 2005c). Some HRE delivery can result in reduced activity levels in young people due to excessive teacher talk (Cale and Harris, 2009a; Harris, 2000a). However, this did not seem

to be the case in the present study as was evident from the statement by Neil, a Year 10 pupil from Woodside Comprehensive (combined approach): “The teachers rarely let us stand for long [during HRE sessions]”.

Overall, the main issues that were highlighted by the pupils during the interviews for the unclassified responses category were concerned with the HRE activities or tasks that they did not enjoy and the learning styles that were used by PE teachers to deliver HRE sessions.

4.5.3 Summary

The statements obtained for the unclassified responses category produced the fourth highest number of statements in the study, for the teachers’ and pupils’ interviews. Statement frequency counts of 33 out of 332 and 6 out of 71 were reported for the teachers’ (9.9%) and pupils’ (8.5%) interview summaries, respectively. However, within the schools themselves, the unclassified responses category produced mixed results for the questions asked during the teachers’ and pupils’ interviews. Lesson observations did not focus on and record any unclassified responses.

Many individuals in the study clearly outlined their views and opinions about the concept of HRE in general. In particular, the PE teachers mentioned the importance of implementing health-related material into PE lessons and were aware of their role in the need to promote health and physical activity to young people. According to Green (2009, 2003), this health ideology has risen to occupy a ‘prominent place’ in the thinking of many PE teachers in recent years.

In addition, the PE teachers referred to the place that health and HRE occupy within the NCPE. Most felt that the status of health and HRE within the NCPE needed to be more explicit, which supports the academic view on the matter (Harris, 2000a; Almond and Harris, 1997a; Fox, 1992).

The pupils in the study produced statements for the unclassified responses category that made reference to the activities and tasks that they did not enjoy in HRE sessions, as well as their concerns over some of the teaching styles used by PE teachers to implement HRE in PE lessons. These concerns provided a pupil perspective to support Harris (2000a), who suggests that PE teachers should be more flexible and inclusive in their approach to delivering HRE, so that all pupils can enjoy the subject and find an activity that is right for them. A key theme that emerged in the analysis of the results was the importance of personalising pupils' learning in HRE.

4.6 Pupils' Preferences for Physical Education Activities

Executive summary. The pupils reported that they most enjoyed taking part in games activities during PE lessons and outside of school. However, the activity that they were most likely to participate in during HRE lessons was circuit training. The comments suggest that little has changed with regards to the activities included in HRE lessons.

When asked which activities or sports the pupils enjoyed taking part in during PE lessons, 69.1% (56 out of 81 statements) responded in a favourable manner for the games activities category. The second most frequently occurring response

from the pupils' interviews, when classified as a PE activity area, was the athletic activities category with 13 out of 81 statements (16.0%). This was followed by the gymnastic activities category and unclassified responses category, which both achieved 4 out of 81 statements (4.9%) and finally the dance activities category and the swimming activities category (both receiving 2 out of 81 statements; 2.5%).

Further to this, when asked which activities or sports the pupils enjoyed taking part in outside of school time, 71.4% (10 out of 14 statements) responded in a positive manner towards the games activities category. This was followed by the unclassified responses category with 2 out of 14 statements (14.3%) and the outdoor and adventurous activities category and athletic activities category both with 1 out of 14 statements (7.1%). The frequency distribution for pupils' interview summaries for question 1 can be seen in Table A3 (page 259) and A4 (page 260).

These findings are in agreement with some of the findings from the literature (Fairclough, 2003; Jones and Cheetham, 2001; Lake, 2001; Sleaf and Wormald, 2001) which report that pupils tend to favour or enjoy team sports more than any other activities or sports in PE lessons. However, the results from the study, along with those from the literature, are not that surprising considering a significant emphasis is placed on team games within the PE curriculum (Cale and Harris, 2006; Fairclough, 2003). This is something that has developed over a number of years as a result of a long tradition within the PE community for adopting games-based curricula (Green, 2002).

In contrast, Goudas and Biddle (1993) reported that only 35.6% of pupils in their study enjoyed games activities; a value considerably lower than the one stated in the present study for the same category (69.1%). The most enjoyed sports or activities identified by the pupils in their study were individual activities (38.2%). This is similar to the sum of the scores for the individual-type activities (swimming, dance, and gymnastic activities) identified in the present study (25.9%). However, caution should be applied in this instance as the study by Goudas and Biddle (1993) did not identify the individual activities concerned, and the individual-type activities in the present study may have had some team-based focus during their delivery.

Further to this, in the study by Goudas and Biddle (1993) 57.0% of pupils reported that they did not enjoy individual activities while only 15.1% of pupils did not enjoy games activities. These results may suggest that overall, games activities were the most enjoyed sports or activities by pupils and would therefore be in agreement with the findings from the present study. In summary, the main finding that emerged from the pupils' interviews for this question was that team activities were the most favoured sports or activities during PE lessons (69.1%) and outside of school (71.4%).

When asked which kind of activities the pupils participated in during health-related exercise lessons, 23.4% (18 out of 77 statements) responded with circuit training. The second most frequently occurring response from the pupils' interview summaries was running or athletic-type activities with 15 out of 77 statements (19.5%). This was followed by the multistage fitness test with 12 out

of 77 statements (15.6%) and then the unclassified responses category with 7 out of 77 statements (9.1%). The frequency count for the eight other activities identified by the pupils during the interviews can be seen in Table A5 (page 261).

These findings seem to be in agreement with those of Cale (2000b), who suggests that circuit training and cross country are the most popular health-related physical activities offered by schools as both a compulsory or optional component. In addition, Cale (2000a, 2000b) identified aerobics, weight training and skipping as being popular health-related activities in a school-based setting. Skipping was the only popular activity identified by Cale (2000a, 2000b) that did not feature in this study.

Further to this, Harris (2009, 2000a, 1995) reported that fitness testing has tended to dominate many HRE sessions in schools. This would also seem to be the case in this study with fitness testing (the multistage fitness test and the Cooper 12-minute walk-run test scores combined) being reported by 20.8% of the pupils (16 out of 77 statements), as an HRE activity that they undertook in PE lessons. When the multistage fitness test and the Cooper 12-minute walk-run test scores were combined, this made the 'fitness testing category' the second most frequently occurring response in the present study. Harris (2009, 2000a) continued by claiming that blocks of aerobics, cross country running, and circuit training are common place in school settings and are implemented under the banner of HRE. This is especially worrying as many reports state that pupils dislike fitness-orientated activities, such as cross country running (Sleap and

Wormald, 2001; Jones and Cheetham, 2001; Pugsley, Coffey and Delamont, 1996; Goudas and Biddle, 1993). Despite the detrimental effects of pure exercise or fitness-based HRE delivery being well-documented (Harris, 2010, 2009, 2005; Harris and Penney, 2000), the comments from the pupils in the present study suggest that little has changed with regards to the activities included in HRE lessons.

In addition, Harris and Penney (2000) suggested that the most popular theoretical content covered in HRE lessons was cardiovascular health or stamina (92.0%), followed by suppleness, flexibility, and stretching (87.4%) and muscular strength and endurance (84.2%). Fitness testing was the fourth most popular choice (61.0%) amongst the schools surveyed. The content-related findings identified by Harris and Penney (2000) echoed those found in the present study, with cardiovascular-, flexibility-, and muscular strength-type activities dominating the top ten HRE activities highlighted by the pupils' interview statements. On a similar note, Harris and Penney (2000) reported that cross country running (61.5%) and circuit training (56.2%) were the two most popular compulsory HRE practical activities across all of the secondary schools surveyed. These two HRE activities were also the two most frequently stated by the pupils in the present study (circuit training, 23.4%; and running/athletic-type activities, 19.5%). However, it is not clear whether the pupils in the present study undertook these activities as a compulsory component of their PE curriculum or as an optional activity. Overall, the main finding that became apparent from this question was that circuit training (23.4%) was the most commonly performed or regularly undertaken activity by the pupils during HRE lessons.

4.6.1 Summary

The pupils' interviews revealed that most pupils enjoyed taking part in games activities during PE lessons (69.1%; 56 out of 81 statements). This was followed by athletic activities (16.0%; 13 out of 81 statements) and gymnastic activities and unclassified responses (4.9%; 4 out of 81 statements each). Similarly, most pupils enjoyed taking part in games activities outside of school time (71.4%; 10 out of 14 statements). Unclassified responses (14.3%; 2 out of 14 statements), athletic activities (7.1%; 1 out of 14 statements), and outdoor and adventurous activities (7.1%; 1 out of 14 statements) were the other categories identified by the pupils. These findings were in agreement with the literature and were not that surprising considering the significant emphasis placed on team games within the PE curriculum and the long tradition within the PE community of adopting games-based curricula (Cale and Harris, 2006; Fairclough, 2003; Green, 2002).

Further to this, it also emerged from the pupils' interviews that circuit training was the most common or regularly performed activity by the pupils during HRE lessons (23.4%; 18 out of 77 statements). Running or athletic-type activities achieved the second most frequently occurring response from the pupils' interviews (19.5%; 15 out of 77 statements), followed by the multistage fitness test (15.6%; 12 out of 77 statements). The other nine categories can be seen in Table A5 (page 261).

Again, these findings are in agreement with those stated in the research literature (Harris, 2009, 2000a; Harris and Penney, 2000; Cale, 2000a, 2000b), specifically, that HRE lessons are dominated by fitness-related activities;

especially cardiovascular, flexibility, strength, and fitness testing content (Harris and Penney, 2000). To some extent, this was to be expected because of the fitness-orientated emphasis placed on HRE lessons by male PE teachers (Harris and Penney, 2000) and the traditional emphasis of PE curricula towards fitness and performance (Green, 2008).

Chapter 5

CONCLUSION

5.1 The Research

This research has provided an in-depth investigation into the methods of delivering HRE in secondary school PE. Specifically, the study sought to understand: i) teachers' and pupils' perceptions of the discrete, permeated and combined approaches of delivery, and ii) how teachers incorporate HRE into 'in situ' practice when using the different delivery methods. The study adopted a qualitative perspective and used interviews to illuminate the perceptions of HRE delivery methods from two key social agents in the PE setting and lesson observations to understand 'in situ' practice.

5.2 Summary of Research Findings

The discrete approach was found to be by far the most popular method of delivering HRE in the study. The delivery method produced the highest number of positive statements and the lowest number of negative statements from the teachers' and pupils' interviews and the lesson observations. In particular, the PE teachers preferred the discrete approach because it allowed a designated time slot to undertake meaningful health and fitness work. The pupils also preferred HRE being delivered in a discrete manner because it was more 'functional' than

other approaches and allowed them to concentrate on one aspect at a time within a lesson. In addition, the lesson observations revealed that discretely delivered HRE allowed PE teachers to provide more in-depth content within lessons, along with scope for more detailed questioning and greater monitoring and assessment.

Some concerns were raised in the study around discretely delivered HRE which were often associated with a narrow interpretation or misunderstanding of discrete HRE delivery. Specifically, these included the long delay between units of work, the association with fitness testing, the low physical activity levels associated with excessive teacher talk, and the limited explanations of why activities were undertaken by pupils. However, these instances were few and far between with most individuals reporting, and observations revealing, good discrete HRE practice.

The two other approaches (permeated and combined) investigated in the study revealed mixed results. The permeated delivery method was both popular amongst some PE teachers and pupils and unpopular with others (almost in equal measures). That is, nearly as many negative statements were elicited as positive ones for the teachers' and pupils' interviews and lesson observations. For the combined approach, very few PE teachers or pupils had anything positive to say about the delivery method, but equally, nobody produced any negative statements either.

In the study, the PE teachers and pupils both stated that the permeated approach had a useful association with sports, spreading the health and fitness 'message'

across all activities. The PE teachers also reported that the permeated method of delivering HRE was probably the most effective in promoting lifelong learning, whereas the pupils preferred to cover little chunks of HRE in most lessons so as not to become overwhelmed with health-related information. However, some PE teachers reported that the permeated method of delivery required additional planning and liaison with staff and could not be delivered effectively within the time available. As a result of this, the delivery method was merely paid lip-service to, especially by staff without the appropriate health and fitness knowledge. However, it was evident that many teachers misunderstood how to implement the permeated approach to HRE in practice which may account for the content of the negative comments to the permeated approach. The pupils outlined their dislike for having their mind ‘in two places’ with regards to the permeated method (e.g. health or fitness and sports specific objectives), as well as the fact that the approach also took time away from learning sports skills. In addition, the lesson observations for the permeated delivery method revealed good HRE practice in some lessons while in others there was no HRE content at all. This made the approach very ‘hit or miss’ in terms of adequate provision for the pupils and, at times, displayed a ‘gap’ between the views and opinions of the PE teachers about the permeated approach and what was actually being delivered.

In contrast to this, the comments that were made by the PE teachers and pupils for the combined approach tended to be relatively superficial in nature, simply reporting that the preference was to deliver both methods (permeated and discrete) together within the curriculum. Furthermore, no lesson observations

were available for the approach. This combination of very low numbers of predominantly superficial statements, coupled with the absence of observations of the combined delivery method, has meant that it is difficult to expand further on these findings.

In addition to the results concerning the methods of delivering HRE, the unclassified responses category revealed that the PE teachers highlighted the importance of teaching health-related material and promoting physical activity in PE lessons. They also thought that the position of HRE within the NCPE should be more explicit. The pupils, on the other hand, reported on the HRE tasks and activities that they did not enjoy and the learning styles used to deliver HRE sessions. However, most statements concerning these issues were too few and superficial in nature to expand upon further. In response to questions one and two, the pupils also stated that their favourite activities within PE lessons, and outside of school time, were games activities and that circuit training was the most popular HRE activity offered by schools.

Four recurring themes emerged in the analysis and discussion across all the categories. These were: i) teachers' knowledge, skills and training regarding the delivery of HRE; ii) the effects on pupils' progression across and within a key stage; iii) the personalising of pupils' learning in HRE; and iv) the contribution of pupil perspectives to the understanding of pupils' HRE experiences. These themes form the basis of the discussion in the implications section of this chapter (section 5.4) and have been integrated into two higher order themes: i) teachers' beliefs and knowledge about HRE; and ii) the PE curriculum and HRE.

5.3 Contribution to the Field

HRE has gained considerable momentum within many UK schools since its inception during the 1980s, becoming a permanent component of the PE curriculum (Harris, 2010, 2009; Cale and Harris, 2009a; Green, 2008). Since that time, a greater emphasis has been placed on health in PE and its position within the NCPE document has strengthened (DES and WO, 1992; DFE and WO, 1995; DfEE and QCA, 1999; DCSF and QCA, 2007). However, the ambiguous nature of the NCPE during this period has led to HRE being interpreted in numerous ways, with some practices being educationally undesirable (Cale and Harris, 2009a; Harris, 2009, 2005, 2000a). Furthermore, the fact that the NCPE only provides guidance on the content to be taught and not ‘how’ the content should be implemented has led to further confusion amongst PE teachers as to the most appropriate delivery method to adopt (Harris, 2009). These concerns highlight the need to establish clear research evidence on the methods of delivering HRE. To date, there has been little, if any, prior research specifically examining the delivery methods of HRE and this indicates the importance of the research findings in the present study.

This thesis provides insight into the methods of delivering HRE in secondary school PE lessons. It makes several important contributions to the HRE delivery literature including the determination of discretely delivered HRE as the preferred delivery method amongst PE teachers and pupils due to its designated time slot and ‘functional’ nature, the identification of the permeated method as the most ambivalent HRE approach, and the establishment of the combined delivery method as the approach held in the lowest regard by PE teachers and

pupils alike. The thesis also reinforces other aspects of HRE, and PE in general, which have been established in the research literature, notably, the importance that PE teachers place on teaching health-related material and promoting physical activity within lessons and the pupils' favourite activities in PE and HRE.

This work is important because it sought the views and opinions of PE teachers and pupils with regards to the delivery of HRE. Most previous research (Fairclough *et al*, 2002; Cale, 2000a, 2000b; Harris, 1994b) has focused only on the views of PE heads of department, with the exception of Green and Thurston (2002) who obtained both PE teachers and PE heads of department views (57% and 43% of sample, respectively), and has ignored the pupil 'voice' (O'Sullivan and MacPhail, 2010). The need to seek PE teachers' views and opinions on the matter are essential if further understanding of the delivery methods are to be obtained, as teachers are the ones who deal with the various conflicts, challenges, and issues surrounding HRE on a regular basis (Armour and Jones, 1998). Likewise, the views and opinions of pupils are valuable in aiding practitioners, researchers, and policy makers in understanding and identifying issues relating to HRE delivery (Sandford *et al*, 2010; Flutter and Rudduck, 2004; Prout and Hallett, 2003).

This work is also important because it investigated the extent of HRE delivery in lessons, through qualitative observations. To date, no studies have investigated the delivery methods of HRE through the observation of PE lessons. Observing HRE 'in situ' is useful in determining the similarity or differences between the PE teachers' and pupils' views and opinions and what actually occurs in practice

in PE lessons. This was evident in the study where 10 out of the 23 observed permeated HRE lessons (43.5%) covered no HRE content whatsoever; which is at odds with the reports from the PE teachers and pupils who claimed HRE was delivered across a range of sports and activities. It is clear that further research is required in this area in order to enhance our understanding and reduce the ‘gap’ between views, opinions, and policy and actual practice to ensure all pupils receive an explicit, comprehensive, coherent and inclusive HRE programme (Cale and Harris, 2005a).

The positioning of the study’s findings within the field varies according to the specific components investigated. For some aspects, the findings support and extend previous work in the area, whereas other findings challenge previously held opinions on the matter. For instance, one of the main findings of the study, that the PE teachers prefer to deliver HRE in a discrete manner, challenges the latest ‘thinking’ on the subject which suggests a combined approach to HRE delivery is preferred (Fairclough *et al*, 2002; Cale, 2000a, 2000b). The preference for discretely delivered HRE by the PE teachers in the study is more aligned with earlier positions held by the PE academic community during the 1990s (Harris, 1994b) and supports the work of Green and Thurston (2002) in relatively recent years.

On a similar note, the ambivalent perspective expressed by PE teachers in the study towards the permeated method, and the lack of regard for the combined approach, reflects a period when the PE community was at loggerheads with regards to which was the ‘right’ approach (Almond and Harris, 1997a; Cale,

1996; OFSTED, 1995; OHMCI, 1995; Harris, 1995; Oxley, 1994) when the NCPE was interpreted by some to advocate a permeated delivery method (DfEE and QCA, 1999; DFE and WO, 1995; DES and WO, 1992). These perspectives are quite different from the current trend in thinking amongst PE heads of department (Fairclough *et al*, 2002; Cale, 2000a, 2000b) and the PE academic community (Cale and Harris, 2009a, 2005a; Harris, 2005, 1995; Cale, 2000a, 2000b) for a combined approach. These findings may simply reflect the reality of delivering HRE as a PE teacher, that is, it is somewhat different to the theoretical ideals of academics, policy makers, and heads of department.

The findings regarding the pupils' perspectives of HRE delivery extend the current knowledge and understanding in this area. Previous research (Harris, 1993) suggests that young people have limited knowledge about health, fitness and exercise, which is often restricted to a biomedical view of health and a negative perception of fitness. The study's findings support those of Harris (1993) but go on to affirm that young people know how they want HRE in secondary school PE lessons to be delivered, with most preferring it as a discretely delivered block of work. Given that HRE is focused on developing pupils' knowledge, skills and understanding, the present research which focuses on pupils' perspectives, provides an important insight that will aid the development of desirable HRE programmes.

Similarly, the study's findings in relation to the lesson observations also support and extend previous research in the area. Some authors (Cale and Harris, 2009a, 2005a; Harris, 2000a) have stated that permeated HRE can be delivered in a

somewhat 'ad hoc and piecemeal' fashion that is rather 'hit or miss'. This was observed 'in situ' in the study by the fact that 10 of the 23 permeated-only PE lessons contained no HRE content in them whatsoever. Furthermore, the seven discretely delivered HRE lessons all contained HRE material of some description, although the desirability of the practice was variable and at times questionable. These observations reinforce the notions held by other authors (Cale and Harris, 2009a, 2005a; Green, 2008, 2003; Harris, 2005) that HRE practice is variable; from being explicit, comprehensive, coherent, and inclusive to being implicit, narrow, ad hoc, and exclusive. However, more worrying is the fact that sometimes HRE is not delivered at all in PE lessons, despite PE departments advocating a particular HRE delivery method.

The study's additional findings (those that were not directly related to the HRE delivery methods) were also aligned with the research literature. The PE teachers in this study identified the importance of teaching health-related material and promoting physical activity which is similar to what has also been established within the PE teaching community within recent years (Green, 2009, 2003; Armour and Jones, 1998). Similarly, the view that HRE should be more explicit within the PE curriculum (Cale and Harris, 2009a, 2005a) was also identified by the PE teachers in this study. In addition, the pupils identified games activities as their favourite activities in PE lessons and outside of school time which supports the views of pupils in some other studies (Fairclough, 2003; Jones and Cheetham, 2001; Sleap and Wormald, 2001; Lake, 2001). Furthermore, the pupils also reported that circuit training was the most popular HRE activity within PE lessons, something that had been established by Cale

(2000a, 2000b) a decade ago when investigating the provision in schools through PE heads of department.

5.4 Implications

The findings from the study suggest a number of implications with regards to HRE practice and provision in schools and the HRE literature. Although the key finding was that both teachers and pupils preferred the discrete method of delivering HRE, it is the views that participants held about the delivery methods that provide these implications. It is possible that if HRE is taught well by any of the delivery methods that the objectives of HRE could be met. The implications relate to teachers' beliefs and knowledge about HRE, the status of HRE in the NCPE, ITE programmes, CPD and curriculum planning.

5.4.1 Teachers' Beliefs and Knowledge about HRE

Addressing teachers' knowledge and beliefs about HRE has emerged as a key implication from the present study. However, this is a complex issue that exists across multiple layers of training and practice. A common theme in the negative comments about the permeated approach was the difficulty and problems with integrating HRE into every lesson, suggesting there was considerable misunderstanding of the permeated delivery method by teachers. The NCPE does not explicitly state that HRE should be delivered in a permeated manner, yet some teachers have interpreted the key concept of 'healthy, active lifestyles' and the key processes of 'developing physical and mental capacity' and 'making informed choices about healthy, active lifestyles' (previously the knowledge, skills and understanding section and the four core strands in the 1999 NCPE) to

imply that HRE should be delivered in every lesson. Furthermore, there appears to be a perception that the permeated method places HRE knowledge in competition with knowledge about the skills and tactics of sports by reducing the time available for the latter. These two issues highlight a training need for teachers both within ITE and CPD programmes with regards to understanding the nature and purpose of PE and methods of delivering HRE.

The amount of time dedicated to HRE in ITE programmes is at the discretion of the provider in response to the Training and Development Agency for Schools' (TDA) Professional Standards for Teachers (TDA, 2007). One of the standards states that teachers should "... have a secure knowledge and understanding of their subjects/curriculum areas and related pedagogy to enable them to teach effectively across the age and ability range for which they are trained" (TDA, 2007, p.9). ITE providers therefore interpret this standard and design their ITE programmes in relation to the NCPE and allocate time to different areas to enable them to train teachers that meet these standards. The provider's interpretation of the status of HRE in the NCPE therefore influences the priority given to it in the training of teachers. This leads to great variability across providers in the inclusion of HRE in ITE programmes and the range and content taught. Moreover, the emphasis placed by providers on the different aspects of the NCPE may convey unintentional messages to trainee teachers about the nature and purpose of PE. This may therefore lead to PE teachers continuing to view sport, particularly team games, as the primary focus of PE (Green, 2002; Penney and Evans, 1999).

Furthermore, many PE teachers enter an ITE programme after studying a sport science degree programme (Fox and Harris, 2003; Colquhoun, 1994). When this background with its tendency to have a bio-physical focus of health is coupled with the PE teachers' over-confidence in their ability to deliver HRE material (Castelli and Williams, 2007), and the lack of guidance regarding the inclusion of HRE in ITE programmes, it is not surprising that variable HRE practice occurs in schools (Harris, 2009). Moreover, these factors may inhibit the development of teachers' knowledge, skills and confidence to deliver HRE that does not consist of, or focus on, fitness testing or utilise a discrete approach.

In addition, the above factors can partly explain the lack of engagement of PE teachers with HRE CPD and resources (Ward 2009, 2008). A wide range of both desirable and undesirable practices were observed across all approaches in the study; demonstrating some very sound and some very poor HRE knowledge. Many resources have been developed over the years to assist PE teachers with their planning, delivery and evaluation of HRE programmes (Cale and Harris, 2009a; Harris, 2000a, 2000b) and have been found to be successful (Cale, Harris and Leggett, 2002). However, despite this, 'real' change in PE teachers' philosophies and teaching methods have yet to be seen (Harris, 2010). This issue of PE teachers' HRE subject knowledge, and engagement with CPD and HRE resources, is a complex one (Alfrey, Cale and Webb, 2012; Harris, 2010; Ward, 2009). It is clear that closer examination of these processes is necessary and could form the basis of future research. Not only could this enhance our understanding, but also lead to the development of teachers with the knowledge, skills and understanding to implement desirable HRE programmes.

Taken together, findings from the present study and previous research suggests that PE teachers need more guidance about the goal, philosophy, content, organisation and delivery of HRE, because at present the NCPE merely states that health and fitness must be taught (Cale and Harris, 2009a). This will enable teachers to be well-placed to deliver key health messages regarding the volume and frequency of physical activity and for pupils to lead healthy, active lifestyles beyond the curriculum.

5.4.2 The PE Curriculum and HRE

Recent developments in PE such as personalised learning, pupil voice, developing and monitoring pupils' progression across a key stage and helping pupils to learn how to make decisions about healthy lifestyle choices suggest that much should have changed with regards to HRE and the PE curriculum. However, PE teachers' preference for the discrete approach appears to be restricting these developments while their negative comments in relation to all HRE delivery methods suggest that little has changed with regards to HRE since its inception.

Traditionally, discrete HRE is delivered once per year in short blocks or units of work, which last a few weeks (and sometimes a half term). This area is then not usually delivered or revisited again until the following academic year and as a result, can lead to problems with cohesion and progression of material (Harris, 2009), and hence pupils' progress across a key stage. Furthermore, the long periods between units of work in combination with the tendency for PE teachers to view discrete HRE as fitness testing which focuses on the outcome rather than

the process, interrupts pupils' learning journey of health-related knowledge. Personalised (or personalising) learning places the learners' needs at the centre of the learning system (Frapwell and Caldecott, 2011) and views learning as an on-going process (a 'journey') through allowing learners' choice about 'what' and 'how' they learn (Hargreaves, 2005). A potential compromise within the planning of PE curricula would be to implement more discrete units of HRE throughout the academic year in order to reduce the period of time between units of work, provide progression across the key stage and help develop personalised learning pathways in HRE.

However, the inclusion of more discrete blocks within an academic year may be unrealistic due to the range and content that curriculum planners need to include in the curriculum. Therefore, if HRE knowledge, skills and understanding are needed more frequently within an academic year, then the permeated approach would seem to offer a solution. However, the negative comments concerning permeation suggest otherwise. Teachers and pupils both reported concerns about a lack of depth in HRE information when it was delivered using the permeated approach while the lesson observations showed 'in situ' permeated HRE practice to be mixed. Together, these aspects could lead to difficulties with the personalised learning focus that has recently become popular in PE (Frapwell and Caldecott, 2011). This may suggest that a combined approach when appropriately implemented is desirable.

Furthermore, this lack of depth of information and ad hoc nature could lead to weaknesses in pupils' HRE knowledge and understanding (OFSTED, 2006). It

is this knowledge that will help pupils to make informed choices about healthy active lifestyles in the future and therefore enable HRE to fulfil its aim with regards to lifelong physical activity promotion. Moreover, the seeking of pupil perspectives on this issue is valuable if personalised learning is to be incorporated in HRE, as it is pupils' lifelong physical activity participation that HRE should influence.

Research has established that seeking pupil perspectives, or pursuing pupil (or student) voice as it has come to be known, on matters relating to teaching and learning can lead to reform, change and improvement within schools (Rudduck and Flutter, 2004; Fielding, 2001); the ultimate aim being enhanced pupil outcomes or attainment (Mitra, 2001). It is important for teachers to value the knowledge and experiences of pupils by including them in the process of curriculum change within schools as this has the potential to create stronger partnerships between teachers and pupils (Mitra, 2001). However, in relation to curriculum planning, it is important not to over-state the potential for pupil voice, in that it is not simply about 'what pupils want' or 'what schools must adopt' (Noyes, 2005). Similarly, the tendency to listen to the 'group' voice as a consensus at the expense of individual voices must be avoided (Rudduck and Fielding, 2006) and teachers may wish to consider which pupils are representing the pupil voice of their school (Silva, 2001). However, findings from the present study where the HRE method advocated in a school was not reflected in the popularity of pupil comments suggest that schools and teachers may benefit from engaging in a process of consultation with pupils regarding HRE. This could

maximise the impact of HRE teaching and learning and subsequently influence future physical activity participation.

Further to this, a whole-school approach to the promotion of HRE and physical activity, that involves the collaboration between subject areas (for example, PE, Science, Food Technology, and PSHE), the encouragement of active travel to and from school, and the implementation of government-based initiatives (for example, the Healthy and Active School), to name but a few, should still be the main goal or intention. However, while it is important, and even essential, to promote HRE and physical activity at every possible opportunity and through all possible means both within school and beyond the curriculum, it is important to ensure delivery within the PE lesson and curriculum is right. Although the subject represents less than 1% of a child's waking time (Fox *et al*, 2004), PE teachers need to maximise the opportunity to impart health 'messages' to pupils. This study suggests that PE teachers and pupils would like these health messages to be conveyed through a discrete approach.

A final implication for practice is the need for a reduction in the focus of fitness testing within discretely delivered HRE. Although fitness testing did not play a large role in the discretely delivered HRE lessons that were observed in the study, it had filtered through into some sections of the programmes within the schools concerned. It has been widely reported in recent years that fitness testing in PE is a 'misdirected effort' in terms of promoting healthy active lifestyles and physical activity and that the time devoted to testing in lessons could be better spent on other aspects of HRE (Cale and Harris, 2009b; Cale, Harris and Chen,

2007; Harris and Cale, 2006). This suggests that PE teachers need to reduce the time dedicated to fitness testing within discrete HRE and replace it with more opportunities for pupils to engage in 'lifetime' activities that focus on health, fitness and exercise. Such activities have the potential to enhance lifelong learning and healthy, active lifestyles but need to address the social and psychological aspects of health, fitness and exercise and not just the physical components (Harris, 2010, 2009). If fitness testing is to be included in discrete HRE programmes then it needs to be appropriately planned and employed with the right philosophical approach (Cale and Harris, 2009b; Cale *et al*, 2007; Harris and Cale, 2006). However, despite this being advocated in the literature, the lesson observations in the present research revealed a gap between best practice and the reality in schools.

5.5 Limitations

The main limitation within the study was the time available for data collection. At the time of commencing the research project, the author was employed as a PE teacher in a Norfolk secondary school and had to negotiate, with the PE head of department and the headteacher at the school, a period of time away from employment to undertake the data collection. It was decided that nine days would be allocated across the academic year for the three external schools concerned; one day spent in each school per term. This agreement was written into the author's performance management programme by the PE head of department in order to safeguard the specified time for data collection. However, no time was made available for data collection in the author's own school. This time had to be found by the author within his daily routine, usually during break

and lunch times, before the school day, after the school day, and during non-contact time.

Although the author met the staff and pupils on a number of occasions throughout the academic year on an informal basis, only three formal days were allocated per school, thus placing severe limitations on the amount of time that could be spent conducting the interviews and lesson observations. If the author had been a full-time researcher then more time could have been spent undertaking these activities as they would not necessarily have had the nine day data collection restriction. Further to this, a full-time researcher could have had the opportunity to plan to incorporate more data collection points across the year, rather than just one day per school per term.

However, it is possible, and acceptable, to undertake qualitative data collection in only a few days. A qualitative research study is interested in the quality and intensity of real situations as opposed to the quantity and frequency of occurrences, so numerous data collection points are not necessary (Cohen *et al*, 2007). That said, the data collection in the study conducted across the three terms enabled an in-depth and insightful perspective of the school, the staff, the pupils, and current practice to be achieved.

Another possible limiting factor within the study was the pupils' interview procedures. Although the majority of pupil interviews were conducted on a one-to-one basis, a few, due to lesson circumstances and the availability of participants in a given lesson, were in pairs and three situations, which can alter

the interview dynamic (Watts and Ebbutt, 1987). With multiple interviewees it is possible that one individual may dominate more than another or that some individuals may be reluctant to reveal certain information in front of others (Arksey and Knight, 1999). It has also been suggested that little in the way of personal views are revealed in group interviews (Watts and Ebbutt, 1987). However, it was not evident during the multiple pupil interviews in the study that one individual was dominating more than another or that individuals were reluctant to give their opinions. Also, the interviews were conducted in a familiar and as natural a surrounding as possible in the schools (a PE setting) in order to put the pupils at ease so that they could adequately express themselves, something that is seen as essential when interviewing children (Eder and Fingerson, 2003).

A further possible limitation within the study was the process of selecting lessons for the direct observations. Lessons were selected for observation by the author in negotiation with the respective PE heads of department for the schools concerned. The choice of lessons to observe was dependent on the day and time of the observation, the PE timetable at the school concerned, and the willingness of staff and pupils to be observed. This procedure enabled a wide range of activities and age groups to be investigated across the year, as well as different members of staff and pupil groups, however it was not possible to obtain as balanced a programme of observations, as was intended. Furthermore, with the design of the study and the use of direct observations it was not possible to observe the same teacher delivering both a permeated and discrete lesson to the same class (a 'true' combined approach observation), so no combined lesson

observations were made. Future research should consider this methodological implication when using direct observations of HRE delivery methods.

A longitudinal approach to the sampling of the lesson observations could have involved tracking the same PE teachers and pupils across all three time points. This design would have allowed the potential for even richer data by adding another layer of analysis, that is, tracking changes in relationships, behaviours and events over time (Bryman, 2008; Ruspini, 2002). In any case, this was not possible in the study as the allocated days for the data collection in the respective schools were different for each term. This meant that different groups of pupils were being taught, usually but not always, by different teachers and so tracking changes was not an option. The days for release from employment to conduct the data collection in the schools were determined by the author's own school in relation to timetable commitments and in particular, examination classes. Despite this, the method used for selecting the lesson observations was sound (Creswell, 2009) and allowed for rich data to be collected for the study.

5.6 Future Research Directions

This research aimed to explore the delivery methods of HRE within secondary school PE. However, there are a number of areas for future development that researchers should consider when building upon this evidence. Firstly, future research should seek to determine which is the most effective method of delivering HRE. That is, which method most adequately prepares pupils for when they leave school, in terms of providing them with knowledge, skills, and understanding for lifelong engagement in physical activity. While the

establishment of discrete HRE as the preferred method of delivery by teachers and pupils is a good starting point and focus in terms of designing suitable HRE programmes, it is not clear whether this approach is the most effective. There is however, evidence to suggest that programmes are more effective when the curriculum content is enjoyable and preferable (Goudas and Biddle, 1993; Figley, 1985).

In order to establish which delivery method would be most effective researchers need to consider possible intervention and longitudinal studies in this area. Data gathered in such studies have the potential to produce insightful findings that could be extrapolated into later life. Nevertheless, it is clear that more work needs to be done in this area in terms of establishing evidence regarding the effectiveness of HRE programmes.

Secondly, future research, using both qualitative and quantitative methods, needs to examine HRE in practice. Observations of PE teachers and pupils ‘in situ’ have the potential to illuminate certain aspects of HRE practice that may have been previously overlooked. Investigating what occurs in PE lessons is sometimes at odds with individual views and opinions on the matter, a case of ‘talking the talk’, but not necessarily ‘walking the walk’. In addition, a focus on pupils’ behaviours and interactions during lessons may assist in determining why pupils adopt biomedical views of health (Harris, 2009, 2005, 1993), at the expense and detriment to knowledge, skills, and understanding about the social and psychological aspects, as well as revealing their enjoyment of, understanding about, and responses to HRE. These aspects have the potential to be examined

through intervention and longitudinal research (as mentioned earlier in this section).

A final avenue for future research is the HRE knowledge base of PE teachers. This has been highlighted in the literature in recent years as an area that needs addressing (Harris, 2010, 2009, 2005; Cale and Harris, 2005a; Fox and Harris, 2003; Cale, 2000b; Colquhoun, 1994). This issue was also evident in this study, with a wide range of both desirable and undesirable teacher practices being observed across all approaches, demonstrating some very sound and some very poor HRE knowledge. The misunderstanding of permeation as an HRE delivery method is also something that needs to be addressed so that we can develop teachers with the knowledge, skills and understanding to implement desirable HRE programmes via all approaches.

The future directions for HRE research outlined above are important if researchers consider that one of their aims is to inform PE teachers about factors that will ensure optimal PE experiences for their pupils and inform practice. It is hoped that this thesis provides a step towards that objective. In closing, the following statement provides a reminder as to why it is essential that the PE community work together to develop efficient and effective HRE programmes in PE lessons: “Encouraging our school children to become more physically active, ... may facilitate a positive attitude towards physical activity that will be sustained throughout adult life” (Winsley and Armstrong, 2005, p.76).

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APPENDICES

Appendix 1

Teacher Interview Guide

1. What do you think about the position of health-related exercise within the National Curriculum?
2. There has been much debate in PE about whether HRE should be delivered in a permeated format, within discrete lessons (blocks or units of work) or as a combined method.
 - a. What is good or bad about the permeated method?
 - b. What is good or bad about the discrete method?
 - c. What is good or bad about the combined method?
 - d. Why do you favour _____ method?
3. Some teachers interpret the NCPE as advocating a permeated approach to the delivery of HRE, however, research has indicated that approximately 80% of PE heads of department were in favour of a discrete approach.
 - a. What are your views about this?
 - b. Why do you think this?
4. Which method, if any, do you feel will best allow pupils to acquire knowledge and understanding of health and fitness, in relation to lifelong learning?
5. If you were a PE Head of Department which method of delivery would you favour and why?

Pupil Interview Guide

1. What activities or sports do you enjoy taking part in during PE lessons?
 - a. What parts of the lesson do you like or dislike?
 - b. Anything (or parts) in particular?
2. What kind of activities do you do in your health-related exercise lessons?
 - a. What are the best bits?
 - b. What are the worst bits?
3. What do you think when the PE teacher puts health material/issues into your other PE lessons?
4. Do you prefer health-related exercise lessons or HRE put into other PE lessons (such as football etc)?
 - a. Why?
 - b. Which method do you think helps you learn best about health and fitness?

Appendix 2

Interview Transcription for Mr Banner (North Fen Community High School)

- I What do you think about the position of the health-related exercise within the National Curriculum?
- B Erm, as it is one of the four strands, it implies that it should definitely be delivered and it seems to me that it's been tucked onto the end rather than being the basis of what we are doing. We do activities, different activities, different sports, for fun, which I think is one of the major reasons. But also we do those activities, maybe not so much sport, team-based activities, but we do other activities especially individual ones for health reasons like going to the gym, the social [inaudible] with friends and I think that's one of the major issues which is why we do the subject we do. In relation to the School Sports Partnership, which I'm the sports coordinator of, that area is become very much more into schools with the school sports partnership in trying to highlight the need for physical activity, but also try and make people aware of where they can go for various things. Activities are taught for fun, but also for health reasons, which is why we do the subject. So it's the crux of everything that we do, I think, for lifelong physical activity.
- I Do you feel that health-related exercise as a topic has a place in the National Curriculum, at the moment it's part of the fourth core strand. Do you think that–
- B -yeah, as it stands now I think it's hard for PE teachers to deliver HRE as well as all the other stuff, four core strands and six activity areas. For us to deliver the health-related stuff as well is demanding on our time and on our time limit. I think we are in an ideal position to deliver the material, although it is difficult to get that into say lessons on football, where you need to get all the skills across. So that's where the acquiring and developing of skills come in and the

other areas, that's what we're doing in the actual lesson. But the fourth strand there seems to be like a completely separate entity on its own, that we have to get in somewhere, rather than having [inaudible]. I think we should have a block of health-related exercise in this school and I think that everyone should and I think it should be separated on the National Curriculum because if the government want to get to their, within the Schools Sports Partnership, anyway, 75% of eleven to sixteen year olds take part in at least two hours of exercise in school time per week, they need to highlight the issue with regard to why they should be doing it in order to make it sustainable.

- I Certainly, yeah. Do you think then the main factor is time? I mean you've mentioned time a minute ago. How do you see it?
- B Yeah, I think time is the major thing. I mean I could, I could and I'm sure colleagues in the department could incorporate much more into the lesson, but I'm sure that would be at the expense of other skills and knowledge that they could acquire during the time that we do have. I think it would take more of our time in order to do that. That's why I think we should have a set block of health-related exercise and drip from that unit into all the areas, so it would just be a passing phase of during a warm-up, you know, you could be talking about that, saying how does this affect this, etc, etc, rather than spending too much time, one, in the planning of the lesson and, two, during the actual lesson.
- I Right, okay. Thank you. There has been much debate in PE about whether HRE should be delivered in a permeated format, within discrete lessons (blocks or units of work) or as a combined method. What are you in favour of, personally, you own opinion?
- B I'm in favour with, coming back to your last point, I'm in favour with having a unit of work that every year group goes through, definitely [inaudible] that every pupil goes through and then from there they relate what they've learned into their various activities. Like the ICT issue, I think there should be a set

block where they learn what they need to learn in that area, whether it be ICT, whether it be health-related exercise and I think that that's where they learn the facts, they learn this, they learn that, then they can use that in their other activities. So to use the ICT example, they're being taught how to use PowerPoint, for example, but then use PowerPoint to present something in science, say. They need to understand why heart rate is important and why regulating blood pressure might be important, and then they can use that to identify weaknesses [inaudible] GCSE, because of their background. That's probably two ends of the spectrum. Say at Key Stage 3, if they have a unit, work on it, they can have that core knowledge where they're taught it, so they can apply it later on, which is obviously one of the four strands as well where they need to apply not just their own skills, but their knowledge of the health-related exercise.

- I So in essence it's a unit of work, where they're given the understandings, the basics of health-related exercise and then they apply that in other lessons – is that what you're–
- B –yes, yes I do. Yes.
- I So a combined approach?
- B Yes, a combined approach, definitely, yeah. Sorry I didn't make that clear, I used that example to make the combined approach I think does work. I don't think we can eradicate it from what we do in PE and in school sport, because that is, as I said, the crux of why some people do it. Some people do it for fun and don't worry about their health-related reasons, but that is very big in what we do. I don't think we can eradicate it. I don't think we can agree we've got the time, or sometimes giving people the knowledge to teach it within every lesson, so to combine is definitely the way forward I think.
- I So are you suggesting, you were saying then, that you know if we just did it as a permeated method, it perhaps wouldn't get delivered as thoroughly and if we

just did it as a discrete method, in a block, it wouldn't be applied? So the combination is the way?

B Yes, yes, definitely. I think, I mean in the block, we can, you can deliver the facts, deliver the learning to pupils. They can then carry on that learning by applying it to whatever it is [inaudible] and also from there, from that unit, that block they can use it in other areas. They can use it for the science side as well.

I Some teachers interpret the NCPE as advocating a permeated approach to the delivery of HRE, however, research has indicated that approximately 80% of PE heads of department were in favour of a discrete approach. What are your views about-

B -I think basically it's to do with time and money. I think that we've already got our core subjects which take up a lot of the time. I can envisage and I can see with a view of the 2012 Olympics coming in, how money's coming into PE and school sport over the next ten years with that there is a real case for it to have its own place within a core teaching strand to the school, or a core delivery. I think that the fact that PE is a foundation subject and is a compulsory subject leads into the argument that this growing area of health-related exercise is not just there for schools, it's for people after school, related to insurance policies.

I Lifelong learning, yeah.

B Yeah, that sort of thing. Definitely. Did I answer the question?

I Yeah. What I was saying was do heads of department-

B -I think they know the time constraints. They know how much that they have to deliver within that time. I think that it's very, very worthwhile, but I think the reality of a lot of things is that fact that lessons are there to find out who your gifted and talented pupils are, who needs [inaudible] help with this and

that, but also for the fact that these heads of PE and PE teachers in general, want to find their good kids for the sports.

I Yeah.

B And they want to do that in lessons, not just tell them all about areas which aren't to do with what they want to get out of the lesson. I think that might be an issue, that might be a little different tinge on it. But, saying that, I don't want to put my profession down because I think that the heads of department know much more about it than anyone else because they are the ones who work with it week in, week out, day in, day out and I think they know that they would be able to deliver it better if it had its own place.

I Do you think that's it? It's the actual getting the information across is better in a block?

B I think so. I must admit and I don't think this makes me a bad teacher before I put it on here, I think it makes me better in a way because I know that I fit things in here and there—

I —I think we all—

B -yeah, to cover that strand of what I'm supposed to be delivering through the National Curriculum and also the fact that I want to give the, you know, the kids you know the best possible education so that they can learn things. If I throw things in here and there and I think to myself that that's a bit airy fairy and I think to myself I've had lessons sometimes when I've, [inaudible] in a lesson and talk about the warm-up and I've gone off on one and they've gone off on one asking questions, which is really nice and I haven't stopped. I think it was a rugby lesson and I've just been talking to them and I've spent half the lesson talking about muscles and why you know, how we get the blood round to the muscles and why we should, and all this lot and then thought, hang on. I carried on with it because the kids were really attentive and wanted to learn. But then I never got through what I was, or never really started what I wanted

to get through with regards to their skills. But I think the heads of department do know something that the government don't know and that's the everyday realities of delivering our subject, which for the reasons I've just said.

I Why do you think health is positioned as it is in the National Curriculum? What's the reason for—

B —I think it's the first stage in a process which will end up with it being a major part of school learning. I think I touched on the fact that all the mail that's coming in from the government, I think they've realised what maybe the [inaudible] members feel [inaudible] Australia, the money they've put [inaudible] in many ways, the money they pump into health-related side of things, is phenomenal and I think they're really trying to get into schools with regard to the obesity issue, it's been highlighted the school dinners ... the whole shebang! I think that that's where they're trying to get it into. I think they couldn't, because I think they'd be uproar if they just suddenly said you need to have one block of this definitely and one block of health-related exercise definitely, because they'd be uproar saying well I've got all this to you. You've asked me to do this and this, that would therefore take more teachers, more specialised teachers in there. That's not an area where people, old teachers — I'm not saying that we're old — older people which passed earlier teacher training earlier on, wouldn't have done so much work on that area as they have done in these six activity areas which we have to deliver. So I think there's a shift in the structure of the government, but they're just doing it gently in order to get everyone up to speed with a very changing society with regards to obesity, with regards health. The government obviously are going to put it in there, not at the moment as that, but you never know, it might have its own complete entity away from PE, which is another issue which really relates to the fact that you have to pay for your own National Health treatment and, no, it wouldn't be National Health then, but pay for your own medical treatment if you treat your body in a bad way. You know, if you excessively

drink, or smoke, or you know, areas like that, I think that's the way the government are going with it.

I Do you think then that there's a case for health-related exercise to be an activity area in its own right?

B I think there is, in many ways. I think like the ICT situation again, I think, the ICT tag has been going into our school, and schools I've seen before, has been associated with each, with lots of different departments. They might have said it is science, that's part of the science that you have to deliver, which is computers. That's the business faculty, that's what you have to deliver, the part of computers. Now that's getting its own, well in our school anyway, it's got its own delivery and its own department. I think and I think it should go that way and I think there should be health-related exercise and talking about the body as well relating to a healthy lifestyle. I really do. I think that should come in.

I Which method then, if any, do you feel will best allow pupils to acquire knowledge and understanding of health and fitness, in relation to lifelong learning?

B I would say definitely one on its own. I don't think you necessarily need to practically be out there on the field, for example, to know why you should be stretching, that could be done as a lesson where you don't necessarily have to be sitting down for example, where some children might not be taking part in it because they feel like they might be obese, they might not want to because they don't like sport. But to highlight the facts to them in a separate department from, or a separate lesson from the PE department, would be very helpful. We can then take that on and show them in a practical way how they can, who their fitness is affected, for example heart rate and how much it is while they're doing certain tests, you know.

- I Yeah, that actually does happen in some schools. Health-related material is incorporated into Personal, Social and Health Education by doing topic work. Your school obviously delivers it both in a discrete and permeated manner. How is the permeated manner delivered? Do you feel that–
- B –permeated as in–
- I –across the activity areas.
- B Permeated is paid lip-service, as and when. I don't think it's done particularly well at all because at the end of the day I know when I was planning lessons, because it was around then, and even the lessons I plan now, they'll be a bit tucked on to the end saying 'explain this', or you know 'in the warm-up mention heart rate'. I must say when I was assessed by the head of department last year, it was a 1,500 metre lesson. I thought it was fantastic because I'd talked about heart rate and how our body changes, during the lesson, but that's because I was being assessed. I wouldn't do that every time. I haven't got time to put it into lessons, although some lessons lend themselves to it more than others. But I wouldn't have put that much in had I known I wasn't being assessed. Sometimes it's a lack of time and sometimes a lack of knowledge, with some members of staff. Time is a major component. So I think very much so, yeah the answer is in my opinion it's very bitty, very bitty indeed, I could incorporate more in lessons but this would impinge on other skills.
- I Do you think that it should be delivered across the activity areas? Is that the idea?
- B Yeah I think, I think they probably have gone on that way, but I think the idea they're doing it like this is so that they can start from somewhere and put it more and more into schools, ultimately getting to its own subject, that's how I think it is, yeah.
- I Okay. If you were a PE head of department which method of delivery would you favour and why?

- B I would put it in as its own, I would have a faculty of PE, school sports and education. From within that, from that faculty and within that faculty, I would have Key Stage three activities that would be going on. I would have Key Stage four examination courses, like the GCSE. Within that department of this big faculty would be the level one coaching awards and level two, the old [inaudible] within that. I'd then have an area which was post-sixteen education where we would have the A' Level, AS and A2 and depending on teaching staff etc, in an ideal world we'd have other courses running alongside the BTEC's etc, like that. So we'd incorporate and have everyone from North Fen Community in our sixth form and provide for all of them, really. Within this faculty plan, in its own department would be health-related exercise and I would deliver that as a practical element and a classroom-based element where there would be, if I were a head of department, in an ideal world, it would be delivered as a practical and theory lesson, as a block, and permeated, this model would give the children the best possible education, in my opinion. Deliver it as a block early on in the year, setting the foundations for the rest of the year, then build on it as you go through, adapting the content, for every sport, in lessons. Within that department within this faculty, that would be delivered as I say practically and from the classroom by teachers who had a background in that area, or specialism in that area. That would then be permeated into the Key Stage three. That would then highlight your students who would like and were able to take the subject on to GCSE level and not solely the very practical kids, but that would also highlight the areas within [inaudible] and then it would filter through, but there was always that thing there.
- I Do you feel that you would have certain people deliver the blocks, sort of specialists like you said in the area, because you feel that some people's initial teacher training which was a while ago, they aren't up to speed with the—
- B —definitely. I think because the government are putting it into the schools at the moment, if it's going to continue I think the structure of the PGCE courses

and the four-year teacher training courses will ultimately change because ultimately at the end of that road because there will be health-related exercise as its own entity within the six areas of activity, I think. I think that that is the way that everything is going ... is that it?

I Yes that's it, thank you.

B I've just remembered the other point I was going to say, that PE and school sports really changed in the last ten years and may change even more over the next five, I think, in the fact that, which is a relevant issue for us at the moment with regard fixtures. We no longer do fixtures and go home and have a cup of tea. We do fixtures and go home and mark. So I think there's a case, which in Norfolk definitely I know there's more jobs coming up in sort of competition managers jobs coming up and I think there really will be a split with regards, there will be physical educationists in schools who educate people physically and teach them about the GCSE side and the A' Level side. I really do think there'll be competition people, or sports coaches which the Schools Sports Partnership is already doing, getting coaches in from outside who have specialism's in there, but then there'll be two different types of people working in schools with regard school sports; one a physical educationist and one the sports and games instructors and teachers.

I Thank you.

Interview Transcription for Mr Scott (Foxburgh High School)

I What do you think about the position of health-related exercise within the National Curriculum?

S I prefer it as a core strand, as opposed to being a defined part of it, because although we teach it as a block, I think it's better to be in the core strand as a whole, instead of like part of it because even though you can teach it in the blocks like we do, I think it's useful to teach in lessons so kids understand it in relation to a sport, although we don't apply it to sport, it's not a major priority of our lessons to apply it in sport in lessons. By doing a block of it you can really bombard the kids with information, so then if we did bring it up it's not set in a lesson, it's up to the individual teacher. If they want to question it, use the information.

I As a rule you do it as a block of work?

S Occasionally I might [inaudible] it up, it's usually GCSE lessons [inaudible] into the practical and other sports, it's something we do cross country and athletics, we bring it into the fitness.

I What sort of things do you cover in the block of work? Is it half term block you do?

S Eight weeks.

I Eight weeks.

S Eight week blocks – we look at different methods of fitness testing and we look at different types of circuit training, so we do skill-related circuits, an agility and speed circuit, an agility and balance of power and speed circuits, we do that at school. We've got muscular endurance, muscular strength, circuits, for general fitness and cardiovascular circuits and then as well as the tests, different tests, we do different tests for different year groups – all of

them do tests. Year 9s and 10s do tests as well and Year 8s just do the bleep test, we do the Cooper test as well [inaudible] mix and match it as you see fit. A lot of the lessons are based on perhaps we'll do tests one week and sort of like we'll do this test, sort of like do that with all sets [inaudible].

I There's a bit of a debate around testing in health and fitness and whether we should or shouldn't be doing that sort of thing. I mean from what you say the pupils seem to-

S -yeah, they respond really well because it gives them, our kids are quite competitive and they don't like doing stuff if they can't see a point in it which is different from other people. They need to see a reason for doing something, if we give them a test, we say we're going to do a test and you can compare it to others, measure you on these charts to see how fit you are.

I Do they compare against their own scores to try and beat their own target, or is it across-

S -we have their own targets, they can remember it [inaudible] records [inaudible] we haven't got any records going back, [inaudible] they'll compare themselves to people in the group, so they can rank themselves in their group and then the standard, like a fifteen year old above average, average, below average, poor and they can see where they rank.

I Is that good?

S Against the national average.

I Do you find the pupils relate to that? Is that an issue?

S What with the testing?

I Yeah.

- S The weaker ones tend to give up easily, the older, more able ones will want to better themselves relative to the [inaudible] especially with the actual within circuits, within the training lessons, the less able enjoy that because they're just going on their own [inaudible] with their partner, or they're threatened, so they're switched on with that, but when it's a test environment, they sort of have that there's no point me trying because I'm not going to achieve very high anyway, rather than do it for themselves. So that side of the test the less able get left out, but in actual lessons they join in and participate.
- I You obviously do a discrete block of eight weeks of fitness, is that Key Stage 3 and 4?
- S Yeah.
- I What do you think are the pros and cons of the discrete, the permeated, and the combined methods?
- S I think the advantage, particularly for the Key Stage four, the kids really enjoy the block of eight weeks because in some lessons you've got some lessons where they don't move around a great deal, say table tennis and badminton, it's just backwards and forwards over the net. It doesn't really get them moving. They do enjoy all of them. I've got a set of four girls in Year 11 and they [inaudible] fitness and circuits, we didn't do a lot of [inaudible] testing them, but little kids [inaudible] enjoyed it. So we went into the gym, did some weight sessions, a lot of fitness stuff, circuits and moving around and they enjoy having a big block. If we were to do it permeated we'd, I don't know, like I said earlier, we'd be bombarded with assessment for learning and make sure that this individualised learning the pupils [inaudible] have to focus on [inaudible] we should get [inaudible] we cover a lot more in a block and then refer back to it as, try and get all the information we do in the block into normal lessons [inaudible]. Some of our classes discipline can be, we do a lot of classroom management as well as classroom teaching, if we're doing football or rugby [inaudible] you need to give the kids a quick intro, get them

moving quickly because obviously, that's the kick off, then to bring them back in, talk about the heart rate, pulse rate, whatever, whatever is needed, isn't feasible really with some of the classes we've got, whereas a block of work they've only got to focus, they can concentrate on fitness, or today's cardiovascular endurance, or that kind of thing. So all they have got to think about [inaudible] get on [inaudible] hopefully remember it for the next year.

- I Is there a time issue with the methods? Like you said you've got the curriculum assessment.
- S Yeah I think it is targets. With permeated you've got your own targets to do with the practical side, practical stuff you've got a certain amount of things to get through. With the rest of the core strands learn all the different skills, so you've got to do that. You've then got to through effectively a whole body of work filtered through and within your forty minutes of lesson time, you want to be concentrating on the actual sport [inaudible] than some of the actual kids do. Can you do this? Yeah, we know this. We do [inaudible] fitness, do a block of it and they'll do it, then when you're out in the field doing football or rugby, you can then say oh [inaudible] which muscles you're using and any questions like that, they will refer back [inaudible] yeah brilliant, and then get on and you just carry on with it, rather than explain it all and-
- I -so it's something teachers do a little bit, but not really? Do they carry on with activities and then refer back if it's relevant?
- S Yeah, it's not, you don't press it as being [inaudible] individual lessons [inaudible] if you remember and if you've got time to do and if it's relevant bring it up most of the time it's just a block.
- I What do you think the positive things are about the block of work? How would you view a block of health-related exercise?

- S You've got a whole class, they're all sitting there looking [inaudible] you spend eight weeks, eight weeks and sixteen lessons and you just focus upon them. And that's all we're going to do and-
- I -so for both PE lessons?
- S Yes every other week you spend so much time with them and you can really break down the fitness [inaudible] break down a week each, you do the tests for each and you can really go in-depth, a lot more in-depth than with permeated, as with permeated you have to just gloss over it, and try and get them to do it, whereas in fitness you can spend a while doing something while they're having a rest period when they're tired, have a chat, talk about it and then [inaudible] they'll remember it both ways.
- I In an ideal world what method [inaudible], you know-
- S -I would have a block definitely, if I had my department, I'd have discrete blocks.
- I Next question. Some teachers interpret the NCPE as advocating a permeated approach to the delivery of HRE, however, research has indicated that approximately 80% of PE heads of department were in favour of a discrete approach. What are your views about this?
- S I'd say it's because heads of departments feel it's actually they are there first hand, they don't get their information from teaching people involved in education, but heads of department at the schools teaching it and know, perhaps it's a case of it's an easier option. It is more difficult to bring it into your lessons and something else you've got to plan and bring into it, so they may well be saying let's go for the easy ride and have a block, not saying it's easy because you've got [inaudible] time, [inaudible] about the lessons, that [inaudible].
- I So time is the main factor?

- S And forward planning, it will require a lot more planning for the lessons. Every PE lesson think about how you're going to bring fitness into it ... try to do that ... you'll have a brilliant first couple of lessons when you really think you ... you want to get on and do something ... get on with it, but I ... it's a good idea to do permeated, it's gets kids thinking about it.
- I Why do you think health is placed as it is in the National Curriculum? Is it to do with-
- S -it'll stay, they'll always associate it [inaudible] PE and sport, the benefits of it, whereas with block ... another one of the things you did at school ... where post-sixteen you don't do it anymore, you don't remember it ... so in theory the permeated approach is the best, would be the best option ... test at the end of the school, the school block would probably get a higher score because the kids will have understood, they do a block of it and get tested on it, whereas the permeated ... actually a little bit more vague ... I don't think a teacher can do it that well ... told ... permeated approach ... do it ... permeated approach ... how do I bring it in? Do I do it in the plenary? Do I do it in the introduction? Do I do it in the middle of the lesson? Swap them around a bit and say ... other aspects of teaching ... guidelines ... what you need to do, what you need to bring into your lessons. Whereas [inaudible] should be permeated.
- I What method then do you feel is the best in theory and the best in practice?
- S Yeah I prefer that the main focus be on the discrete block and then the teacher bring it into the lessons when appropriate, so not every lesson, just when you do PE. When something arises ... if it comes in, do it ... it doesn't have to be set into your lesson plan, if that's something that suddenly appears in your lesson, and the teacher's aware of it and can bring it in, then that's what should be done, you can't say, you can't put that into your argument, put it into your guidelines it should be discrete, but when you get a chance try and mention it. I don't think the ... information over to the children and then in lessons if you just mention it, that sounds good to me.

- I You've kind of mentioned it already, but do you feel there is a method, if any, that best allow pupils to acquire knowledge and understanding of health and fitness, in relation to lifelong learning?
- S With regards to lifelong learning, permeated is best method in theory because of the constantly going over it in every lesson you get reminded of the different aspects of it, the benefit and it just becomes as a set rule ... if you did that every lesson, from Year 7 to Year 11, from Year 1, all the way through [inaudible] and they'd expect it, until it's done from the start all the way through ... and until you get used to having it done, to implement it in a school you need to rigidly enforce it and ... they are done ... observe every lesson.
- I Last question. If you were a PE Head of Department which method of delivery would you favour and why?
- S I'd have the discrete block for each year group ... I'd also make my staff aware to bring it into lessons when possible, when it arises. The discrete block would get more information to the pupils and sort of I'd ask that, it doesn't have to be done every lesson, not expected to have it done every lesson, but if the chance arises for a talk about the aspects of ... just to do it, bring it in ... back to their fitness block, or mention you'll be doing fitness in a few weeks, you know the next block we'll be doing fitness, talk about this then ... cardiovascular techniques ... see what they know now ... can do a pre-assessment ... and if they've already done it, you can do it to recap, see what's remembered.
- I Do some sports lend themselves more to talking about things like that than others?
- S You can talk about quite a few things ... whereas table tennis you're a little bit more stumped to give relevant examples ... they knew what they had to do.
- I Thank you for your time.

Interview Transcription for Mr Austin (Riverway High School)

- I What do you think about the position of health-related exercise within the National Curriculum?
- A Well if you are doing the lesson properly you should be teaching it, I think you have to do it.
- I Okay.
- A Every lesson should be [inaudible] and that should be the main thrust of the lesson activity and how informative it is, well I mean you give out information in dribs and drabs, not just pile it all on one lesson.
- I What do you think is the benefit of that sort of approach? Throughout a pupil's school career-
- A -yes, I'm not sure that you should actually tell it like 'this is the health related fitness part of your lesson' [inaudible] I don't think that's necessary. But you know, if you give a very active part to your lesson, so like you know, that was active. How do you know he's worked hard? Well you can see that. Why? Well, he's red in the face. Is he? Why do you really [inaudible] that sort of thing. Gradually it would feed drip down.
- I So [inaudible] into-
- A -into working. But I mean health-related fitness should be a part of every lesson because every lesson should be active.
- I There has been much debate in PE about whether HRE should be delivered in a permeated format, within discrete lessons (blocks or units of work) or as a combined method. What do you think are the pros and cons of delivering HRE through a unit of work, across the activity areas or through a combined method?
- A I don't honestly think it matters that much how you deliver the information part of it, as long as they realise the information ... I think you have to veto

the information to the sorts of kids that you have got. You know, I think [inaudible] if you've got a lot of children who are perhaps in a particular group which are obese, or overweight, then you constantly remind them the benefits of exercise and how that can help their general health and to ease their weight problem (although you wouldn't put it that way). You know, you've got to gently remind them, not every lesson, several times over the course, because if you do it every time it becomes nagging, doesn't it? They see it as something different. But if you ... and encouragement, I think, encourage them and say, well [inaudible]. Do you go and run five miles once and then find you're blown out and you don't like it and don't do it again for another six months, or is it better to do it say two or three minutes every day and then build it up very gradually? And approach it in that way.

I Which method can you deliver health-related material across-

A -I think it's [inaudible]. The danger is that if you do it in a block, right, and you [inaudible] teaching experience, if you teach right this is what we're going to do today, this is the information on this, if you teach in a block, the pupils don't cross it over to other things in other PE lessons, realise that what when they do other things, that it is part of that. But if you read it out in dribs and drabs, over the whole spectrum then they're going to remember it, aren't they?

I Yeah. Some teachers believe that HRE should be delivered in every lesson-

A -it's not appropriate, is it, to mention that at every lesson you've got. The fact that they're active is keeping them healthy. The fact that every now and again, when it's appropriate, you tell them why it's keeping them healthy, is much more viable than just going, than doing it just on a rote basis. We're doing this because we need to do about heart conditions really. You know, they're not, kids are not stupid are they? I mean they could tell you, you don't have to ram it down their throats, you know. Just gentle reminders. You revisit the skill – that's what I think. You've got to constantly remind and revisit, don't make it a nagging session.

I Yeah.

A Make it appropriate.

I Like I mentioned on the way from the staffroom, some teachers interpret the NCPE as advocating a permeated approach to the delivery of HRE, however, research has indicated that approximately 80% of PE heads of department were in favour of a discrete approach. What are your views about this?

A Well it could be a [inaudible]. One, it's a way of, it's an activity, isn't it? Which you can use right, to balance the other activities that you're doing on a merry-go-round, you know, which is quite important. Two, if you've got three classes, or four classes, and you say you've got three classes and you've got two mixed and you've got to [inaudible] two mixed activities, you've got a third one. This is quite a nice activity to do, isn't it [inaudible] girls in, particularly in the school, like that sort of thing because it seems to them to keeping them trim, right? And if they see it as keeping them trim, you've actually done the job lower down the school, haven't you? Because you're enhancing their life. The lads like it and, or parts of it, because they see it as, particularly certain parts of it, circuit training that sort of thing, [inaudible] of being macho and it's a little test of their physical prowess and they like it in that way, so it can, if you approach it can be quite popular to do. We quite often do it, right, as a bad weather activity.

I Okay.

A Other people do it, it's obviously there are only certain conditions you can add to certain problems like [inaudible] schools, it is a solution to a problem, isn't it? As well as, some schools do it because it's a box ticked. With got to do it, here we are, done.

I Yeah. Do you think that it relates to what pupils want to do outside of school, or does it relate to something-

- A -undoubtedly. Christ yeah. I think particularly the ones who are more image conscious, they will, you will hear them, they'll tell you. Oh we went to the [inaudible].
- I So in that sense, which method, if any, do you feel will best allow pupils to acquire knowledge and understanding of health and fitness, in relation to lifelong learning?
- A Well that's, I mean that's [inaudible], I mean there are a number of people who, there are some people who are, who [inaudible] the mainstream sport activities – you get bowling, hockey, football, rugby, basketball, badminton, whatever, right? And for them they're getting their health-related exercise, aren't they? The fact that you aren't coordinating [inaudible] or don't like that sort of thing, here's another avenue that they can go down, you're just giving them another option.
- I Another option?
- A You know, that's what we are all about, isn't it? We're all about introducing them to lots of different activities, giving them the basic skills so that they can go on and enjoy it in later life.
- I Just one last question. If you were a PE Head of Department which method of delivery would you favour and why? Would it be in every lesson as your school does, in a block, or through a combination of methods?
- A It would be both, include the children and decide what would be best for them. Now that becomes much easier in the upper school than in the lower school, right, you've a bit more freedom to do that, but for example, if you've got (as we've had in the past) a set of hillbillies who are a little bit macho, they're not particularly interested in well coordinated, or anything like that, but sometimes they like that sort of thing, because it's an individual thing, isn't it? You know, and they're not competing against anybody else apart from themselves, you know, it's rather more informal. There are no complex set of rules to adhere to, you know and you can, for their own part enjoyable.

- I Is that how you organise your HRE sessions? Do they compare themselves, rather than against–
- A –now that is the school teaching it, because you’ve then got to gauge what that particular group is like. If they aren’t, if you’ve got a few in there who are a little bit shy like that, you don’t do it that way, do you? But if you’ve got a group of boys who are right up for it and they’re very competitive with one another, right, then yeah you would. You could do it like that.
- I So it’s down to the teacher and the class?
- A Yeah and to gauge and to empathise with what, how the class feel, with what they’re doing and there are no hard and fast, that is the thing, no hard and fast rules, no one way that’s better than the other. You’ve got to mix it up and match it with the kids.
- I Do you think then with the six activity areas, as they are at the moment in the NCPE, do you think there could possibly be a seventh one, a health one, or do you think–
- A –sure, [inaudible] there is a fitness element in there, isn’t there, which comes under gymnastics section. We don’t actually go down that route because we like gymnastics as, I like gymnastics [inaudible] I mean I don’t [inaudible] I mean certainly Mark’s sort of taken to it, more and more and it’s a very, very useful thing. I mean so we do gymnastics all of [inaudible] for the GCSE, you could do and we can do both. If we’d have had it in the fitness [inaudible] as well, it can sometimes over complicate things as far as the GCSE is concerned, right? Whether to make it specifically a seventh area, I don’t think personally is necessary. You can make your own seventh area, that’s fine, right? I don’t think there’s any need to legislate for it, to be quite honest because you know, whoever is teaching that has to have an awareness of what those particular children’s needs are. I mean like, well, I mean for example the hillbilly group that I’ve got next, they don’t want masses and masses of physical contact sport because they’ve had that, they’re not, they haven’t got the coordination skill, they’d quite like a bit of individual skills [inaudible] move about, so when you programme your set

of scores, you've got to cater, haven't you, as much as you can, for those people. On saying that of course, you can't have everybody doing non-contacts because you haven't got enough spaces, have you? You have to arrange it. And that's what with certain kids, you know, so this [inaudible] set have had football, they've had some badminton, they're going to have some basketball and they'll have this fitness part. Now you've got, they have to do a bit of football because we can't physically put them all in there, accommodate them, but you will all get your turn and you will find things which you'll like and that works. That works quite well and at the end they accept that, but when you made your, when you make your football, if you've got to tailor it, haven't you, to them, alright, and do lots of little games, competition games or whatever, which can help them succeed, which makes it enjoyable for them, without putting them off.

I That's the thing, isn't it, you don't want to—

A —put them off. It is a, everything is a mix and match and what you like to do and what you're actually physically capable of doing, you know, is neither here, it's one thing [inaudible] I mean if you've got three groups on, right, and you've got three members of staff, well unless you've got three hermaphrodites you've got two of one sex and one of the other, haven't you? Which immediately limits you to what you can do, so I mean that's, you have to sort of match it around that and when you've matched them, their activity with what you can possibly deliver, that's a tricky old situation isn't it? You've got to do your best with it, but I think certainly you have to look at the group and tailor what you're doing with the group to their needs. And if they're high flying dynamic group of well coordinated children, give them competition, bang [inaudible] and if they're the opposite end of it, you know, you've got to be a little more gentle, a bit more relaxed, but nevertheless it's still got to be active.

I That's great, thank you very much.

Appendix 3

Table A1 – Frequency Distribution: Lesson Observation Year Groups

Year Group	7	8	9	10	11
Frequency	8	10	5	10	9

Table A2 – Frequency Distribution: Lesson Observation Activities

Activity	Frequency
Badminton	8
HRE/Fitness	7
Gymnastics	6
Football	4
Table Tennis	3
Dance	3
Rugby	2
Cross Country	2
Leadership	2
Hockey	2
Basketball	2
Trampolining	1
Tennis	1
Netball	1
GCSE Practical Preparation	1

Note: Forty-two lessons observed. However, forty-five activities observed due to three lessons containing two sports (table tennis with badminton/table tennis with trampolining/table tennis with football).

Appendix 4

Lesson Observation Field Notes at Woodside Comprehensive

Descriptive Notes	Reflective Notes
<p><u>Year 8 Fitness (Mixed)</u></p> <p>Teacher takes register and outlines lesson (fitness according to certain sports), and goes over targets</p> <p>Teacher explanation of warm up, main activity, and cool down. Question and answer session with pupils – pupils quite quiet</p> <p>Pupils get into groups and begin to plan their sessions – pupils get out and set up apparatus</p> <p>Pupils start to set up equipment and discuss layout</p> <p>Some pupils throw equipment about while teacher is writing stuff on the white board</p> <p>Teacher comes over and chats to me about fitness unit and sports fixtures. He says spot the good and bad groups</p> <p>Pupils start to perform some of the items that they have practiced</p> <p>Teacher explains next part of the lesson to pupils – pupils are quiet and listen</p> <p>Pupils continue with activities</p>	<p>Good introduction (first thing on Monday morning). Teacher seems disappointed with lack of answers to questions about material they have covered in the last few weeks; especially in front of guest (myself)</p> <p>Not as well behaved as I have come to expect from pupils at this school</p> <p>Trying to make me aware of the those not so good pupils and has positioned good pupils near me</p> <p>Good HRE knowledge and understanding demonstrated by pupils in most groups (seem aware of correct warm up/main activity/cool down procedures)</p> <p>Slow start in terms of being physically active – but pupils are planning (which takes a while) and will benefit their knowledge and understanding of HRE</p>

<p>Teacher comes over (again) and shows me the latest pupils self-assessment/target sheet</p> <p>Teacher explains the next part of the lesson</p> <p>Pupils watch other groups perform: football; dance/aerobics; athletics; and basketball</p> <p>Teacher gives commentary on top of pupil activity (explains activities performed, muscles used, and fitness components etc)</p> <p>Teacher gives plenary and pupils pack equipment and apparatus away</p>	<p>Very good pupil target setting (the latest government recommended assessment) – teacher conscious that I am observing HRE and wants to show off his school’s latest protocol. Very good Year 8 fitness lesson</p> <p>Is this for my benefit or pupils? I think his agenda is both – to pupils, but also letting me know how good their school is at HRE</p> <p>Quite a static lesson – but developed some good HRE knowledge and understanding</p>
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Lesson Observation Field Notes at Woodside Comprehensive

Descriptive Notes	Reflective Notes
<p><u>Year 7 Hockey (Girl's)</u></p> <p>Teacher explains lesson objectives to pupils in changing rooms, due to cold weather (I am not present)</p> <p>Teacher explains drill and demonstrates with a pupil (weak/strong side and beating an opponent 1v1)</p> <p>Pupils practice drill</p> <p>Teacher brings pupils around and explains variation on drill and new tactics – pupils gather around and listen</p> <p>Pupils continue with practice</p> <p>Teacher calls pupils around again and explains hockey related material – teacher demonstrates with pupils and enters into a question and answer session with the pupils</p> <p>Pupils return to positions to carry on with practice</p> <p>Pupils gather around teacher for a further explanation and demonstration</p> <p>Pupils practice again</p> <p>Teacher stops group again and calls pupils around for further explanation and demonstration</p> <p>Pupils grab equipment and get on with practice</p> <p>Teacher stops class and explains points about the game</p>	<p>No warm up (cold day) – straight into activity (may well have done it in changing room?). No HRE content</p> <p>Good hockey lesson appropriate for mixed ability Year 7 girls</p> <p>Good progression to lesson (explain, practice, explain, practice, etc, etc) – long periods of inactivity</p>

<p>Pupils get into groups and play game (three small-sided games across the Astroturf)</p> <p>Teacher stops games and pupils bring equipment in</p> <p>Pupils gather around and teacher undertakes a plenary (in relation to core strand – acquiring a new skill) – question and answer session with pupils</p>	
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Lesson Observation Field Notes at Woodside Comprehensive

Descriptive Notes	Reflective Notes
<p><u>Year 8 Dance (Boy's)</u></p> <p>Introduced to teacher by assistant headteacher (says "he's looking at HRE")</p> <p>Teacher introduces lesson in the dance studio (the Haka)</p> <p>Recaps what was covered last time</p> <p>Warm up – move about – pulse raiser. Muscles named by pupils in the warm up (calf and groin mentioned)</p> <p>I have been drawn attention to by teacher (e.g., Mr Beaumont is at NFCHS, studying a thesis etc)</p> <p>More stretching</p> <p>"Big gestures" – pupils walking around room and stationary</p> <p>"Silent movie gestures"</p> <p>Teacher explains task and gives them 5 minutes – pupils mirror each other's gestures</p> <p>Pupils watching video clip (sitting down). Question and answer session about clip</p> <p>Pupils really engaged in activity – going over routines that they have practiced</p> <p>Pupil demonstrations (others sitting)</p> <p>Teacher explains formations – straight lines/triangle etc</p>	<p>This is going to bias the observation from the start</p> <p>Excellent start – clear PowerPoint</p> <p>Teacher-led – pupils seem to be enjoying it and engaged</p> <p>Wish he had not mentioned me looking at them and asking them questions. All pupils looking across at me – seems strange – not used to this in school</p> <p>Very loud conversations – pupils enjoying a lot</p> <p>Quite static for a dance lesson (10 minutes not much movement)</p> <p>Loud pupils showing-off in corner (attention-seeking)</p> <p>Very good (use of ICT) but static</p> <p>Seem to enjoy dance lesson (very loud)</p>

<p>Teacher explains that pupils have 2 or 3 minutes to perfect formation</p> <p>Pupils work on routines again</p> <p>Class quiet – pupils sit before performance</p> <p>Two groups perform – one before the other</p> <p>Group 3 and 4 face each other</p> <p>Teacher tells girls off who are looking in through the window</p> <p>Group 3 perform – very loud – good performance</p> <p>Group 4 – another good performance</p> <p>Teacher recaps lesson – question and answer session. Explanation of muscles used in Haka (quadriceps, biceps)</p>	<p>Group 1 better than group 2 (not rehearsed much or in time – shy)</p> <p>Not as good as group 3</p>
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Appendix 5

Table A3 – Frequency Distribution: Pupils’ Interview Statements for each Activity Area

Occurrence	Athletic Activities	Dance Activities	Games Activities	Gymnastic Activities	Outdoor & Adventurous Activities	Swimming Activities	Unclassified Responses	Total
During Lessons	13	2	56	4	0	2	4	81
Outside Lessons	1	0	10	0	1	0	2	14
Total	14	2	66	4	1	2	6	95

Appendix 6

Table A4 – Frequency Distribution: Pupils’ Interview Statements for each Games Area

Occurrence	Invasion	Net/Wall	Striking/ Fielding	Total
During Lessons	32	18	6	56
Outside Lessons	6	3	1	10
Total	38	21	7	66

Appendix 7

Table A5 – Frequency Distribution: Pupils’ Interview Statements for HRE Activities Undertaken in Physical Education Lessons

Health-Related Exercise Activity	Frequency
Circuit Training	18
Running/Athletic-Type Activity	15
Multistage Fitness Test	12
Unclassified Responses	7
Speed, Agility, Quickness (SAQ) Activities	5
Warm-Up/Cool-Down/Stretches	5
Cooper 12-Minute Walk-Run Test	4
Multigym/Strength Training	3
Aerobics/Step Aerobics	3
Gymnastic-Type Activities	2
Theory/Personal Exercise Programme	2
Net/Wall-Type Games	1
Total	77