Leaping the Hurdles

Using an Ecological Approach to Develop Physical Education for Autistic Students:
an Action Research Study

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Abstract

Literature demonstrates how physical activity can support the needs of autistic students. Physical activity includes all forms of physical education (PE) and school provides an important environment for physical activity in PE lessons. However, for many autistic students, these are inaccessible. This study describes how PE practice was improved collaboratively in an autism school by exploring how seven teachers, 34 teaching assistants and one senior leader engaged in action research during one academic year. Sixteen students were asked about their perspectives.

Teacher and TA questionnaires revealed that PE practice pre-intervention was unfit for purpose due to insufficient subject knowledge and confidence. Thematic analysis provided direction for an intervention which included staff training, timetable changes and formation of a working party. Planning and a resource bank were created during the intervention, with working party minutes providing evidence of the process. Three semi-structured interviews with PE working party members' post-intervention unearthed multifactorial experiences and understandings of PE for autistic students.

Student preferences did not match staff perceptions which characterised a deficit model of needs. A pre- and post-intervention audit confirmed how developing a PE co-ordinator role improved practice and although staff valued PE and believed there should be a PE teacher, they maintained class-based teaching. Thus, PE lessons were outsourced post-intervention. Viewed through an ecological lens, findings indicated how teacher agency and policy discourse interacted across interconnected systems. Complex factors of environment and individual dispositions impacted staff engagement, and organisational structures of funding and staffing influenced staff enactment of the PE intervention.

Further research and strategic direction are required to map PE initiatives focussing on change in a local context with wider implications of initial teacher training and models of professional learning. Recommendations for PE practice in autism schools and beyond are discussed and a pathway for pedagogical change is presented.

Thesis contents

List of figures

List of tables

List of appendices

Appendix 1: Queens School contextual information.

Appendix 2: UEL ethical documents.

Appendix 3: Teacher, Teaching assistant and student questionnaires.

Appendix 4: Pre- and post-intervention Youth Sport Trust audits.

Appendix 5: Pre and post-intervention timetable example.

Appendix 6: Samples of PE Working Party minutes.

Appendix 7: PE equipment audit.

Appendix 8: Format of the semi-structured interview and transcript.

Appendix 9: PE Coordinator job description and training slides.

Appendix 10: The FeelGood Programme at Queens School.

Chapter One

1.1 Introduction to research

In the field of autism education, there is a notable lack of research on exercise interventions for autistic individuals or advice on how best to conduct such interventions. This study intends to improve this by looking into the types of activities autistic students prefer and incorporating them into physical education (PE) lessons. The aim is to identify how PE practices might be improved and describe the process by creating a holistic multisystem and multifactorial intervention.

Srinivasan et al. (2014) and Zhao and Chen (2018) indicated that evidence on exercise interventions for autistic individuals, as well as how best to intervene, is limited. Providing autistic students with the opportunity to describe their feelings and preferences, instead of relying on parent or teaching staff reporting, was advocated by Curtin et al. (2015) and is an essential element of this study. Drawing upon the literature, this study attempts to describe an ecological approach (Bronfenbrenner, 1986; 1979) to developing PE access for students in an autism school.

What follows is an account of autism and PE terminology and existing literature which establishes how these fields are connected within this study.

1.1.1 Autism terminology

This section clarifies the language used in this study to describe and understand autism. Wing and Gould (1979) first viewed autism as existing on a spectrum. The differing degrees of communication, creativity and social learning styles of autism are complex and developmentally determined and present from birth (Wing, 2002). This study employs the term autism to represent this spectrum depicting a range of learning profiles in varying combinations.

Self-advocates have reported a preference for identity-first rather than person-first language (Bagatell, 2010; Orsini and Smith, 2010; Ortega, 2009). Similarly, Kapp et al. (2013) found that autistic adults prefer terms such as 'autistic person', indicating that autism was a central aspect of identity for this group.

While autistic and neurodiversity-aware people tended to prefer identity-first language, parents of autistic people and those with other relationships to autistic people did not have a preference for either term (Kapp et al., 2013). Both terms have a place, yet this study supports the view of Bogdashina (2016, p. 16) who uses identity-first language because 'without their autism, they would be different people'. Kenny et al. (2016) also examined the language used by United Kingdom (UK) community members, concluding that there was no one preferred term and suggesting that people should use language that was comfortable for those concerned and that individuals should be asked what they prefer where possible. It is noted that this study aimed to understand better the views and preferences of the UK's autism community; including those on the spectrum, their parents, friends and family and the professionals who work with them. It is noted that in this case, that the autism community examined were adults over the age of 18 years and that the student participants in my study were 7–19 years of age. The term 'autistic student' is employed in this study to illustrate that autism is an accepted part of a child's identity, reflecting their way of being. The following section describes why autism may present a specific set of challenges to learning.

1.1.2 Autism literature

Autism tends to affect how people perceive the world and interact with others, resulting in delayed development of language and social skills, reduced empathy and rigidity of thought (Wing, 2002). Sinclair (1993), himself an autistic adult, cited that people with and without autism are equally alien to each other, implying a two-way process. The challenge is in the personal narrative because the condition is so diverse in the way that it affects individuals. While diversity acknowledges unique identities, it emphasises that, notwithstanding differences, rights and privileges are paramount (Davis, 2015). As Milton (2014) stated, autism has different impacts on different people that cannot be necessarily be applied to others on the spectrum. The implication of this view on this study is that although it is important to acknowledge the similarities in a diagnosis of autism, it is also important to acknowledge that when planning lessons there should not be an assumption that all students will be affected in the same way. Therefore, this study upholds the view that although there are shared

characteristics, due to the range of dispositions and learning styles, individuals have their own, unique experiences of their autism.

Educational assessments need to be based on an individual's 'strengths, impairments, skills and needs' (Yates and Couteur, 2013, p. 5) resonating with Milton's explanation of autism as a description of someone's way of acting in the world (Milton, 2014). Visual information is key to the original design of targeted interventions: comic strip conversations (Gray, 1994); social stories (Gray, 2004; 2015; Gray and White, 2002); the pictorial exchange communication system (PECS) (Frost and Bondy, 2002); individualised schedules (Mesibov et al., 2002) and 'Treatment and Education of Autistic and related Communication-handicapped CHildren' (TEACCH). Specialised techniques such as PECS and TEACCH embed learning through concrete, rather than abstract, resources in the classroom to reduce the impact of the dyad of impairments and can be used to support learning across environments. There is no single educational method that is successful for all, thus, educators should take a complementary attitude and employ many interventions alongside one another (Jordan, 2005).

Autistic people sometimes struggle with sensory sensitivity to visual, auditory, tactile, proprioceptive, gustatory and olfactory stimuli, which Bogdashina (2010) asserted is the lived experience of autism. The inability to filter out undesirable noise becomes challenging (Bogdashina, 2016; Stiegler and Davis, 2010). Impaired sensory processing is when individuals perceive an environment as threatening by misinterpreting incoming stimuli, causing a constant state of alert. Some individuals do not react to the sensation at all therefore this depends on the nature of sensory processing difficulties. Jordan (1999) originally stated that these are autistic traits but not necessarily part of the overall diagnosis. However, Grandin and Panek (2013) identified over- and under-sensitivities to sensory stimuli as core features of autism. In the light of changing views of autism, Robertson and Baron-Cohen (2017) pointed out that the Diagnostic and Statistical Manual-5 (American Psychiatric Association, 2013) now includes sensory sensitivities as core diagnostic features. Additionally, revisions in the International Classification of Diseases (ICD-11) (World Health Organization (2020) reflect extant literature that recognises the changing nature that affects presentation of autism throughout life (Reed et al.,

2019). Reed et al. (2019) stated that autism spectrum disorder in the ICD-11 now incorporates childhood autism and Asperger's syndrome under a single category, characterised by social communication deficits and restricted, repetitive and inflexible patterns of behaviour, interests or activities. As implied in these descriptions, understandings of autism are still evolving.

First-hand accounts from autistic people describe sensations as stressful in ways that prevent learning by being completely preoccupied with them, rather than the task at hand (Sainsbury, 2009; Lawson, 2000). As a result of poor sensory processing, anxiety and lack of understanding of the changing world around them, autistic students may display externalising and self-injurious behaviours. These can have a negative impact on wellbeing, family environment and educational achievement (Carter Leno et al., 2019). Students sometimes misunderstand what is happening around them because they miss information (Milton, 2012; Baron-Cohen, 2010). This means that what an autistic student learns may be indiscriminate, making it hard to demonstrate their achievements, and has been associated with academic under-achievement (Ashburner et al., 2008). This is a view supported by Guldberg (2010), who stated that interventions should be adapted to the needs of individual autistic students, working in partnership with parents and professionals to create enabling environments. Furthermore, Ashburner et al. (2014a) recommended applying universal design principles to these environments. Universal design is generally understood to be an aspirational process that aims for a learning environment that is accessible to learning styles, abilities and personalities but also recognises that such endeavours must be continually revised (Price, 2015).

In terms of creating a conducive learning environment in PE Morley et al. (2005) stated that inclusion in PE is different from other subjects, because the implementation of the PE curriculum requires activity-specific facilities and equipment and has seasonal activities and safety concerns. The physical teaching environment may restrict opportunities for teachers to adjust their lessons and adapt the use of equipment (Jenkinson and Benson, 2010). PE is taught in learning environments such as noisy sports halls and outdoors, raising issues for autistic students because of the sensory implications stated and because of subject-specific barriers. However, the setting also offers positive

opportunities. These are summarised in the next section with key terms clarified.

1.1.3 PE terminology and literature

The Association for Physical Education (afPE) states that physical activity (PA), PE and school sport in the UK are similar in that they all include physical movement, but there are significant differences. Broadly, PE is planned learning that occurs in the timetabled school day; school sport is structured learning that occurs in extra-curricular activities and PA describes all bodily movement (afPE, 2015). This is expanded upon in Chapter 2.2. Of benefit is the development of physical literacy, a concept developed by Whitehead that requires motivation and confidence to engage in PA (Whitehead, 2016). Physical literacy can be described as learning about moving and experiencing opportunities to move in different environments (Whitehead, 2019). This study highlights the difficulties many autistic students have with motivation and confidence in PA and PE.

High-quality PE, PA and school sport contributes to the development of well-balanced individuals, including physical and emotional wellbeing, enjoyment, confidence and self-esteem (Daekyun et al., 2019). As such, PA in this study is used to describe activities requiring energy, such as walking, sport and any daily movement; and PE is used to specifically describe lessons that deliver sport, exercise and PA through areas of activity stated in the national curriculum for PE (NCPE) (Department for Education, 2014). Therefore, this definition includes schools sports in PE. Areas of activity included in NCPE are games, outdoor and adventurous activities (OAA), gymnastics, dance and athletics for all primary and secondary students, and also, swimming for primary students. The age range of this study encompasses primary and secondary level students, and young people aged up to 19 years.

National curriculum PE (NCPE) is often taught with a focus on competitive sport which tends to be timetabled through the games areas of activity. This is usually determined through teachers' experiences in initial teacher training. Pre-service PE training is generally lacking, according to Cale et al. (2016), who found that there was a bias towards sport in much of the teachers' professional development that they sampled. Similarly, Tant and Watelain (2016) concluded

that there were issues accessing professional training, quality of collaboration and curricular provision towards sports participation for people with disabilities. Bertills et al. (2018) proposed a better allocation of resources and communication of a long-term plan to ensure a supportive PE environment. Furthermore, they recommended that teachers need guidelines, training and support on how to change curriculum intentions into meaningful learning experiences for students with disabilities. Lack of support in terms of resourcing and assistants has been reported (Morley et al., 2005) in addition to teachers' inadequate training and skills to adapt their teaching for students with special educational needs and disabilities (SEND) (Coates and Vickerman, 2008). The barriers to taking part in PE for students with disabilities have been found to include inadequate PE practice and delivery (Aspasia et al., 2017).

The PE environment can be an overly stimulating sensory setting for autistic students (Kristi Sayers et al., 2008) and, therefore, can conflict the unique sensory information processing. Mosston's (1966) influential PE teaching hierarchy declared competitive games to be open-ended because they are dictated by constantly changing variables. Autistic students often struggle with such fluctuating situations, which relates to the triad of impairments. In this chaotic environment, an autistic child could be stressed, and, because of their difficulties in processing information correctly, this could lead to being excluded from accessing PE (Houston-Wilson and Lieberman, 2003).

Pan (2014) found that motivation was needed for the development and refinement of motor competences, indicating that teachers of PE should strive to focus on engaging autistic students to take part in all aspects of school sport. Given the results of a meta-analysis by Huang et al. (2020), PA can have a positive impact on the social interaction, communication and motor skills of autistic children and adolescents. However, the effectiveness of current interventions to improve motor skills for autistic students is poorly understood (Ruggeri et al., 2020). Autistic youths may experience poor access to physical activities (Obrusnikova and Cavalier, 2011; Rosser-Sandt and Frey, 2005). Social and communication issues make it probable that they participate in fewer sports activities and make fewer friends (Pan and Frey, 2006), which may lead to a sedentary lifestyle. Research suggests that therapeutic activities that include sports, exercise and other physical activities can support autistic

students in their management of stereotypic behaviours (Al Awamleh and Woll, 2014; Kern et al., 1998). These repetitive behaviours are idiosyncratic responses to sensory stimuli (Bodfish et al., 2000) that distract the student, creating a barrier to learning. Aerobic exercise, as a strong sensory and motor experience, lessens stereotypic behaviour in autistic children, adolescents and adults (Ferreira et al., 2018; Lang et al., 2010; Petrus et al., 2008; Rosenthal-Malek and Mitchell, 1997) and reduce inappropriate behaviours (Lochbaum and Crews, 2003; Elliott et al., 1999; Lochbaum and Crews, 1995; Allison et al., 1991). Thus, PE lessons are an ideal setting for such activities to take place. Such literature, however, tends to view exercise or PA as a programme, rather than as part of an educational curriculum. It has been recognised that interventions that are too narrow, complex or expensive, or that do not meet the needs of the cohort, hinder the process of transforming empirically sustained innovations into everyday educational practices (Dillon et al., 2017). To address this interpretation, this study explores the process whereby PE could be improved in an autism school.

Hinckson et al. (2013) realised that time was an essential factor in the efficacy of their walking intervention. Families, as well as teachers and programme leaders, worked together on this community venture, suggesting that not only do such programmes need to be conducted for longer to accommodate responses to new activities, but they also need to encompass other forms of learning environment. A strand permeating this study was the need for trans-disciplinary and collaborative approaches.

Arnell et al. (2018) reported that students felt they had to have a minimum level of physical competence to access PE; if not, they were less likely to be willing to participate. Little is understood about how autistic students perceive PE or what they identify to be successful for themselves (Thorén et al., 2018) and, with this in mind, Walseth et al. (2018) stressed the importance of listening to autistic students when they rarely have the means to communicate. Whilst some autistic people can communicate their likes and dislikes through their words or actions, it is often dependent upon professionals having the skills to interpret them (Gaudion et al., 2015). This study contributes to a body of knowledge gained by students being asked about their preferences and their answers being acted upon.

The next section discusses how, in the name of qualitative research, a focus was placed on the particulars of circumstances that expressed a sense of place in order to address the research questions and aims.

1.2 Aims, rationale and research questions

Inclusive education values diversity, supports every student's full participation, including the dimensions of attendance and engagement, and reduces the exclusion of vulnerable learners (De Vroey et al., 2016). Simply having access to equal opportunities for education, however, does not ensure a feeling of being included for students with disabilities (King, 2013). For this study, asking the students about their perceptions and preferences was an attempt to provide PE that was more relevant for this group. Inclusive values are about having a say in consultation and expressing preferences (Booth and Ainscow, 2011). Access to quality PE drove the work completed in this research, which Hums et al. (2012) referred to as a social right; one that encompasses PA, sports instruction and exercise as part of the school day.

Tant and Watelain (2016) advocated that inclusive PE is shaped by professional training, collaboration and a curriculum that can be adapted to PA and sports participation for people with disabilities. However, a lack of training has been reported to limit support effectiveness and collaboration between PE teachers and TAs (Vickerman and Blundell, 2012).

The research journey involved describing how to make change possible in PE practice. Therefore, the research aims were to:

- identify how teachers could work collaboratively to raise the profile of PE in an autism school
- consider how teachers and TAs understand PE and how this is aligned to an understanding of autism pedagogy
- address autism-specific issues in PE in an autism special school.

Targeted research questions were then designed to address these aims associated with personal professional fields of curiosity.

1. What were the perspectives of teachers, TAs and students regarding current PE practice in Queens School (a pseudonym), and did they think it fit for purpose?

This research question was connected to existing practice and communicated the perceptions of the staff and students about PE practice before the PE intervention. Staff questionnaires were employed to explore whether existing PE provision was viewed as appropriate to meeting student needs. Student perspectives were gained to provide an element of active engagement. Interactions formed through open dialogue and deep reflection began to unravel the mechanisms acting on perspectives.

2. How can physical education improve?

This question focused on how PE development could be progressed. A plan was devised to explore what could be done to improve PE at this school, working with staff through a collaboration called the PE working party (PEWP). This question sought to answer in what way PE practice in this school could be changed and enacted. A model of change was constructed and detailed.

3. What were the influences on the process of change and what were the perspectives of those involved?

The third research question was concerned with an exploration of factors that impacted the progress and content of the overall intervention and what contributed to the views of those involved in the process. Change was viewed through the lens of the ecological model, which explored localised factors within school environments and more discrete external multifactorial themes from a wider system of power.

Limited evidence is presently available for the use of timetabled PE in schools for autistic students. This is especially the case for PE practice in special schools, and in further relevance to this study, autism schools are particularly under-researched. Thus, this study fills a gap in research by increasing knowledge in this area and gaining a better understanding of PE practice for autistic students. Practical resources, information and guidance, and practice to facilitate, define and explain the effects of the PA programme for future researches are presented in this study. The structure of the natural environment is a thread highlighted throughout this study which should be consistent and well defined with focus on gaining staff collaboration that leads to achieving student engagement holistically and multifactorially.

The section that follows considers the location of the school where the research was conducted.

1.3 Context and researcher positionality

The fieldwork took place at Queens School, a special school providing education for autistic students with associated learning difficulties. The name Queens School is a pseudonym. It provided education to students aged 7–19 years. During the course of the fieldwork, Queens School made the transition from a residential school to providing day school education. Up to 70 students could be supported by approximately 50 teaching staff including teachers, higher-level TAs (HLTAs) and TAs. To attend Queens School, a student needed a diagnosis of autism and an educational health care plan (EHCP). The EHCP must state any additional severe, profound and complex needs, such as speech and language issues, behaviour and/or associated mental health difficulties. More contextual information is located in Appendix One.

Communication terms used at Queens School were 'conversational partners' for verbal students and 'social partners' for those who were non-verbal. These were features of the social communication, emotional regulation and transactional (SCERTS®) model, a multidisciplinary framework that addresses the core challenges faced by students with autism and related disabilities and their families. SCERTS® focuses on building competence across a range of abilities and ages in home, school and community settings (Prizant et al., 2006). Implementing SCERTS® allowed students to access to the classroom alongside visual prompts and schedules and supported learning at each student's pace. The SCERTS® model links to inclusive education allowing learning in a variety of environments (The Inclusion Notebook, 2007). All staff were fully trained in SCERTS ®.

The FeelGood Programme (FGP) was an autism-friendly PE framework designed by me the researcher, who previously held a PE teacher and PECO role at a residential school for autistic students with complex needs and challenging behaviours (Appendix One). Many students did not attend PE lessons and, since I am a qualified PE teacher, this was an issue I wished to address. PE lessons were planned and delivered by the researcher to all students aged 11–19 years. The intentions of the study at Queens School,

however, were to extend the use of the FGP to develop PE practice at a day school for autistic students where the class teachers were not trained in PE, and to describe the process of how this took place.

The Queens School senior leadership team (SLT) was approached to discover whether students experienced similar issues in accessing their PE lessons. Staff agreed that it was difficult to engage students in PE and that none of the current teachers was PE trained. PE often did not feature on class timetables and there was no PECO or PE planning. An initiative emerged between the researcher as researcher-facilitator and SLT, teachers and TAs to identify understandings of PE practice and whether a pedagogical process could be developed collaboratively to be delivered by class teachers. The PEWP minutes articulated the work carried out. This study was concerned with how the process of change could be initiated, who would be involved, what could be enacted to improve practice and how this would be achieved. The barriers and opportunities presented by this process were described through the ecological framework (Bronfenbrenner, 1986; 1979). This contributed to knowledge about creating collaboration with educators in an autism special school. It was important to find a way that acknowledged experiences, allowing them to contribute to the function and flow as one informed the other.

Researcher positionality is a consideration of the background of the researcher and their location relationally. Their worldview on their research topic and the inherent impact they bring with them throughout their research is described by Sultana (2007), who says that research ethics have to be negotiated continually because similarities and differences emerge through the relations in terms of collaborations. The researcher's positionality in this study indicated a changing stance throughout the process, socially and micro-politically within the community of the participant groups. This highlighted the importance of reflecting upon personal experiences and beliefs and how these impacted upon the literature review, as well as the data collection, analysis and interpretation of the data.

This study was undertaken using an interpretive approach (Cohen et al., 2017) based on the foundation that learners actively create, interpret and restructure knowledge by individual means. Interpretive styles of interaction and reflection highlighted the relevance of an active and explorative form of creative enquiry.

In the context of this study, this allowed greater scope to address issues of influence and impact.

In alignment with an interpretive approach, the justification of the use of 'I' in this study was that the researcher-facilitator relationship was entwined with the exploration of personal practice during the school improvement process. The personal and professional development of 'self' expressed as 'I' in later chapters in this study was a deliberate reflection of authentication. Whitehead (2019; 2015) stated that the presence of 'I' is significant because it locates the researcher as being involved in the creation of knowledge as self-learning and learning of others within the social context where the research takes place. Linking, too, with chronology, this study was a narrative over time by connecting the past with the present and taking this into the future, giving a naturalistic feel. The concept of 'I' alongside daily lived experiences was an apt way of explaining what was occurring. Thus, 'I' gives authority to the actions because they occurred and were not an abstract notional presentation. Coghlan and Brydon-Miller (2014) stated that every research stage is affected by the researcher. It was a realistic means to acknowledge that 'I' am inherently part of the research, recognising partiality from the start. Thus, 'I' is the most appropriate basis from which a claim to knowledge and knowing can be argued.

The next section links autism and PE literature further in support of this study's aims and research questions and establishes the importance of the school environment and understanding the interactions within it.

1.4 Literature summary and conceptual framework

Involvement in some form of PA is an important step towards enhancing the quality of life for disabled children throughout each developmental stage across environments (Block and Horton, 1996). This way, sport and leisure skills can be taught as they can provide increased social opportunities for children, enabling self-control, cooperation, turn-taking and sharing that extends beyond the arena of sport into everyday life. However, there is relatively little literature on how PE might best be taught to autistic students in a special school environment, which this study aims to address.

O'Mara et al. (2012) cited that fundamental gaps exist in the evidence on how subjects should best be designed, developed and delivered for post-primary

students with SEND. In particular, to determine whether mainstream education consistently meets the needs of specific sub-groups and how to adapt the curriculum for them so that their needs are better met. Their evidence maintains the view that a flexible approach to curriculum adaptation and delivery can be advantageous for students with SEND. Healy et al. (2013) discussed the dichotomy between task demand and ability level for autistic students, which can be just as much about tasks that are too difficult as those that are too easy. According to Haegele and Sutherland (2015), meaningful learning experiences can be facilitated by providing a positive learning environment for students with disabilities.

This section asserts that out of school time, autistic students are more at risk from being inactive than their peers. Cai and Korn-Span (2012), Gehricke et al. (2020), Healy et al. (2017), MacDonald et al. (2011) and McCoy et al. (2016) reported that autistic children are less active than their neurotypical counterparts, spending significantly less time in PA compared with sedentary activities. If autistic children are less active at home, then it is even more essential for them to be engaged in PE lessons. Highlighting the limited time spent being active out of school hours, Must et al. (2015) found that autistic children spent more time in sedentary activities, particularly television watching and computer use, than neurotypical children. In support, Nally et al. (2000) and Healy et al. (2017) concluded that families with an autistic child often used television and video games to manage their behaviours. Furthermore, Stanish et al. (2017) indicated that time spent in moderate and vigorous PA was significantly lower on weekend days compared with weekdays for autistic adolescents, which they attributed to school-related activities consistent with Pan et al. (2016; 2015). School-related activities, including PE lessons, breaks and walking to and from school, contributed to the higher activity levels on weekdays, highlighting the importance of PE lessons and the overall school environment. This is in addition to the findings of Bandini et al. (2013) and Hilton et al. (2008) that autistic children participated in a more limited range of activities for less time, with a narrower group of peers and in a narrower range of geographic locations.

McConachie et al. (2006) suggested that more educational and leisure activity participation may not be better if the child does not have a choice. Enabling

interests (Zhang and Griffin, 2007) may increase participation and achievement in PE. Interpretations for teaching PE echo those of Haegele et al. (2017), which were to adapt to students' needs and to offer choices.

Although this study took place within the school setting, it was important to acknowledge the interactions of wider environments, such as the family and community. Some types of influence are not restricted to the environment where the behaviour occurs as social and cultural environments operate at multiple levels. Bronfenbrenner's (1986; 1979) ecological framework employed in this study allowed the researcher-facilitator to recognise the interactive nature of lived experiences and the flow of connections within and between each system that supports students' participation in PA and PE. McLaren and Hawe (2005) recommended an ecological framework to draw attention to individual and environmental determinants of behaviour. This focused on individual characteristics while, simultaneously, considering the social and physical environment, which can include family, friends, community, formal and informal organisations, design of urban environment and facilities that promote or prevent PA (Fleury and Lee, 2006; Giles-Corti and Donovan, 2002).

Levels of ecology are connected because practices aim to change the body, and one's relationship with the body, in the learning process. Meziani et al. (2017, p. 2) showed that the ecological approach is 'constructed from an "ethics of care" perspective, in which human vulnerability and contextual adaptations are vitally important'. By adopting an ecological approach to values environmental management of sport and leisure can be adapted into institutional and relational contexts. Seen through the ecological framework, autism is not a static condition existing within a person, but a developmental process that can be understood as taking place through the interaction between person and environment (Loveland, 2001). Milton and Bracher (2013) stated that the ecological model and action research support the meaningful participation of autistic individuals in the research process, recognising change over time.

The action research methodology is described in the next section.

1.5 The research design

As Ravitch and Carl (2020) stated, participants' experiences are difficult to identify and explain fully ahead of the research implementation, thus, researchers need to respond to these in real time once the research begins. This research was located in an autism school that began when SLT identified PE to be an underdeveloped area; noting that students did not engage in activities and many opted out of participation altogether. Action research uses the perceptions of practitioners within local situations to effect change and solve problems (Herr and Anderson, 2005). Thus, an action research approach was considered the most suitable way to understand this situation better and to improve PE practice. Action research is notable for its spirals of self-reflection: cycles of planning, acting, observing and reflecting (Kemmis and McTaggart, 2000); a feature that was appropriate for investigating whole-school development. This approach permitted a process in which data could be simultaneously collected during the fieldwork in order to collaboratively set objectives and appropriate strategies for improvement, as well as identify signs of success and create policies for monitoring progress and informing change. Action research was chosen as applicable because of its emphasis on change (Kember, 2002).

The collaborative process began with teachers, TAs and students being invited to complete a questionnaire regarding perceptions of existing PE practice at this school pre-intervention. The information gleaned from these questionnaires was interpreted using thematic analysis. An intervention to enhance PE practice was devised using the information gathered from the questionnaires that addressed Research Question 1. Concepts uncovered by the questionnaires guided planning for action points to be made by the PEWP. Outcomes collated during this action stage of the intervention that addressed Research Question 2, produced evidence through audits, learning walks and policy writing.

Semi-structured interviews with key members of the PEWP were conducted post-intervention to understand the multifactorial process of change. Thoughts and feelings from PEWP members were interpreted and examples provided of statements given to address Research Question Three. Minutes from PEWP meetings ran alongside the during- and post-intervention stages to provide

cohesion and a record of the research process. In the next section, the structure of this research is presented.

1.6 Chapter overviews

This research ran alongside Queens School's journey and contributed to best practice through reflections on literature relating to both autism and PE teaching with attention to environment-specific design. It scrutinised the perceptions of educators and students regarding current practice in an autism school and used those views to contribute to the design of a process in which realistic changes to practice could be made. The research part of the journey was the collaboration that took place and was timely in that research into autism pedagogy is still in the process of realising the full diversity of the autism spectrum. The structure of the thesis is as follows:

The first chapter provides a description of the school, the origins of interest in the subject matter and motivation for the study. It presents the research questions and aims and offers contextual information. An overview of autism is provided in terms of the impact that the triad of impairments has on learning and readiness to learn, and definitions of PE are introduced, thereby connecting research fields.

Chapter Two is a literature review concerning themes around autism and what PE practice can look like for an autistic student attending an autism school. Linked to this is recognition of the importance of the school environment concerning what it can offer autistic students through PE lessons. How staff understand PE and how students experience PE is explored. This chapter identifies barriers to, and opportunities for, PE improvement, with strands such as the relevance of PE training and the suitability of the NCPE for autistic students, as well as teacher agency and policy discourse.

Chapter Three is structured to connect the research and the conceptual framework. Bronfenbrenner's (1986; 1979) ecological model allows a view of autism as an interaction between a person and their environment. By viewing autism from an ecological perspective, individualisation can be applied to developing support. This model seeks to link interactions and is useful for understanding the support that autistic students, their families and schools need to safeguard inclusion in education. The key is the interconnectivity of the

factors across multiple environments based on the situations of the child. The notion of individualisation is woven throughout this study. Strands have been identified that permeate all ecological systems and are indicated through a set of visual representations that consider interactions between the research stages and autism teaching and learning that, in turn, affect perspectives and understanding of both educators and students about PE.

Chapter Four introduces action research methodology, identifying key advantages and disadvantages and justification of the choices. A connection is made between the research issue, the framework and the philosophical underpinnings of the research methods selected as being suited to the dispositions and needs of the research participants (Goodall, 2018; Wood, 2018). Researcher positionality is justified and aligned with an interpretive approach, and research ethics integrity is described.

The collaboration that occurred was presented as before, during and after the intervention and is described in Chapters Five, Six and Seven, respectively.

Chapter Five reports the findings from data collected through teacher, TA and student perceptions regarding PE practice pre-intervention. Understandings of each participant group are considered consecutively to demonstrate how participants' responses were connected to common or dissimilar themes, as well as the degree to which they related to concepts debated in Chapters Two and Three. Data findings are discussed and compared across participant groups. Responses helped to identify areas of development.

Chapter Six describes data which was concerned with the action stage – the 'doing' of the research and what changes were made to existing practice. Outcomes are described relating to the transformation of practice during the intervention. Subject and class timetable audits were carried out at the beginning of this cycle to provide a baseline for progression, which was completed again at the end of the intervention for comparative means. Targets were taken from PE and timetable audits to subsequently develop a training schedule. Planning was developed alongside student PE learning profiles, a resource bank of ideas and support materials and policy writing. Additional information was provided through PEWP minutes, presented as quotes or inferences, together with information from learning walks. Evidence produced represents the collaborative work undertaken.

Chapter Seven describes the post-intervention data collection. Perceptions and experiences of PEWP members are interpreted and presented through the research journey. Emerging themes indicate barriers to changing PE practice and a model for such change is visualised. This part of the intervention represents the cross-over from researcher-facilitator-led involvement to staff ownership and identifies the next steps towards future development.

Chapter Eight concludes with a summary of the research findings and restatement of purpose in support of the research aims and questions. Threads are drawn together to provide coherent arguments that demonstrate whether the research aims have been met and questions answered. This chapter summarises the original contribution of this study to the field of creating change in autism PE practice using an action research approach explained through the lens of an ecological model. Limitations of the study are indicated and recommendations for future research and practical applications are made, both within the field and beyond.

In this chapter, there has been an explanation of the thesis structure. The chapter that follows moves on to present literature relevant to the investigation.

Chapter Two

2.1 Introduction

Chapter Two presents themes pertinent to PE, autism and autism PE. The link between these fields is made and an overview of the impact autism has on learning is discussed within the particulars of the PE environment. It builds upon the argument developed in Chapter One for a different approach to PE teaching for autistic students given the broad variations in these learners' needs and characteristics.

This study is concerned with applying the documented benefits of PA in a PE setting where there are opportunities for regular, planned and structured tasks. To embed this study within the PE setting, the next section looks at definitions of PE to understand what might be appropriate to incorporate into the proposed PE intervention. Subheadings are used to identify separate components within the intervention framework.

2.2 What is physical education?

PE includes sport, health and PA (Garrett and Wrench, 2007; Lake, 2001; Kirk, 1999). Capel and Blair (2007) and Lynch and Soukop (2016) posited that the terms 'sport' and 'PE' are often used interchangeably in school contexts, which causes confusion. Capel and Whitehead (2020) explained that PE is composed of traditional games, sport, health and PA as the means of teaching students how to attain physical development and movement competence. Their definition is the basis for this research.

Bailey et al. (2009) suggested that historically, value has been added across physical, social, affective and cognitive domains through PE. However, individual PE experiences, and a wider physical philosophy, shape interpretations of the nature and purpose of PE, where it is determined by what is done in its name (Kirk, 2010). This prompted Whitehead (2020) to question the 'education' in PE. Harris et al. (2012) expressed concerns regarding the comparatively low standing and inadequate focus given to health and PA in schools, with Harris (2018) arguing for PE to become a core subject to address this. An individual understanding of PE is based on subjectivities formed through personal experiences of sport, PA and PE (Garrett and Wrench, 2008).

Stidder and Hayes (2013) used the term PE to refer to curriculum time allocated to the teaching and learning of PE. Acknowledging an unconvincing link between structured learning that occurs in the PE curriculum and the extended school sports programme, they promoted a position that PE has broader educational objectives and learning outcomes. When viewed in this way, it is possible to understand how PE lessons can promote more than traditional team games and competitive sports. This point is important to the core of this thesis, which takes the stance that a wider, more flexible use of PE is needed when developing an intervention for a particular group of students.

Sport and health ideologies have been identified as the most influential discourses in PE (Green, 2008; Kretchmar, 2008; Penney and Evans, 2005; Lake, 2001; Kirk, 1999; Green, 1998). Penney (2000) explored the relationship between excellence in the context of the NCPE and excellence in sport, stating that dialogues of performance in sport frame definitions. The afPE (2015) definition stated in Chapter One locates the context for learning in PE as involving both 'learning to move' by becoming more physically competent and 'moving to learn' through participation in a range of activities. Learning through movement encompasses gaining a range of skills and understandings beyond PA, such as cooperating with others – demonstrating the implications to wider fields such as the community, family or long-term involvement in PA. Daekyun et al. (2019) recognised that positive relationships with others and a sense of enjoyment were enhanced through an extra-curricular sports programme. The theoretical framework used for this research is an ecological framework that promotes interaction at a local level and extends beyond the immediate setting to other systems of influence. This will be discussed in detail in Chapter Three.

According to Armour and Harris (2013) and Cale and Harris (2013), schools play an instrumental role as part of a public health plan because governments are increasingly looking to schools as a convenient form of public health investment. Interventions have concentrated resources and policies on children and young people based on the view that they are the group in greatest need of safeguarding and most easily influenced. This was substantiated by Iserbyt et al. (2015), who stated that an objective for PE in several countries is the promotion of physically active lifestyles that can be progressed through

schools. McMullen et al. (2016) highlighted that schools are important venues for PA promotion globally. In this international context, Martins et al. (2018) provided evidence for the importance of promoting positive PE and PA experiences in primary schools. Additionally, Martins et al. (2017) found a clear indication that PE teachers' roles must promote comprehensive school PA that advances beyond PE, embracing community layers – another connection to the ecological framework described in Chapter Three. For all students to be engaged in PA within and beyond PE lessons, PE experiences should be meaningful, relevant and positive (Cale and Harris, 2013).

Physical literacy (PL) is a concept conceived by Whitehead (2001; 2004; 2006; 2007; 2010) who challenged PE pedagogical practices that treat the body as a tool. Tinning (2010) wrote that this confronted PE philosophies by understanding movement as a body–mind–world occurrence that embraces the thoughts, feelings and relationships experienced by the learner as a holistic interaction created by movement and recognises all the ways that PA can be experienced. A useful description of PL is that it promotes a confidence and understanding that will sustain PA throughout life and the opportunity to nurture a fundamental aspect of self (Whitehead, 2010). She argued that since individuals create themselves through interaction with their environment, the ability to move is an essential aspect of 'being' and 'becoming'. This locates the place of PL as a view of PE rather than a separate concept. Lynch and Soukup (2016) clarified that one is physically educated during school hours in the UK only where PL appears to be filling an educational wellbeing gap and PE is concerned with being educated.

MacNamara et al. (2011) argued that many PE models do not equip individuals with the skills necessary to maintain their involvement in sport and progress back and forth between different types of activities. This was further discussed by Bailey (2018) who said that in evaluating the relationship between PE, sport and social inclusion, the educational value of physical activities is realised through its value within the school curriculum. Jones and Green (2017) cited a tendency to teach competitive sport at the expense of a broader educational experience of PE in primary schools as policy shifts emphasis towards school sport rather than PE. This reductive approach is educationally limiting, and the

focus on sport, rather than education, impacts on how students view PE and construct understandings of ability linked to PE (Stirrup, 2018).

In terms of content, Cale and Harris (2006) noted that whilst some teachers speak positively of PA promotion in PE, this is not always accompanied by an understanding of how to approach or operationalise it. Previous reviews have provided comprehensive summaries of the effectiveness of PA interventions, but they have not provided explicit direction for teachers' practice. The literature suggests that primary PE focuses on competitive sports. Griggs (2016) explored the Primary PE and Sport Premium in UK schools, finding that most often, competitive sports were organised by bought-in sports coaches. Luke et al. (2020) stressed the importance of being able to use professional judgement and curriculum and pedagogical approaches and understand what is negotiable or non-negotiable. Instead, by acknowledging the need to teach a broader range of learning outcomes and selecting different pedagogical approaches, student needs are better served. Lorusso and Richards (2018) indicated that limitations in PE policy, teacher preparation and status are threats to the future of PE. The purpose of defining PE in this way is to establish a different way of thinking about educational value by adopting a models-based approach. Sport education emerged from the work of Siedentop (1994) and the way sport is typically represented in traditional PE lessons. The use of the word 'traditional' relates to a sport technique-based, multi-activity approach.

Historically, many curricular and instructional models have impacted on how and what is taught in PE, a situation described by Pate and Hohn (1994) as 'muddled' (p. 2). MacKenzie and Lounsbery and (2014) note confusion both within and outside of the PE profession, and more recently Kirk (2020) questioned what future PE will look like. The view of PE as a large, rich and complex field of practice means that it can aspire to achieve a wide range of educational outcomes for students. To do this, though, it needs to break away from its outdated 'one-size-fits-all', sport technique-based, multi-activity form (Kirk, 2013). A models-based approach to PE affirms the notion that PE as a field of practice has the potential to contribute to the achievement of a range of educationally beneficial outcomes for students, across an array of domains (Bailey et al., 2009). Creating environments in which students can learn is what positions this thesis. Metzler (2011) called an instructional type approach

'models-based' practice. Despite criticisms globally, the multi-activity model continues to exist as standardised curriculum policy in secondary PE (Casey, 2013; Fletcher and Casey, 2014; Kirk, 2013; Metzler, 2011). A hyper focus on a multi-activity approach means that prescriptive, short units have little positive effect on students while at school or in their future (Green, 2014) meaning there is no flexibility to align learning with learners' needs and their environment.

A models-based approach to PE makes use of several pedagogical models, each with its distinctive learning outcomes in alignment with teaching strategies and subject material, and each with its own implementation and enactment structures. The models used in a PE programme are determined by decision-making at a school, regional or national level, depending on how educational systems are organised. Organisational decision-making is discussed further in Section 2.11. Considerations that influence the selection of pedagogical models include the suitability of the model to the age and developmental stage of the learners, and embedded factors – the broader educational values that schools, regions or national systems reproduce, reconstruct and maintain. The concept favoured in this study is of a pedagogical model of PE that comprises the interdependent elements of curriculum, learning and teaching (Armour, 2011).

Illustrating that 'inclusive education' implies the participation of all students, Barton (1998) emphasised that inclusion is a process rather than a set of practices. Ainscow and Miles (2009) agreed that inclusion is a process, proposing that 'inclusion has to be seen as a never-ending search to find better ways of responding to diversity' (p. 2). This means that participation in education involves going beyond simply providing access and is expanded by Anderson et al. (2003) who wrote that inclusive learning operates 'at the level of the education system, the institution and the individual teachers and learner' (p. 3). Where and how a learner is placed in the education system will be decided by the best and most suitable learning environment to meet the learner's needs within the resources available. Thus, within inclusive learning it is possible for specialist establishments to play a part where the focus is on learning rather than location. This positions my views and understanding of inclusion and subsequent understanding of inclusive PE.

Bailey and Morley (2006) sought to redress the imbalance from a focus on out-of-school clubs and the preparation for adult elite sport, in favour of a more

equitable and inclusive approach, premised upon the importance of mainstream PE.

What creates inclusive PE is discussed in the next section relating to a strengths-based model.

2.3 Inclusive PE practice

Ensuring that inclusive PE is developed demands an acceptance that every student can learn and succeed in their own way, that diversity enhances everybody, that each student has strengths and weaknesses and that a commitment to collaboration produces effective learning (Tripp et al., 2004). Inclusive PE is about students feeling part of a learning community where they can choose the most suitable instructional context and are provided with the opportunity to participate in relevant PA. Being able to create such a pathway towards inclusive PE was described as a journey with a purpose (Mittler, 2005) and essentially, it is what this study is about. In the view of Stidder and Hayes (2013), teaching and learning in PE bear little relation to the provision of competitive school sport. Competitive sport is aimed at elite performers and is usually organised in gender-specific teams, thus, is not inclusive when placed in a PE lesson context.

The term inclusion has been much debated within PE (Vickerman, 2007). Time allocated to tackling this concern is inconsistent despite it being recognised as necessary, and this begins in initial teacher training (ITT). However, Smith (2004) stated that PE teachers appear to prioritise traditional team games once in their role, leading to integration rather than inclusion. An example of ineffective inclusion in PE is when a disabled student is present in the sports hall yet does not meaningfully participate with peers, which Tripp et al. (2007) called functional exclusion. This study positions itself with the view of Stidder and Hayes (2013) who regarded inclusion to be schools and teachers valuing the achievements, attitudes and wellbeing of every young person whilst providing a curriculum that is pertinent to individual strengths. However, many studies demonstrate that UK PE teachers experience problems with inclusive principles described in general guidance when applied to curriculum content (Haycock and Smith, 2010; 2011; Smith and Green, 2004; Smith, 2004).

Jaarsma et al. (2014) proposed that certain types of disability continue to be overlooked in poor inclusive PE and that barriers to inclusion remain, such as a lack of facilities and accessibility. Facilitators of inclusive PE, however, are fun, health, and social contact. Although their study was not autism-specific, of relevance is that the extent of participation increases with the selection of the most appropriate activity, suggesting that if the activity can be matched to the individual, then inclusion is more likely. Students with emotional or behavioural difficulties, such as impulsive behaviour or hyperactivity, tend to require specific interventions, greater organisation and behaviour management, which Obrusnikova (2008) found would impact negatively on PE teachers' perceptions of, and attitudes to, attempting to include these students. The findings of Darcy et al. (2017) also demonstrated that differences in the types of disability and the levels of need in terms of support have created disparities in the limitations to participation and non-participation.

Teaching practices that exclude any student from meaningful and active participation in PE should be replaced with a curriculum grounded in a diverse learning environment where all students establish personal meaning (Whitehead, 2010). Inclusion cannot be accomplished solely through the addition of a trained PE teacher but through the adaptation of games, equipment, time and organisation (Rizzo and Lavay, 2000). Inclusive PE was described by Slee (2006) as also incorporating access, participation and achievement, with wider influences such as self-perception. It requires the use of techniques and strategies based on new assumptions and representing a community culture in PE (Lieberman et al., 2004). Additionally, Byra (2006) linked the influence of physical educators to the level of inclusivity in PE lessons, demonstrating that teachers must have the capacity to adjust the environment along with the capability for guiding student choice and engagement. PE teachers, then, play a pivotal role in curriculum design, grouping arrangements, staffing and delivery. Petrie (2016) argued that PE practices are dated, despite extensive research, curriculum developments and professional learning opportunities. Given that inclusive PE is embraced at conceptual and classroom levels, Pocock and Miyahara (2018) found that policy and curriculum guidelines frequently overlook the intricacy of successful enactment once these have been designed. Their meta-analysis revealed

themes of creativity and collaboration as well as the continued need for cooperative and supportive aspirations between physical educators, children and parents. The originality of this study contributes to knowledge that recognises autism diversity when creating PE experiences collaboratively and creatively.

Shields and Synnot (2016) gathered perspectives analysis regarding disabled children, their parents, and sport and recreation staff. Four groups encompassed children with disability; one group with children with physical disability (cerebral palsy), two groups with children with mild intellectual or developmental disabilities which included autism, and one group with adolescents with vision impairment. Themes that emerged from their data indicated the need for inclusive pathways which promote ongoing participation and for the development of better partnerships between key stakeholders from the disability, sport, education and government sectors. Based on these themes, Shields and Synnot (2016) suggest possible strategies to improve participation in PA for children with disability at individual, social and policy levels. Furthermore, they found that the attitudes of people around children with disability such as families, instructors and peers, were understood as fundamental to their involvement in PA by all participant groups. Experience of disability was considered to underpin attitudes: when people understood disability, they were more likely to be friendly and supportive of children with disability.

Providing choice in physical activities was considered a significant enabler, including segregated or integrated programmes, type of PA, level of participation, individual or team sports, competitive or non-competitive activities and the scheduling of programmes in terms of distance, transport and timings. Commitment to inclusive PE ensures that young people who do not enjoy team sports are provided with opportunities to engage in an activity that they can pursue throughout their lifetime. This allows the students to showcase what they can do, instead of what they cannot. Walmsley and Johnson (2003) expressed an imperative to represent the views of people with learning disabilities and respect their need to initiate ideas. Yet, such pupils are seldom invited to offer an opinion, and when they are, they are frequently found to have different views about PE from those of their teachers (Green, 2008). The originality of this

study was that students were asked their opinions and sought to address preferences.

Findings from Coates (2011) established that SEND children see PE as a means for improving physical fitness rather than understanding the subtleties of motivation, confidence and consideration of the value of taking responsibility for participation in physical activities for life. Concepts of PL seem to be lost or are too discreet. Coates (2011) recommended placing PL components more powerfully into the NCPE as well as through ITT and continuing professional development (CPD). This view has been reflected internationally (Armour and Harris, 2013; Larsen et al., 2013; Alfrey et al., 2012; Jourdan et al., 2010).

2.3.1 Applying the inclusion spectrum

Menear and Davis (2007) listed limitations to accessing PE related to equipment, class size and content and student ability. PE teachers need to have the knowledge, confidence and ability to adopt a range of teaching styles; they must understand how the learner learns (Moy and Renshaw, 2009). To aid teaching and coaching of inclusively and promote inclusive values, the 'inclusion spectrum' provides an overview of potential opportunities. The inclusion spectrum provides delivery options to accommodate different needs within a PE lesson by creating a range of choices (Black and Stevenson, 2011). Through applying this inclusion spectrum alongside adaptive methods and modified activities, more ways to involve students can be planned. To make PE accessible, both the task and the environment need to be adjusted to suit individual needs and to create what Moola (2015) described as 'mastery-filled opportunities' (online). Figure 2.1 visualises how inclusive PE can be adjusted by considering the different ways sport can be presented yet is less concerned with specific disabilities.

Figure 2.1: A combined overview of the Inclusion Spectrum of PE and STEP tool. Adapted from Black and Williamson (2011).
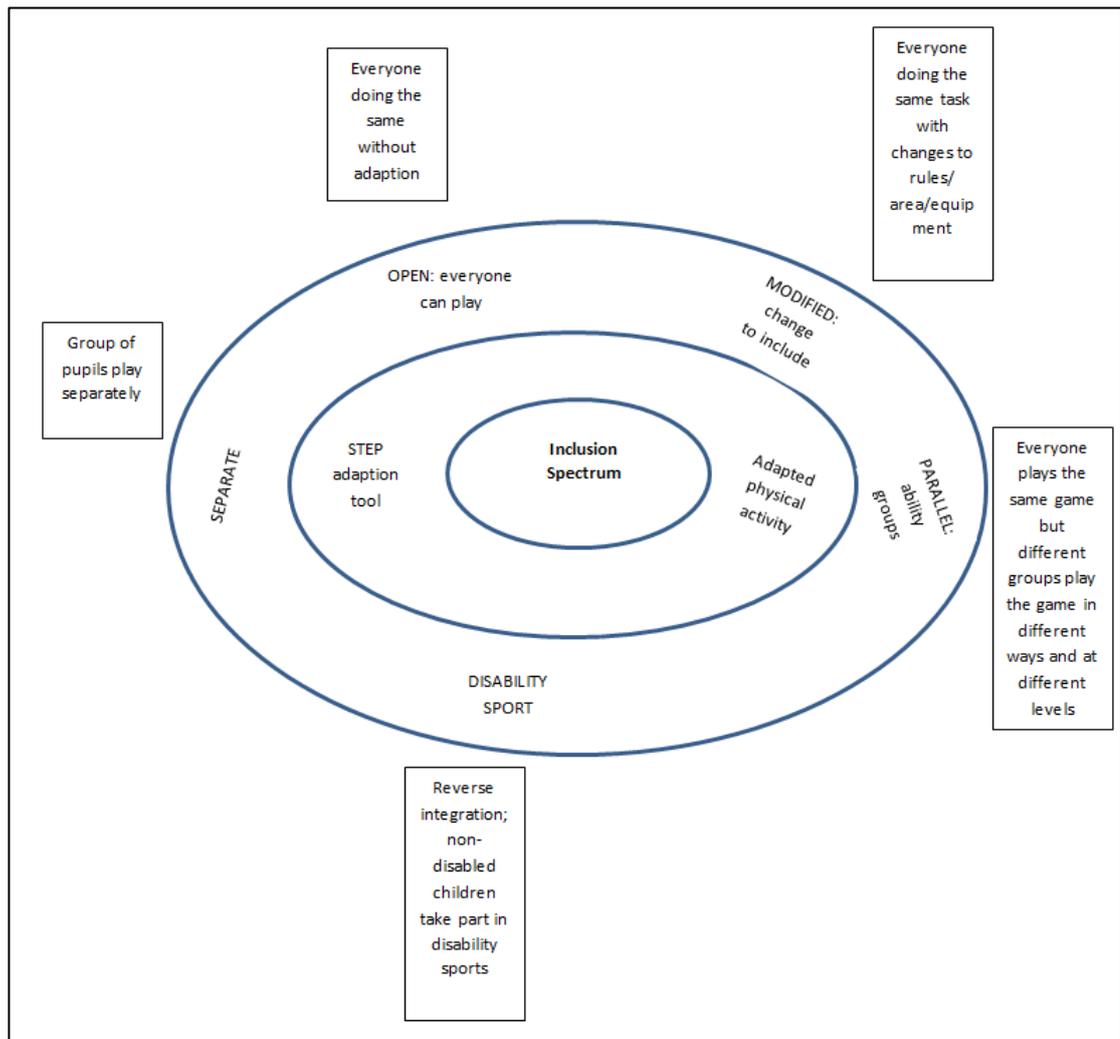
It is argued throughout this study that the inclusion spectrum is a starting point for teachers and coaches, an important aspect being that its application is not restricted to assisting the inclusion of students with SEND. Rather, it considers the different ways sport can be presented to aid practitioners to strike a balance between activities offered and the individual needs of all students. The model was developed by Black and Stevenson (2011) as a practical tool that is used in the UK. The inclusion spectrum can run alongside the STEP (Space / Task / Equipment / People) tool (Black and Stevenson, 2011) providing a way of structuring modifications to the activity and supporting through the modifications shown in table 2.1.

Table 2.1: The STEP approach with examples adapted from Black and Stevenson (2011).

STEP features	Suggested adjustments to the PE lesson
Space	Change the space; make it bigger / smaller / lower / higher / zone it
Task	Change the task- faster / slower / roll or bounce / walk / run / pairs / position / rules of the game Change the equipment- size / weight / shape colour / texture / dry / wet
Equipment	Change the equipment- size / weight / shape / colour / texture / dry / wet
People	Change the people- size of team / mixed gender / mixed ability / mixed mobility

The criterion in table 2.1 serves as a checklist for inclusive PE and provides a breadth of options. The stance this study takes is that the inclusion spectrum and STEP approach does not address disability-specific characteristics. There are, currently, no autism-specific PE activities or types of equipment such as those promoted by specific disability groups; perhaps understandably, given the range and combinations of autism needs. The inclusion spectrum and STEP approach go some way towards providing a set of pragmatic strategies from which teachers can draw to better support autistic students. Literature relating specifically to the inclusion spectrum principles tends to be combined with other approaches. Petrie et al. (2018) examined a teacher who used STEP to support the process of modifying and adapting pedagogical practice alongside a strengths-based approach, highlighting the need to consider a combination of differentiated instruction. Furthermore, Grenier et al. (2017) employed universal design for learning with the inclusion spectrum to create an accessible learning environment, which, they argued, requires collaborative practices to interact and develop positive peer relationships. Another factor is that a teacher with good knowledge around a variety of sports produces a better environment for students to learn, highlighting that teachers are a driving force themselves for delivering inclusive lessons (Atkinson and Black, 2006).

Support for autism PE is provided in 'Children with autism: strategies for accessing the curriculum physical education' (DFES, 2004) and the Youth Sport Trust's (YST) 'High-quality PE for pupils with autism' (YST, 2008). These documents are useful and provide a baseline for autism PE development. Also,

they rely upon already established autism intervention-based approaches to deliver PE lessons. However, they do not explain the process by which autism PE is enacted, who is involved, how it is delivered and what the content is. This study aims to contribute to this gap in knowledge and contributes to new literature. The National Autistic Society (NAS) booklet by Webster (2016) '*Autism, sport and PA*' describes an approach that employs elements of the STEP tool alongside the NAS 'Structure, Positive (approaches and expectations), Empathy, Low arousal, Links' (SPELL) framework for responding to the needs of autistic children. TEACCH principles are also compatible (Schultheis et al., 2000).

The next section is driven by the original motivation for this research, which, using supporting literature, attempts to understand why autistic students tend to struggle to access PE lessons.

2.4 Barriers presented by physical education

Shields and Synnot (2016) stated that as disabled children mature it becomes more difficult for them to participate in sports with their peers because the gap in their capabilities increases. Such non-participation physical and sports activities compound potential health issues (Menear and Neumeier, 2015; Jaarsma et al., 2014). Chapter One summarised the impact of autism characteristics and the capacity for autistic students to be ready to learn in everyday life. The literature highlighted those autistic children who may be less likely to access PA because of their sensory functioning. They are more susceptible to being overweight, more sedentary in leisure time and less motivated to participate in PA. Occupational therapists (OTs) play an important part in the lives of autistic students (Kuhaneck and Watling, 2015; Ashburner et al., 2014b; Cohn et al., 2014) in employing a holistic approach to planning programmes for autistic children by considering the physical, social, emotional, sensory and cognitive abilities and needs of students (Volkmar et al., 2014).

Factors not shared by children in the general population that place autistic children more at risk of decreased amounts of PA are a vulnerability to psycho-pharmacological treatment, habitual stereotypical and non-functional behaviours, genetics, atypical eating patterns and resistance to engaging in PA (Curtin et al., 2014; Bandini et al., 2010). This section explains the unique

impact of autism in PE. Individual combinations of distinctive behaviours and challenges result in a particular set of limiting lifestyle opportunities and a narrow range of interests. These issues can be heightened during PE, which is explained in more detail through Milton's (2017) concept of interest-led work.

Recommendations for autism-specific access cover age and developmental expectations, social and cognitive conditions, instructional environment, task variation, and the generalisation of learning and schedules (Reid et al., 2003). This is important because an autistic child may have compartmentalised their learning so they may only be able to access an exercise programme in one particular setting or with a certain person (O'Connor et al., 2000). An impaired cognitive ability could limit understanding because it may not occur to some to be active without prompting. Prompt-dependent children are unable to make life choices, or to communicate them, placing them at risk of a poor quality of life and arrested development of independent living skills, resulting in lower participation in physical activities (Auxter et al., 1997). Frustration and challenging behaviours can result when there is limited, or no access to preferred options and this is why learning how to make a choice must be taught alongside exercise skills (Arevalo, 2001).

Due to the heterogeneous nature of autistic individuals, there is, typically, a broad presentation, increasing the difficulty of designing and tailoring activities that are appropriate within group settings and/or those that are generalisable across settings. There is a wide range of motor skills and fitness abilities across the autistic population (MacDonald et al., 2013; MacDonald et al., 2011; Fournier et al., 2010; Houston-Wilson and Lieberman, 2003). Processing and response deficits often appear during PE lessons or physical activities (Houston-Wilson and Lieberman, 2003). Generally, autistic children have limited hand–eye coordination, trouble combining multiple motor skills into one fundamental motor task, poor perceptual-motor skills, and difficulties with balance and posture (Green et al., 2009; Menear et al., 2006; Groft and Block, 2003; Houston-Wilson and Lieberman, 2003; Reid et al., 2003; Reid and Collier, 2002; O'Connor et al., 2000; Schultheis et al., 2000). By adapting and refining activities to accommodate these features, autistic children, however, can be appropriately challenged (Aebersold, 2005).

Many autistic students are excluded from accessing PE because of an inability to process information correctly and quickly. In a chaotic sporting environment, an autistic child can be easily confused (Houston-Wilson and Lieberman, 2003) because the freedom in a team game enables players to engage in critical thinking to explore a tactical problem (Gréhaigne et al., 2005). Team games, typically, have an element of unpredictability, making the PE setting unclear. PE is, characteristically, a dynamic, social, bodily environment and consequently, any impairments in communication, problems with social interaction, behavioural rigidity or secondary symptoms of ADHD and motor delays generally conflict with the demands of PE lessons (Fournier et al., 2010). PA is an area of deficit for many children and is more challenging for autistic children (Menear and Neumeier, 2015; Ohrberg, 2013; Obrusnikova and Dillon, 2011; Menear and Smith, 2008; 2011). Other studies found that autistic youths face challenges regarding perceived physical ability, as well as anxieties about undesirable social interaction when they participate in PE (Healy et al., 2013) and leisure activities (Brewster and Coleyshaw, 2011). Other reasons related to intrinsic factors are lack of motivation (Arnell et al., 2018; Stanish et al., 2015; Obrusnikova and Miccinello, 2012); low interest in PA (Obrusnikova and Cavalier, 2011); low perceived motor skill competence (Loprinzi et al., 2015) and low enjoyment of PA (Eversole et al., 2016).

Autistic youth may experience a lack of access to PA opportunities (Pan et al., 2017; Pan and Frey, 2006; Rosser-Sandt and Frey, 2005). Obrusnikova and Cavalier (2011) cited children's perspectives regarding access to include intrapersonal, followed by interpersonal, physical, community and institutional barriers. The most frequently cited physical barriers included inclement or hot weather, lack of equipment or unsafe and broken equipment. Two participants stated that insects distracted them, indicating the power of the outdoor environment and the impact of sensory processing difficulties in not being able to cope with such an occurrence during a PE lesson. Negative PE experiences identified by Healy et al. (2013) encompassed physical ability, sensory challenges and fear of injury, with some children opting out because of task difficulty. Sports halls are often busy and have poor acoustics, which causes distractions and loud noises (Sorensen and Zarrett, 2014). Participating in outdoor team sports can also come with further sensory challenges such as

getting wet or touching mud (May et al., 2018). The implications of being in a constant state of alert or distraction by textures, smells or noises are that sensory perceptions often prevent learning and access to PE lessons and result in the student removing themself from the lesson. When limited activity choices are available, students may also choose to exclude themselves from participation (Fitzgerald and Stride, 2012).

The next section explains how beneficial PE lessons can be when adequately planned and delivered. Despite the potential barriers to accessing PE, not all students experience these, so it is important to place this alongside the positive aspects offered by PE lessons.

2.5 Opportunities presented by physical education and physical activity

This section is a critique of some influential enquiries regarding themes in this study, making the connection between the physicality of PE and positive experiences for autistic students. The potential for PE to offer productive activities is explained. First, stereotypic and self-stimulatory behaviours are discussed concerning the ameliorating effects of exercise and PA as well as antecedent exercise as a planned intervention with social opportunities.

Through an examination of seminal literature, it can be seen how exercise has been used positively with autistic children, signposting a positive relationship between exercise and behavioural changes over different lengths of time and through different activities and intensities (McGimsey and Favell, 1998; Celiberti et al., 1997; Rosenthal-Malek and Mitchell, 1997; Elliott et al., 1994; Levinson and Reid, 1993; Kern et al., 1984; Kern et al., 1982; Watters and Watters, 1980). Stereotypical behaviours can result from over-stimulating sensory environments and are a reaction to over-arousal as the individual's reflexes attempt to regulate the stimulus input (Green and Ben-Sasson, 2010). This phenomenon is dependent on emotional contexts (Barber, 2008). Autistic students are inclined to experience sensory processing difficulties, which can lead to anxiety. Hillier et al. (2011) underlined the potential of exercise and relaxation for relieving stress.

A reduction in stereotypic behaviour could be a consequence of exercise, resulting, also, in a decrease in self-stimulation and aggression (Lang et al.,

2010). When presented appropriately, PE lessons could provide the setting for regular activities such as jogging to calm and de-stress students, enabling them to feel focused and ready to learn, which is connected to on-task behaviour and attention span. Tan et al. (2016) demonstrated that exercise interventions can have a positive effect on the on-task duration times for autistic individuals, meaning increased concentration and performance on simple learning tasks. It is maintained throughout this study that activities can be incorporated at planned times in PE lessons that are regular and accessible and relevant to an individual student's needs and strengths. Blanc and Volkers (2009) also associated vigorous or strenuous exercise with decreases in stereotypy, hyperactivity, aggression, self-injury and destructiveness. Petrus et al. (2008) suggested links between exercise and short-term decreases in stereotypic behaviours in the autism population. These studies do not, however, suggest how this can be harnessed during the school day through PE lessons.

Antecedent exercise is based upon replacing what a person's behaviours are trying to fulfil and participating in similar activities before any challenging behaviours occur. Findings demonstrate the reductive effects of antecedent exercise (Nicholson et al., 2011; McGimsey and Favell, 1988). An evaluation carried out by Morrison et al. (2011) revealed that antecedent exercise was found to be modestly effective in controlling self-injurious behaviour. Their research included a functional behaviour analysis and an exercise and leisure preference assessment so that individuals could engage in activities of their choice. Magnusson et al. (2012) concluded that an individualised exercise programme, in collaboration with a trained practitioner, was an effective method for improving health and fitness whilst also reducing negative behaviours. The point here is that someone with specialist skills is available to work alongside those who may not be. Further exploring exercise duration and frequency, Neely et al. (2015) investigated optimal times for antecedent exercise with two autistic children. As a result, they recommended participation in exercise before academic instruction. Uncertainty remains, however, around what is considered the optimum 'dosage', in terms of programme length, to achieve maximum benefits (Howells et al., 2020).

How physical activities are planned has implications for access to PE lessons. Sowa and Meulenbroek (2012) evaluated effects of exercise on autistic traits

through a meta-analysis, citing an increase in positive behavioural changes, particularly in motor and social functioning, when interventions were offered on an individual basis. This was more positive than group-based exercise, perhaps unsurprisingly, due to the nature of autistic children as previously discussed. This has implications for the way exercise is presented. For example, a PE lesson could be planned with a format providing individual, small group or larger group opportunities depending on the exercise programme being delivered and the students in the group. In further support of how activities are organised for participants, Habib et al. (2018) stated that there is an often-overlooked positive relationship between social development and exercise undertaken in small groups or individually but in the same room. This has implications for types of activities that can be more accessible because they require participation around others but not necessarily with others, which could be implemented in PE lessons. A PE teacher needs to be able to do this confidently. The combination of clear PE and autism expectations would appear to have the most impact and understanding how to plan and group activities is a prerequisite for a PE teacher.

Regarding whether there are specific activities that have a particular impact on autistic children, swimming and aquatics have been reported as useful in a daily routine. Whilst yielding positive data, studies tend to be carried out in very small groups or individually and are short-term sessions (Pan et al., 2017; Pan, 2010; 2011; Prupas et al., 2006; Huettig and Darden-Melton, 2004; Yilmaz et al., 2004). Additionally, it should be noted that the logistics of such small interventions do not transfer readily into a school PE lesson format. For example, Pan (2010) executed a 10-week water exercise-based swimming programme of two 90-minute instructional sessions per week. This format was selected for research purposes. However, for a school, similar conditions are not practical due to factors such as shorter school PE sessions and availability of pools or specialist staff. Yilmaz et al. (2004) found similar swimming success. Nevertheless, Mallonee et al. (2006) recommended being mindful of the research-to-practice gap when interventions are too narrowly focused, complex, difficult to implement or costly. This perpetuates the gap in applying empirically supported discoveries into routine educational practices.

Effective intervention mechanisms for successful autism educational practices include prompting, modelling, praise and structured teaching. Bearing in mind the autism strategies that were discussed in Section 2.3, Sorensen and Zarrett (2014) considered that adequately structured group activities employing pre-determined clear rules, time frames and adult support should be provided with a social scaffold for autistic children. Research indicates that interventions, for youth with and without autism, that incorporate appropriate adaptations, modelling and encouragement, naturally become more engaging (Pan et al., 2011; Lang et al., 2010; Zarrett and Eccles, 2009; Rimmer, 2006). This highlights the importance of individually designed, developmentally appropriate interventions for youths with autism and the need for this to be communicated to, and adopted by, researchers and educators. Healy et al. (2018) examined the effects of PA on autistic youths, reporting improvements in social functioning and, thereby, reinforcing the position of PA as an evidence-based strategy for autistic youths.

Arnell et al. (2018) described some views of autistic adolescents that included their willingness to participate in PE when activities were enjoyable and meaningful to them. This was often in combination with a preferred person delivering the activity. Regardless of whether the activity was enjoyable and meaningful, however, they still had difficulties with predictability and initiating PA themselves, which is an indication of the problems that autistic people have with self-regulation. Hilton et al. (2008) built on the finding that little difference exists between how much neurotypical and high-functioning autistic students enjoy the activities in which they participate. An understanding of wellbeing or self-efficacy related to participation could be gained from examining the enjoyment or feelings of both groups. However, the lack of data on the perspectives on PE of autistic students means that intervention strategies are often created from teacher perspectives (Obrusnikova and Dillion, 2011). The original contribution made by this study is in using students' voices to develop current PE practice at an autism school where most students had additional learning difficulties or had severe autism.

Having presented the potential barriers to, and opportunities for, PE access for autistic students, the next section discusses the relevance of NCPE in the context of an autism special school.

2.6 The suitability of national curriculum PE for autistic students

Studies have demonstrated that UK PE teachers experience problems with inclusive principles described in general guidance when applied to curriculum content (Haycock and Smith, 2011; 2010; Smith, 2004). These studies concur that curriculum content focuses too broadly on competitive team sports. Smith and Green (2004) showed the intention of seven PE teachers to deliver the same opportunities to disabled students as their peers, which, in practice, excluded them because the curriculum was too focused on competitive and team activities. PE teachers noted that it was easier to include disabled students in individual activities that were not focused on comparing performances. According to Morley et al. (2005) team sports dominated the timetable, reducing opportunities for disabled students to participate in the same activities because of the focus on performance and excellence. This limited the number of activities and sports that disabled students could take part in, especially when adaptations did not provide positive learning experiences. The consequences of a sport-focused PE curriculum in the primary school can be the neglect of pedagogy, and the exclusion of dance, adventurous activities and swimming, leading to children receiving a one-size-fits-all approach. Obrusnikova and Dillon (2011) disclosed that PE teachers described instructional tasks during social and competitive activities that were too challenging for autistic students because of their impaired social relationships and behaviour and their inability to recognise the value of competition, as well as the difficulty that students with autism have with team situations, as discussed in Section 2.4.

Darcy and Dowse (2013) described the limitations and benefits experienced by people with intellectual disabilities in a sporting context. Physical barriers included lack of time, inadequate finances, too few carers/assistants and inadequate infrastructure, transport and equipment. Kell et al. (2008) named sufficient financial resources as a requirement for creating barrier-free environments in educational establishments as well as the availability of learning programmes providing successful professional development for teachers and TAs responsible for the learning of disabled people. High levels of participation were reported by more independent people, or those with lower to

moderate support needs, whereas constraints for those with high to very high support needs led to significantly lower levels of participation. For those who did participate, benefits were identified as social in nature, including concepts of belonging and companionship but facilitators of sporting and recreational environments were support-dependant. This indicates that those with fewer needs were more able to access quality experiences. From a whole-school perspective, Maher and Macbeth (2014) often found support in PE to be poor because special educational needs coordinators (SENCOs) focus on English, maths, and science and allocate more SEND support to these subjects because of the drive for performance targets. Limited resources provided for PE further hamper the capacity of teachers to deliver relevant PE experiences. Maher (2018) concluded that SENCOs and TAs are influential in inclusive PE in UK mainstream secondary schools because they are able to deploy staff and support students, respectively. Maher (2017; 2016) found that SENCOs and TAs viewed PE as an inclusive subject, but team games and competitive sports were identified as particular challenges to developing provisions to meet the needs of autistic students. Team sports were considered particularly challenging by Arnell et al. (2018) because both social interaction and social skills are required. Given that team games and competitive sports are at the core of the NCPE and these are aspects that many autistic children already find extremely challenging, they are likely to struggle even more without adequate support. Sharing of information is essential to accessing the NCPE and part of this is the competence to cultivate a collaborative learning environment. Maher (2018) recommended that PE teachers and TAs have access to specific and current guidance as well as informed learning targets.

The next section explains the capability of PE teacher training in meeting the needs of students with SEND and autistic students. This is discussed at the levels of ITT and CPD.

2.7 PE and special educational needs teacher training

Herold and Waring (2016) explored how important practical PE subject knowledge was in examining PE teacher education. They noted that when knowledge was poor, teaching confidence was affected and negatively impacted on the understanding and pedagogical awareness of the trainees.

Other factors included the school's interpretation of the education environment, affected by the national curriculum and the Office for Standards in Education, Children's Services and Skills (Ofsted) inspection requirements. These were located in a wider educational context and many of the legitimised practices within the immediate locale originated from this. Their findings are relevant to this study, which, as stated in Chapter One, supports an ecological framework that recognises a series of influences across a range of social spheres.

The literature demonstrates that pre-service PE teachers and newly-qualified teachers (NQTs) do not feel confident, or prepared, to teach children with SEND (Vickerman and Coates, 2009; Vickerman, 2007; Brent, 2005; Morley et al., 2005; Smith and Green, 2004). This has been attributed to unrealistic targets and a lack of SEND training. Both teachers and ITT providers indicated a widespread lack of training relating to inclusive education both in ITT and CPD (Vickerman, 2007; Morley et al., 2005; Smith and Green, 2004), with additional feedback reported by Morley et al. (2005) that some teachers had received no training for teaching children with SEND while only a few had opportunities to attend limited, *ad hoc* training sessions. Vickerman and Maher (2018; 2017) highlighted the need for SEND training, not only for PE teachers but also for SENCOs and TAs.

Teachers need to have knowledge and understanding of a range of learner needs to react to student individuality. Vickerman and Coates (2009) concluded that future pre-service PE teachers need more opportunities to learn about SEND as part of their school-based experiences. They declared that ITT does not prepare teachers adequately to work with SEND students and recommended that perspectives need to be gained from pre-service PE teachers as well as qualified PE teachers and children with SEND themselves. Signposting why this was not adequate, Coates (2012) theorised that ITT focuses upon the understanding of what SEND is, rather than how to teach SEND students. Haycock and Smith (2010) reported that a lack of training in inclusive PE practice in the UK resulted in inadequate PE provision coupled with unattainable performance indicators for disabled students and unsuitable, traditional physical activities. With this in mind, Grenier et al. (2014) proposed building disability sports into PE lessons and concluded that this was a positive approach to representing teacher and student skills. They stated that teachers

benefited from a better understanding of what practicing PE together really means through being more flexible in which activities could be offered.

Through the right training and understanding, teachers can provide physical opportunities for disabled students that embed sports experiences that create lifelong movers (Foley et al., 2007). With the number of autistic children being educated in mainstream schools increasing (Humphrey, 2008) more autistic students are likely to be taught alongside students without autism in PE lessons. Yet, as Simpson et al. (2010) pointed out, many PE teachers have little knowledge of the behavioural and emotional traits or cognitive and motor development issues of students with SEND, or the instructional implications for PE-specific environments. Literature highlights the need for quality of communication and collaboration among stakeholders and PE teachers (Pedersen et al., 2014; Sato et al., 2007; Lienert et al., 2001; LaMaster et al., 1998; Murata and Hodge, 1997; Heikinaro-Johansson et al., 1995). When PE teachers do not receive professional help from inclusion leaders, this results in their feeling unable to meet lesson objectives or include all students (Fejgin et al., 2005). Aydin (2014) recorded the main concern of PE teachers to be based upon poor sharing of SEND information that would better address students' needs.

Marron and Morris (2018) explored teacher-related barriers to inclusive practice, finding a wide lack of confidence and knowledge about how to adapt activities and include children with SEND in PE. Frequency and quality of collaboration between PE teachers and TAs were cited as important by Pedersen et al. (2014). Yet, despite a positive TA view of PE, it was acknowledged that TAs often lack content knowledge. Vickerman and Blundell (2012) found that this is often due to the lack of information about inclusion specific to a PE setting. A combination of subject and disability-specific knowledge is supported throughout this study. This connects with the concept of pedagogical content knowledge (PCK) which is a combination of content and teaching knowledge – what teachers know about teaching and what they know about what they teach – and is based on how teachers relate their subject to their learners (Shulman, 1986). Loughran et al. (2012) stated that articulating PCK includes understanding what makes the learning of particular topics easy or difficult.

Maher (2018) reported that mainstream school TAs believe that PE provision to meet the needs of autistic children through better planning and teaching is vital. They found that it is regarded as beneficial for TAs to be involved in PE lessons collaboratively by providing parallel teaching and co-teaching. Knowing the lessons and understanding the content is helpful, as well as having instructional strategies related to each activity. Grenier (2011) and Vickerman and Hayes (2013) suggested cooperation in designing a wider range of teaching adaptions, preparing sessions and reflecting on teachers' knowledge, linking access to PE with collaboration between staff and students. Using the generic key search terms of 'special educational needs', 'disability' and 'learning difficulties', Coates and Vickerman (2008) found that when consulted about their PE experiences, students with disabilities felt that their teachers were neglecting them.

This was explained as teachers' uncertainty and negative attitudes towards the students with disabilities. Chrispen et al. (2011) and Greguol et al. (2018) cited that a lack of professional competence was significant to the attitude of PE teachers. Those teachers who expressed positive dispositions toward teaching students with disabilities also recognised the need for more training. Attitudes may be the most critical factor in ensuring meaningful learning experiences in inclusive PE (Block and Obrusnikova, 2007). Additionally, Maher et al. (2019) hypothesised that providing a placement opportunity allowing aspiring PE teachers to teach students with SEND would enhance the trainees' competence and confidence.

PE teachers need to nurture an awareness of adaptive pedagogies to suit different types of learners. Thornalley (2019) stated that many autistic children 'dread' PE lessons because there is limited understanding by PE staff about how to plan for their needs. PE specialists often focus on physical disabilities within their subject training because it is easier. Literature supporting educational strategies used with autistic children's learning in PA is limited when it comes to practical application because currently, there is no statutory duty for teachers to be trained in teaching autistic children. Also, within ITT provision, working with autistic learners often falls under the banner of SEND. Maher et al. (2019) explored the preparation of pre-service teachers for a special school placement and whether this can be transferred to a more authentic, situated learning experience. A structured and repetitive learning

environment, and the development of a supportive and trusting relationship with the students, was seen to increase knowledge and confidence in pre-service teachers.

Trained PE teachers are not the only educationalists responsible for leading PE lessons in UK schools. Most primary, and some special, schoolteachers are class-based and may have inadequate or no PE training.

The next section supports the need for subject-specific training and states the challenges associated with limited PE knowledge.

2.8 Primary school and non-specialist PE teachers

Bailey (2001) offered some useful indicators of the importance of primary and secondary PE but they depend on how well these are being taught. Information on how conceptions about PE are formulated and the accounts of challenges teachers encounter upon school entry are vital intelligence for the design and delivery of effective ITT and PE CPD (Pickup and Price, 2007). The primary school years are a key phase in the development of healthy lifestyle behaviours (Morgan et al., 2019) yet global issues around the quality of primary PE, include interrelated teacher and institutional influences (Tsangaridou, 2014; Morgan and Bourke, 2008; Griggs, 2007). Formative PE experiences have the potential to address many of the concerns raised about children's health and wellbeing, PA levels and sport participation (Carse et al., 2018).

High-quality PE is central to the development of lifelong PA behaviours, yet there appears to be a lack of training and confidence of many UK primary teachers to teach PE. Despite evidence that non-specialists lack confidence teaching PE, it has been reported that they generally believe that PE is a valuable component of the curriculum (Morgan, 2008; DeCorby et al., 2005). PE experiences include programmes that lack variety and frequency of delivery, that were dominated by involvement in supervised games and involved little teaching and learning. Morgan (2008) found that non-specialists believed in the benefits of PE but generally preferred to teach subjects other than PE due to a perceived lack of knowledge and ability in this area. Morgan and Hansen (2008) suggested that further research is needed to explore how non-specialist primary teachers approach and teach PE based on their personal school PE

backgrounds, teacher education experiences and ongoing professional development.

The influence of previous PE experiences may play an important role in the development of teachers' confidence to appropriately teach PE (Price, 2015). It may be that training, confidence and competence are involved in not only the ability to teach PE but also the choice not to teach PE; avoiding teaching PE if the teacher lacks confidence or does not like PE. Faucette et al. (2002, p. 287) alluded to class teachers' resistance to teaching PE when they quoted one saying, 'I'd rather chew on aluminium foil', implying that class teachers would avoid teaching PE at any cost. However, they demonstrated that class-based teachers can become more effective physical educators when provided with, and supported by, in-service training. Non-specialist class teachers noted that components most valued included the input received and responsiveness of the development team and opportunities to collaborate and problem-solve among themselves and with facilitators.

Attention has been paid continually to the propensity for non-specialists to deliver unsuitable PE lessons with inadequate content and poorly organised lessons (Hardman and Marshall, 2001). Some studies have detailed lessons that are regularly delivered as whole-class games with low engagement time in skill practice and employing a limited range of games and activities (DeCorby et al., 2005; Faucette et al., 2002; Faucette et al., 1990; Faucette and Patterson, 1989). Research has shown that these inadequacies in PE arose from the teachers' experiences up to their current teaching practice (Decorby et al., 2005; Faucette et al., 2002; Carney and Chedzoy, 1998). Morgan and Bourke (2008; 2005) reported negative experiences of primary PE within ITT, particularly in the postgraduate certificate in education route. In the UK, there is a continued lack of training and confidence of many primary class teachers to teach PE (Morgan and Bourke, 2008; Morgan and Hansen, 2008), with further concern confirmed by Jones and Green (2017, p. 768.) regarding the 'well-established desire among many generalist primary teachers to avoid teaching PE'. Griggs and Randall (2020), in response to this, stated that schools have outsourced PE to external providers, resulting in many pre-service primary teachers being unable to teach PE, largely due to curriculum outsourcing. The implication being that if they did not get any opportunities to experience a PE

lesson because activities were provided by external coaches, then their lack of knowledge would be sustained, making it more difficult to deliver high-quality PE or develop policy. The view that external providers are expert PE teachers and primary teachers are inexpert is a critical aspect of this situation (Powell, 2015).

Being able to promote PE positively as a valuable activity is important for supporting active lifestyles that extend into adulthood and one pathway to achieve this is through the PE subject leader role. Endeavours to shape policy are not helped by the lack of guidance for the subject leader (Griggs and Randall, 2018). This makes it difficult for any reforms to be achieved. The issue of confidence and skills to teach and develop PE is further discussed in Section 2.12 apropos PE CPD.

The next section acknowledges the professional knowledge, skill and attitude of teachers and their capacity to be open to, and to accept, change in their practice. This includes recognising teachers and schools as part of a multi-layered system with interacting factors of identity, group interconnection and collaboration and leads to the realisation that they can take charge of decision-making.

2.9 Teacher and collective agency – openness to change and innovation

Mosston and Ashworth (2008) developed a spectrum of practices for PE teachers, presenting a variety of teaching styles to meet the needs of all students. The ideology of this spectrum is that teachers need to assess their surroundings and match their style to the specific environment, allowing all students to progress in a given task. In an inclusive PE environment, the teacher acknowledges adaptive practice to suit the environment during the lesson. Cushion et al. (2006) found that establishing quality practices does not simply require a range of methods but does need an understanding of how knowledge is applied to a setting – a complex, interrelated and interdependent process that is embedded within specific social and cultural contexts. When designing her developmental movement programme, Sherborne (2001) emphasised the difference between what is taught and the way something is

taught by recognising how a child learns, communicates, interacts with and experiences their environment.

Making meaning from new ideas takes place with others, leading to the development of shared understandings (Sleegers et al., 2009). This social interaction becomes critical when an individual processes and makes sense of information, then creates learning that transfers through the collaborative group. Coburn (2001) argued that the nature and structure of formal networks and informal coalitions among teachers shape the process, with implications for ways in which messages from policy influence classroom practice. Professional networks and social interactions are vital to this process. Ketelaar et al. (2012) described the ability of a teacher to build on existing experiences when there is a new occurrence as 'sense-making' or 'assimilation', which helps to explain why some teachers are open, and able, to change. This is evident in the case of Thomson and Hall (2011) who highlighted that having the right conditions in place increases teachers' open-mindedness for change. Teachers and leaders are critical change agents and system players, as exemplified in the work undertaken by Ganon-Shilon and Schechter (2017).

Pantic (2015) emphasised that agents of change work purposefully with others to challenge the status quo and develop social justice and inclusion. Agency and identity are, then, apparent at an individual level or can emerge from a cooperative initiative that leads to shared understandings (Coburn, 2001). Sleegers et al. (2013) agreed, and also described the learning community as multi-dimensional, linking with the ecological model proposed in Chapter Three. School cultures are a key factor in teacher and school development, associated with teacher commitment, morale and retention (Flores, 2004).

Understanding the interactions between self and identity and personal and professional identities is complex (Beauchamp and Thomas, 2009; Beijaard et al., 2004), involving agency, narrative and reflection as influenced by contextual factors. A sense of agency connects to identity through ideals, interests and goals and reviewing these infers action (Eteläpelto et al., 2015a). Applying this to a teaching context, teachers construct an understanding of who they are (personal identity) and take actions (agency) that they believe sustain identity. The application of agency appears to be required for the reconsideration of work identities, which can be significant in the context of school reform, where

professional identities are reshaped as teachers change their practices (Hökkä et al., 2017a; 2017b). Buchanan (2015, p. 701) suggested that 'professional agency is carved out' of the process of identities being restructured. Connections between agency and identity have been identified as significant for teachers, especially those newly qualified (Eteläpelto et al., 2015b; Soini et al., 2015) because they are in the early stages of constructing their professional identities. Teachers' identities continue to shift throughout their careers and are influenced by personal experience (the past and present), professional context (opportunities and constraints) and the external political environment (discourses, attitudes and educational understanding) (Buchanan, 2015; Mockler, 2011).

Additionally, it is noted that subgroups within schools are influential in teaching practices. In schools, these may be departmental, key stage, subject clusters or teams unique to the organisation of the school. Highlighting the impact of such subgroups is understood to be significant in the development of pedagogical practices (Stolz and Pill, 2014; Rossi and Lisahunter, 2013; Capel et al., 2011; Keay, 2009; Sirna et al., 2008; Hodkinson and Hodkinson, 2005). The implications of this are in understanding how these factors interact to influence pre-service PE teachers' knowledge and development as teachers, and their understanding of the purpose of PE. A teacher continues to develop within their school community when they begin teaching. Once in a placement at the local level, the school and its culture, its pupils, its people and its policies continue to influence learning experiences.

Biesta and Tedder (2007) developed an ecological model with a conception of agency as achievement resulting from the interplay of individual efforts, available resources and contextual factors. Priestley et al. (2015, p. 34) applied the ecological approach to teachers' agency to be 'achieved in and through concrete contexts for action'. The challenge for making teachers' implicit knowledge useful for individual and collective agency is developing teachers' capacity to articulate and transfer such professional knowledge and use it to justify their practices (Frost, 2012). Agency, then, is not something that teachers have, but something to be achieved. The focus is on what teachers can do within the means of their environment. Therefore, this study rejects capacity as fixed in favour of agency which is dynamic and context-embedded.

Capel et al. (2011) indicated that PE trainees are influenced by their own experiences of sport, which are positive because they are good at sport themselves. If many PE teachers originate from a background of sports competency, this highlights a mismatch between how PE is viewed as a subject; the notion that the sole aim for all PE lessons is to become a highly proficient athlete contrasts with the concept of gaining PL. Rossi et al. (2008) found that the ideals of pre-service PE teachers were inconsistent with guiding principles but in line with the general ethos of most PE departments.

Priestley et al. (2013) noted that although some teachers have the capacity (skills and knowledge) and educational aspirations, 'innovation may simply prove to be too difficult or risky to enact' (p. 189). Therefore, it is realistic that some teachers may avoid conditions that they consider surpass their capabilities resulting in only perfunctory reform or resistance to change (Bekkalo and Welford, 2000; Curtner-Smith, 1999). MacPhail (2007) reported that it could be that teachers lack professional freedom to develop a curriculum more appropriate to their specific contexts but how innovation was constructed impacted on their views of the consequent subject content and the management and delivery of the subject. Teachers ultimately decide whether or not to implement such innovation. Hökkä et al. (2017a; 2017b) characterised collective agency to be endorsed when professional communities make choices and take positions that affect their work and identities. This section shows how goals are united and decision-making is shared through a collective action that makes future pathways more credible.

Organisational decision-making of stakeholders within, and beyond, school systems may help educators to act strategically and enable change, which is discussed in the next section.

2.10 Organisational decision-making

In their exploration of change at organisational levels Senge et al. (2005) suggested that action is the consequence of participating more knowingly in dialogue over time within the framing of context. Tirri et al. (2016) found how important it is for teachers to discover purpose related to their everyday work. Once teachers feel empowered to carry out their agency in school, there is an increased chance that they will also start perceiving their role in decision-

making regarding education as part of a wider societal and political context (Leijen et al., 2019). Competence to do this is formed as a continuum through perceiving particular events in an instructional setting interpreting the perceived activities in the classroom and decision-making (Blömeke et al., 2015). The perceived current situation is reflected upon, based on professional competence and purpose, and then interpreted to make a decision.

While a school leader operates within an organisational hierarchy, they are responsible for their staff and control the culture and climate of the school to a great extent. The decision-making process must be inclusive, transparent and holistic in nature. Herold and Waring (2018) stated that there are unique challenges in school culture, policies and embedded practices as significant contextual factors affecting this process. School leaders have options regarding the methods they apply in the decision-making process. They need to understand that involving stakeholders can transform a school. This is particularly the case when embedding collaborative decision-making to make it customary, that is, part of the expected culture of the school environment, which requires flexibility and innovation to create an open and organic style across levels. Shulman and Shulman (2004) emphasised the need to understand the constant interaction between individual student and teacher learning and the characteristics of the policy environment within which the context is situated. Cultural and community values associated with PE participation are relevant to the contexts in which teachers work. Innovation at a local level and adaptation of PE experiences with students can create learning opportunities that reflect student learning needs and community contexts (Enright and O'Sullivan, 2010). When decisions are made through a process that is inclusive and transparent, people tend to support those decisions and commit to intervention. Involving employees in the decision-making of their organisation can be achieved by forming groups as they endeavour to solve problems. Organisational decision-making affects what is taught and how it is taught. For example, a special school may decide to teach PE by subject or in classes.

Shared decision-making can also be between teachers and students. The implementation of a curriculum valued by both teachers and students may have the power to transform the relationship between staff and students from one of conflict to one of agreement and shared involvement in common educational

goals. Beni et al. (2017) illustrated that the pedagogical approach of a PE teacher is vital in facilitating meaningful participation and should include needs and interests to make PE experiences personally relevant and fun to the participants as well as facilitating choice and challenge. Providing students with a choice of activities can stimulate learning and create an environment for teachers and students to enjoy. However, Cothran and Ennis (1997) unearthed a conflict over content between teachers and students prompting students to respond to activity dislikes by not participating in PE lessons. Teachers have the freedom to design curricula that could be responsive to both their own professional and the students' values, yet many are unable to do so.

Shared decision-making enables the sustainability of interventions after the researcher leaves, which Kasari and Smith (2013) have cited is only successful when intervention research is aligned with the needs of autistic individuals and creates a 'good fit' within the school environment and in the evaluation of long-term, real-life outcomes. In order to achieve improvements in collaboration, teacher and collective agency and competency in decision-making, it is essential to have access to ongoing staff training.

The next section describes how training enhances teachers' practice linked to the development, implementation and evaluation of pedagogical frameworks.

2.11 Staff training

Engagement in research-based enquiry can be an effective way to critically explore improvements in pedagogical practice (Wood and Bennett, 2000). Involving practitioners actively in this process has an impact on improving practical knowledge and professional attitudes. This study has sought to involve practitioners in an action research study to achieve ownership and empowerment of their pedagogical practice, also identifying how, why, where and by whom change is enacted. Enright and O'Sullivan (2010) advocated ownership over PA practices and involvement in the learning experience with the right support. Bleach (2013) examined the effectiveness of action research as a CPD tool, claiming that implementation of change helped participants develop the skills needed, both individually and collectively. Hardy et al. (2018) revealed how the personal, political and professional dimensions of action research are enacted in practice through teachers' actions, talk and

interactions. A training programme was delivered in this study as CPD, which can be described as a complex process involving the institution as a whole, explicitly focused on situated, specific, local sites (Hardy and Ronnerman, 2011). Overall, it can be concluded that when CPD interventions are interconnected within a school's systems as a localised project, a focus on reflection leads to practice changes and effective interventions (Johansson et al., 2007). Continuing proficiency is a key component in ensuring positive outcomes for students (Fukkink and Lont, 2007). A significant aspect of CPD provision in influencing practitioners' increased pedagogical awareness and deepened reflectivity is the active involvement of participants in transformative processes, as highlighted throughout this chapter. Fullan (2016) suggested that effective change comes from within a school and is dependent on what teachers do and think. However, Sulek et al. (2017) warned that an inconsistent staffing structure can be challenging when providing quality services and interventions to autistic children.

Implementation of a change plan encompasses people's behaviours, beliefs and attitudes. The ultimate goal of change is to make practice better or more effective in the workplace and ensure sustainability, therefore, consideration of the training format used, as well as the timescale, is important. A workshop alone does not provide enough training for teachers to adequately learn skills. Suhrheinrich (2011) discovered that every teacher made additional improvements only after personalised coaching beyond a six-hour workshop. Adding to this notion, Stahmer et al. (2015) indicated that an intervention requires extensive training, coaching and time to reach and maintain implementation fidelity. These results may be related to the intervention itself and the fit of the training to the intervention, the teacher and the environment.

The impact of CPD on staff and student outcomes might be partially explained by the effects that training and follow-up activities have on practitioners' knowledge, practice and understanding. Hayes et al. (2013) reported that the first year of CPD intervention was a bedding-in period, presenting limited effects on pedagogical practice initially, with significant effects on practitioners practice shown in the second year as a result of feedback and learning from the implementation. Armour et al. (2015) stated that CPD principles are the same in PE and should be embedded and contextualised, dynamic and active, provide

time for reflection and be continuous (Munton et al. (2002). Overlooking access to the continuing aspect of CPD, Alfrey et al. (2012) argued that the 'C' in CPD appears to have been neglected. CPD should guarantee that participants have opportunities to discover teaching approaches in a critical way and to examine them connected to embedded systems of practice (Kennedy, 2016).

Research has provided some evidence of the benefits of increasing non-specialist teachers' mastery expectations through involvement in pre-service and in-service training courses that include observing and teaching PE lessons (Xiang et al., 2002; Clarke and Hubball, 2001) especially in a primary PE context (Randall and Maeda, 2010; Morgan and Hansen, 2008). These teachers also did not have access to PE CPD. Morgan et al. (2018) maintained that effective CPD to address this issue should be supportive, job-embedded, instruction-focused, collaborative and ongoing. Armour and Yelling (2007) proposed that CPD in PE has to meet the needs of the teacher and these are determined by the students' needs. Bailey (2005) highlighted that personal qualities and teaching styles of PE teachers impacted on student participation. When Domville et al. (2019) explored the aspects that primary school students perceived to be important in supporting PE enjoyment, individual preferences and instructor behaviour was reported, supported by Ntoumanis and Standage (2009) and Xiang et al. (2011). To consistently provide children with enjoyable PE lessons, primary schools were recommended to facilitate the two-way knowledge transfer of ongoing professional development of generalist teachers and better relationships with specialist coaches.

Braga et al. (2017) revealed that participation in a PE CPD initiative influenced PE teachers' professional readiness to implement innovative content, highlighting its role in generating a sense of empowerment. The impact of a professional development programme on primary school teachers' perceptions of PE was investigated by Harris et al. (2012). The programme was believed by the teachers to have positively affected their perceptions of PE in terms of their confidence in, knowledge of and enthusiasm for the subject and, subsequently, improved their practice, particularly in terms of content ideas and inclusion. Duggan (2017) explored primary teachers' understandings of what constitutes high-quality PE teaching, aiming to establish effective CPD models for improving teachers' confidence and competence to teach this subject. He made

the case that the most effective use of the primary school PE sport premium (PSPESP) is for teachers to receive CPD.

In this section, it has been explained that PE educators can help support a student's enjoyment and engagement in PE by providing a positive learning environment steered by a relevant pedagogical approach such as a needs-supportive environment. This can be achieved by schools ensuring that external specialist coaches provide students with positive learning experiences as well as the means for generalist teachers to develop their competence and confidence for PE delivery through professional development.

The section that follows moves on to consider teachers as situated beings when explaining policy-making discourse.

2.12 Policy-making discourse

Policy developments are broader than curriculum texts, and different knowledges can be expressed in pedagogy and assessment as mutually inclusive and interrelated and that shape policy (Brown and Penney, 2018). Textual data such as policy can be systematically analysed for inferences to be made that are 'meaningful to the contexts of their use' (Krippendorff, 2012, p. 24). Locally devised policy provides situated information provides uniquely situated information about the construction of network connections.

It is argued that policy development is a complex process involving debate, conflict and power struggles, where teachers engage in interpretation and re-contextualisation by creating policy ideas and translating them into environmental practices (Ball et al., 2012). This engages teachers in sense-making practices (Weick et al., 2005) whereby experiences are understood in context, affecting how teachers respond to policy in an action-oriented way where meanings inform identity. The concept of discourse is fundamental in understanding the character of texts. Policy as discourse comprises policy texts and institutional structures and practices (Ball et al., 2012). Viewing policy as discourse has relevance in recognising that actors differ in their interpretation of problems that influence planned intentions (Goodwin, 2011). Furthermore, viewing a policy as discourse provides opportunities to examine 'the interplay between policy creation and response' (Adams, 2011, p. 59). This is pertinent, because how educators respond to intervention and how they are involved in

the process affects how an intervention progresses. As agents of change, PE teachers translate and recreate policy to fit within the opportunities and constraints of the cultural, social and material structures of their school (MacLean et al., 2013). Describing teachers as situated beings assists in explaining why teachers' understandings of reform initiatives shape policy (Riveros et al., 2012).

Weick (2009) also describes teachers as situated beings who actively construct and become part of their environment, explaining the importance of teachers' roles in constructing their environment and reinforcing the distinction between implementation and enactment. The process of implementation suggests that teachers receive externally prescribed policy and work to integrate it into their teaching. In contrast, enactment involves teachers in the process of constructing and reconstructing their environment around the new policy and this facilitates the students' learning. Priestley et al. (2015) proposed that agency requires options for action rather than habitual patterns of behaviour. Linking and applying ideas to policy reform increases understanding of the teacher's role in shaping their environment. This extends beyond the notion of schools as static organisations by portraying them as dynamic, complex environments, where teachers make sense of new policy by exercising their agency within the politically and culturally shaped educational setting (Pantic, 2017). In summary, this section combines concepts and theories of policy enactment with teacher agency to contribute to an understanding of the conditions for teacher agency as it establishes policy enactment. A sociocultural perspective of teacher agency is adopted, which views agents as embedded in their contextual conditions, yet capable of transforming these conditions (Hökkä, 2017a ; Pantic, 2017; Eteläpelto et al., 2015b).

The themes explored in this chapter were related to organisational, policy making and personal factors. These were explored to support the management of change in this thesis which was concerned with effecting change in inclusive PE practice across environments within Queens School. Avidov-Ungar and Magen-Nagar (2014) explains the process of gradual and significant change at both the individual teacher level as professionals and at the organisational/school level. This underlines the requirement of being aware of teachers' knowledge, skills, identity and attitudes about change initiatives in the

process of educational changes. Their research findings demonstrate that the teachers' positions should be understood, in order to make the required adjustments in an organisation for a more effective implementation process. This highlighted the importance to this study of the creation of an environment which included teachers' participation through the decision-making process in order for the initiative to be successful.

Bamford and Forrester (2003) also conveyed that the existing structure, attitudes, processes and cultures must be considered when embracing a new educational approach. The rudimentary strategic inadequacies that prevent most change implementations from succeeding are often focused on those who manage or develop the process of their actions and the initiative itself, rather than how the culture, structure and norms of the organisation will react to the change (Fullan, 2016).

The importance of supporting an initiative bidirectionally to maintain the change process efficiently was pointed out by Baglibel et al. (2018). They supported an approach to sustainability of educational change that fully recognises the demands, expectations and thoughts of teachers and schools. They advocated that changes should be complementary, supportive and consistent with each other; that cultural features, such as current conditions, norms and procedures of the schools and educators, should be reflected and finally, that the process of change should be well planned. The elements of time, budget and human resources should be managed in a coordinated way. The implications of this as a multi-staged social process in this study meant that multiple aspects within Queens School were considered. Thus, it was necessary to consider how the interlinked aspects of policy discourse, organisational decision-making, staff training, teacher and collective agency and openness to change and innovation influenced one another within the location and gave insight to staff perspectives and ideas for change. By recognising the influence of these factors on the enactment of an intervention in a school, a collaborative and democratic process was created to develop better PE provision.

2.13 Conclusion

In conclusion, this chapter drew upon literature rooted in autism and presented challenges facing the teaching and learning of PE. Research is identified

appertaining to practice improvement in a school. Autism training is deficient for primary teachers and PE specialists, who are tasked with delivering a curriculum that is not designed to meet the strengths of autistic students. Furthermore, gaps in autism PE knowledge are evident, indicating the inadequacy of both ITT in this subject and PE CPD once teaching has commenced.

While there is support for the value of PE and the opportunities lessons present, educators feel unprepared to lead change or operationalise interventions. School decision-making is central to this. Issues affecting successful intervention enactment appear interconnected and understanding the interplay between group and personal capacities is highlighted. Themes are identified that provide context to the research location that was fundamentally situated within cultural, political and societal structures, and open to scrutiny through transdisciplinary collaboration, shared agency and willingness to change. In light of the evidence, the quality of teachers' professional relationships has a substantial impact upon the achievement of agency due to their power as interactive resources to provide support and access to new ideas when undertaking transformation.

Staff and student perspectives are scant in the field of autism PE. In particular, with regard to how practice can be improved, and which process is used. A gap in the extant literature is identified and, whilst there is a plethora of information on autism strategies in the UK, autism PE-specific guidance falls short. Future research is required to open up possibilities for innovation.

The literature review revealed themes that were pertinent to the conceptual framework further described in Chapter Three. These were employed to understand and interpret perspectives regarding current PE practice and how this could be achieved following an autism PE intervention. An ecological approach is introduced next, which is dependent upon the interplay of teachers' contexts and their capacities. The importance is highlighted of viewing individuals and the social interactions between stakeholders alongside cultures, systems and relationships that shape their particular ecologies. The next chapter presents the ecological model as a practical approach to viewing the work carried out in this study.

Chapter Three

3.1 Introduction to the conceptual framework

Conceptual frames clarify the motives for the topic. They reveal how the assumptions are made, how the study is anchored, and the dialogues shared between scholars (Evans, 2007). A conceptual frame enables the researcher to ascertain an academic position and unearth the factors underlying their assertions. McGaghie et al. (2001) stated that doing this, sets the stage for answering the research questions. Using a conceptual frame, I was able to plan the actions required during the research process, identify my research themes and clarify relationships between the strands in this study. The following conceptual framework, therefore, navigates the research journey, providing the map that guided the intent of this study.

Hornby et al. (2013) specified that students' learning needs and teachers' strengths and experiences need to match the educational environment, and opportunities must be available to adapt, as necessary. The first step is to implement evidence-based practice to determine student, teacher and environmental characteristics and needs; a strand that runs throughout this research. Hornby et al. (2013) emphasised the context in which an action occurs, arguing that an action can only have meaning to that context. This conceptual framework builds upon the scope of different sources of concepts and perspectives targeted to focus on a context and research problem whilst maintaining transferability. Imenda (2014) postulated that this differentiates a conceptual framework from a theoretical one, and that a conceptual framework can act as a springboard for future research. New theory was not generated by this study, but it was intended that new knowledge would be created that would be useful to other settings and wider fields.

In this chapter, an ecological model is proposed as a conceptual framework to provide a holistic view of autism PE practice. Bronfenbrenner (1979) recognised the necessity to understand how the family and the school influences human development in addition to broader influences, such as the role of media, technology, culture and society. I used Bronfenbrenner's social learning frame (1994) considering the ecological system to organise how to understand the research topic, which can be regarded as an integrated way of viewing the

problem (Liehr and Smith, 1999). This enabled research aims and questions to be addressed. This conceptual framework demonstrates an understanding of how situated dynamics in this study were connected and how the research was positioned.

Section 3.2 explains what the ecological system is and how this has been used to understand child development.

3.2 Applying an ecological framework to understand child development

The early years of life are vital in childhood development, according to Bronfenbrenner (1994; 1979), as this period is when the process of increasingly complex reciprocal interactions between an individual and the persons, objects and symbols in the immediate environment begin to shape growth. Each child's distinctive, biologically influenced personality traits are recognised as still occurring, educational and specialist interventions. The objective of the ecological model is to change conventional understanding of how to go about assessing health and treating illness. The broader spectrum of information afforded by this framework allows not only for a clearer path of intervention, but also, for monitoring implementation and coordinating services. The result is a thorough analysis and a more comprehensive plan for addressing autism practices.

Figure 3.1: The interrelated *aspects of the environment of child development across and* within *levels at Queens School.*
Adapted from Bronfenbrenner (1979).
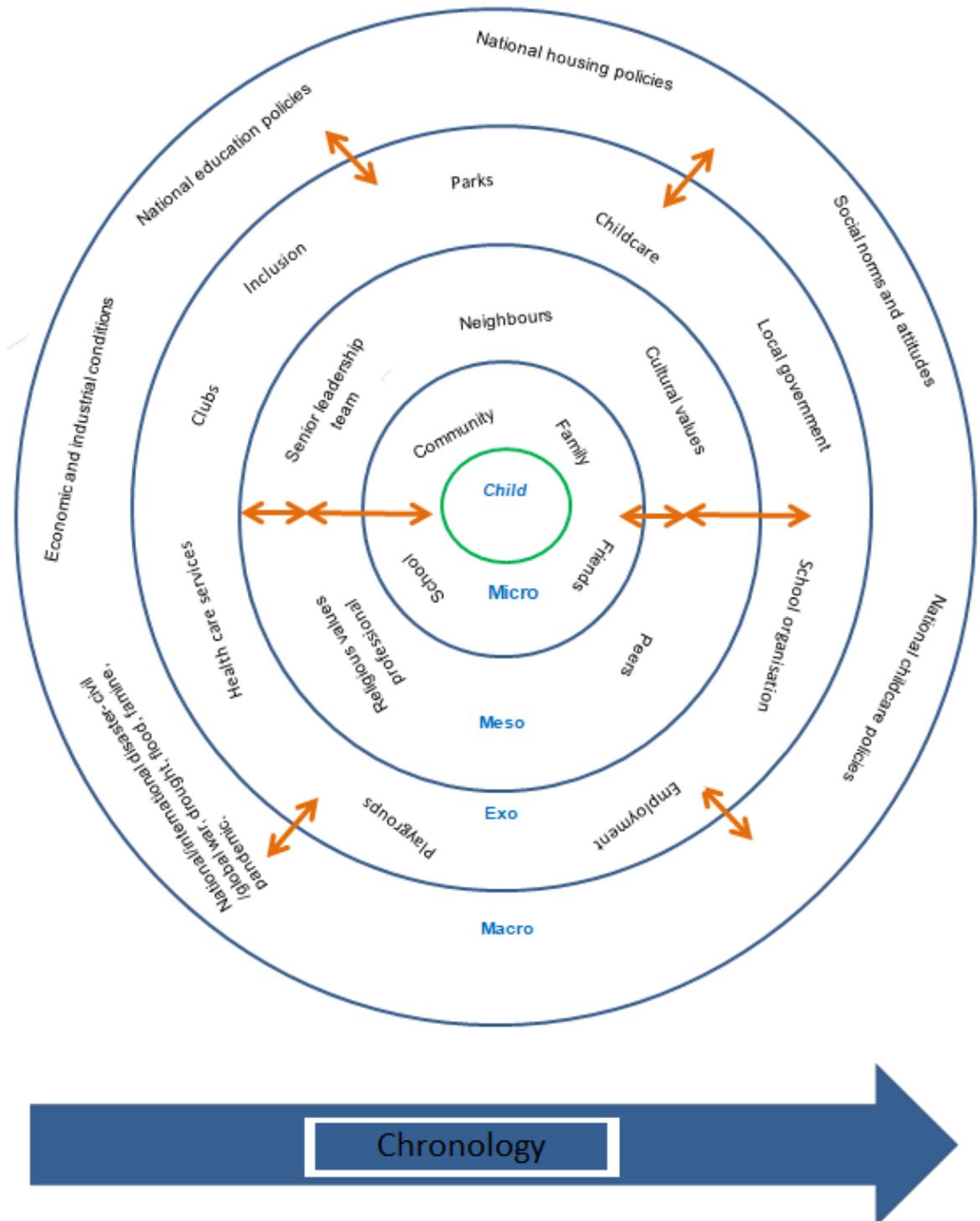
Everything about a child and their environment affects how that child grows and develops. Bronfenbrenner labelled different aspects, or levels, of the environment that influence children's development, naming them the microsystem, mesosystem, exosystem and macrosystem. Figure 3.1 presents

generic conceptual strands that broadly affect child growth and nurturing and learning and progression through developmental stages across time.

The microsystem is the immediate environment in which a child lives, which may include the relationships or organisations they interact with, such as their close family or caregivers and their school or day care. How these groups or organisations interact with a child affects how they grow; the more nurturing these relationships and spaces are, the more a child will succeed.

The next level, the mesosystem, describes how the different aspects of a child's microsystem work together for the child. For example, if an autistic child's carers take an active role in a child's school, such as attending an intervention workshop, this will benefit their child's whole growth because the intervention can then be employed at home. Within the mesosystem, those in the microsystem interact with each other in situations where children are not directly involved, which could include neighbours and peers.

Broader factors such as playgroups, childcare and clubs are referred to as the exosystem. Other people and places that a child may not regularly directly interact with, but which still have a significant effect on them, are included. These could be parental workplaces, extended family members and the neighbourhood in general. For example, being employed or unemployed may affect parental financial security and access to clubs, activities and transport that might be better able to provide physical needs.

The largest level is Bronfenbrenner's macrosystem. Even though this is the most distant environment, there are still people and situations that influence and affect a child. The macrosystem encompasses positive and negative factors created by freedoms allowable by the national government, cultural values, the economy and wars. The wider macrosystem also includes aspects such as laws and national situations.

Table 3.1 represents the interaction of environments in child development using Bronfenbrenner's (1994; 1979) ecological model. Applying Bronfenbrenner's framework to Queens School context highlighted that individuals bring something to every situation: skills, values, knowledge, capacities and emotions. Students interact daily with those in the microsystem such as

teaching staff, family members and close friends, and are affected by values in their personal environments including culture and religion.

Bronfenbrenner maintained that there are dynamic relations within and across all of these systems. They are often referred to as 'nested systems' to capture the idea of multiple transactions within and between all the systems in the frame. He also noted that there are changes over time, a further aspect that he named the chronosystem. For this study, the model/intervention engaged across mainly the micro and macrosystems, allowing collaborations with stakeholders within the school environment to support them to act intentionally, enabling the application of collective agency. Agency occurs when professional identities are affected by choices and stances (Hökkä et al., 2017a; 2017b). This was indicated through the collaboration during the intervention, which produced numerous planning and policy documents and gave staff ownership over their work, thus providing professional distinctiveness. This was evident through continued changes that Queens School educators made, which were still evolving after the FGP intervention had finished. This resulted in a series of actions that sometimes involved what Ball et al. (2012) called a 'jumbled, messy, contested and creative process' (p. 2) and explains why policies were in flux as flexible frameworks that were continually being reconstructed to meet staff requirements that, in turn, met student needs.

This was an apt lens for comprehending autistic experiences in this study because it acknowledged the individuality of understandings of self and others within nested systems of physical and interpersonal environmental contexts. Burack et al. (2001) stated that this offers an epistemological approach to autism, but also the potential to draw together the diverse, and sometimes scattered, pieces through multiple levels of explanation that are generally observed in isolation. This allows an inherent interconnectedness across domains of functioning. Based on an ecological perspective, Lynch and Getchell (2010) suggested directions for research, to explore both the abilities/skills of autistic individuals and the challenges they face, that would involve paying attention to multiple systems.

The ecological perspective of autism in this study contextualises the student's environment, capturing the dynamics of the individual and the social and cultural forces of influence.

An individual's behaviour is influenced by their surroundings (Blumenthal et al., 2013), which encompass personal, family, social, socio-cultural, organisational, community, policy and physical environmental aspects. As such, social problems involving health care, mental health and education can be viewed through the ecological model to enable practitioners to assess relevant transactional factors (Hepworth et al., 2017). Running alongside life transitions, ecological models include chronological structures acknowledging that subtle relationships in ecological systems can take a long time to become evident (Moore and Carpenter, 1999). This is important when establishing a new intervention, such as the FGP-PE intervention, and assessing its impact. The ecological model highlights that these multiple systems of influence over time are key factors in understanding real-life perspectives in a shifting system of autism (Raymaker and Nicolaidis, 2013). At Queens School, chronology represented changes that occurred during a student's duration of education and care, indicating that terminology, perceptions and practices could change between the point at which a student starts at the age of seven to the time they leave aged 19.

Table 3.1: A summary of the interaction of environments in child development using Bronfenbrenner's (1979) ecological model.

Ecological environment	Understanding at each level	Queens School situated examples
Microsystem: The most immediate environment the student lives in including close relationships or organisations they interact with.	Refers to the institutions and groups that most immediately and directly impact the student's development including: close family, caregivers, school, religious institutions, neighbourhood, and peers.	Each student's special genetic and biologically influenced behaviours further influence how groups or organisations interact with the student. To apply this to this study I considered who was involved in the student's microsystem, in this case teachers and TAs, and incorporated those individuals into the intervention aims
Mesosystem: Describes how the different parts of a student's microsystem interact to support a student and consists of the student's school, community, and neighbourhood.	Inter-connections between the microsystems occur here: • Interactions between the family and teachers. • Relationship between the student's peers and the family. The student begins to experience more interaction opportunities outside the home. Interventions within this wider school context could include other professionals.	The connection of Queens School staff with parents and carers. The role of the Wellbeing Nurse at Queens School regarding weight management and medication overview. External professionals such as social worker, and Doctor and paediatrician.
Exosystem: Includes other people and places that the student may not actually interact with but which have an effect on them.	The effects of local government and health care services can impact on a student here, as can higher-level administration factors in organisational management such as decisions of a Chief Executive Officer (CEO). Also includes parents' workplaces, extended family members, and neighbourhood.	If both parents are needed to support their autistic child for community access to a football club and one of them experiences a change in working pattern, then the impact this may have is that the child can no longer access the activity.
Macrosystem: The largest and most distant set of people and elements to influence a student. The macrosystem consists of the student's cultural contexts and legal policies that may influence their life.	Describes the culture in which individuals live. Cultural contexts include developing and industrialised countries, socioeconomic status, poverty, and ethnicity. A student, their parent, school, and parent's workplace are all part of a large cultural context. Members of a cultural group share a common distinctiveness, legacy, and values.	Initial teacher training is part of the wider context Queens School. Teaching assistant qualification provision. Autism specific training. Access to continuous professional development is a factor for teachers and TAs. The influence of the national curriculum.
Chronosystem: The occurrence of environmental events and transitions over a life course. For example, divorce, birth and family bereavement.		

Bronfenbrenner (1994; 1979) labelled aspects of the environment that influence development across, and within, levels. Central to this, was the concept of roles which, although grounded in the macrosystem, were experienced most profoundly in the microsystem (Bronfenbrenner, 1979). Interactions show that progression is not only from broad to specific, but also, manifests from a remote to an immediate impact upon a student. Each system acknowledges one another, and development is the result of an interaction between them.

The immediate environment of Queens School was the main source of support for student needs, although, from an ecological perspective, all environments have an impact. The bio-ecological (Bronfenbrenner, 1979) model has implications for understanding the nature of autism and explores students' capability to learn. This also applies to the structuring of autism services and, as such, Cuvo and Vallelunga (2007) recommended transactional autism services that seek to understand and construct the relations among those environments for the benefit of autistic children. The process–person–context–time elements were relevant to this study because they resonated with the research aims and questions. Providing a profile of need related to this transactional, multi-dimensional support is central to the ecological model and could be demonstrated through the specialist provision of Queens School that had access to the local authority or NHS care. A therapy team provided input from a speech and language therapist, an OT, a sensory therapist, an assistant psychologist and a behaviour manager. Queens School also employed a wellbeing nurse who liaised with parents. The wellbeing nurse had a central role for in-school referrals, focus meetings when a child was in crisis, behaviour plans, individual education plans (IEPs) and updating EHCPs. The nurse dealt with student wellbeing, weight management issues and medication administration. Therefore, the multi-dimensional nature of the ecological model links with the core of this study, which was multi-layered, and the ethos at Queens School.

The use of diagrams can be effective when explaining the purpose and process of the analysis and structure of concepts. For example, a figure that illustrates the hierarchy of concepts may provide an insight into the analysis process (Elo and Kyngäs, 2008). Figure 3.1 visualises Bronfenbrenner's ecological framework to clarify how a person's growth and development can be explored

and explained through their relationship with their surrounding environment (Oswalt, 2008).

The research-to-practice gap in autism PE interventions was addressed by the use of the ecological model in a real-world setting – Queens School.

3.3 Applying an ecological framework to understand physical education at Queens School

This section introduces the ecological approach and describes the principal conceptions of interacting systems as they communicate an understanding of general PA and then, specifically, PE. In this study, the FGP was employed to improve PE practice and provision for autistic students at Queens School. Justification is made for the choice to use this as a conceptual framework to view and understand improving PE for autistic students in this study. This was then synthesised and a model, based on Bronfenbrenner's work (1979), presented as a starting point for the research. The PE environment was further considered at different levels of relationships and interactions through the framework of Bronfenbrenner's ecological systems. In this section, I describe how this ecological framework was useful for understanding access to PE for autistic students, using literature as examples and locating the key themes that emerged.

Figure 3.2: The interrelated aspects of the environment of autism PE practice development across and within levels at Queens School. Adapted from Bronfenbrenner (1979).
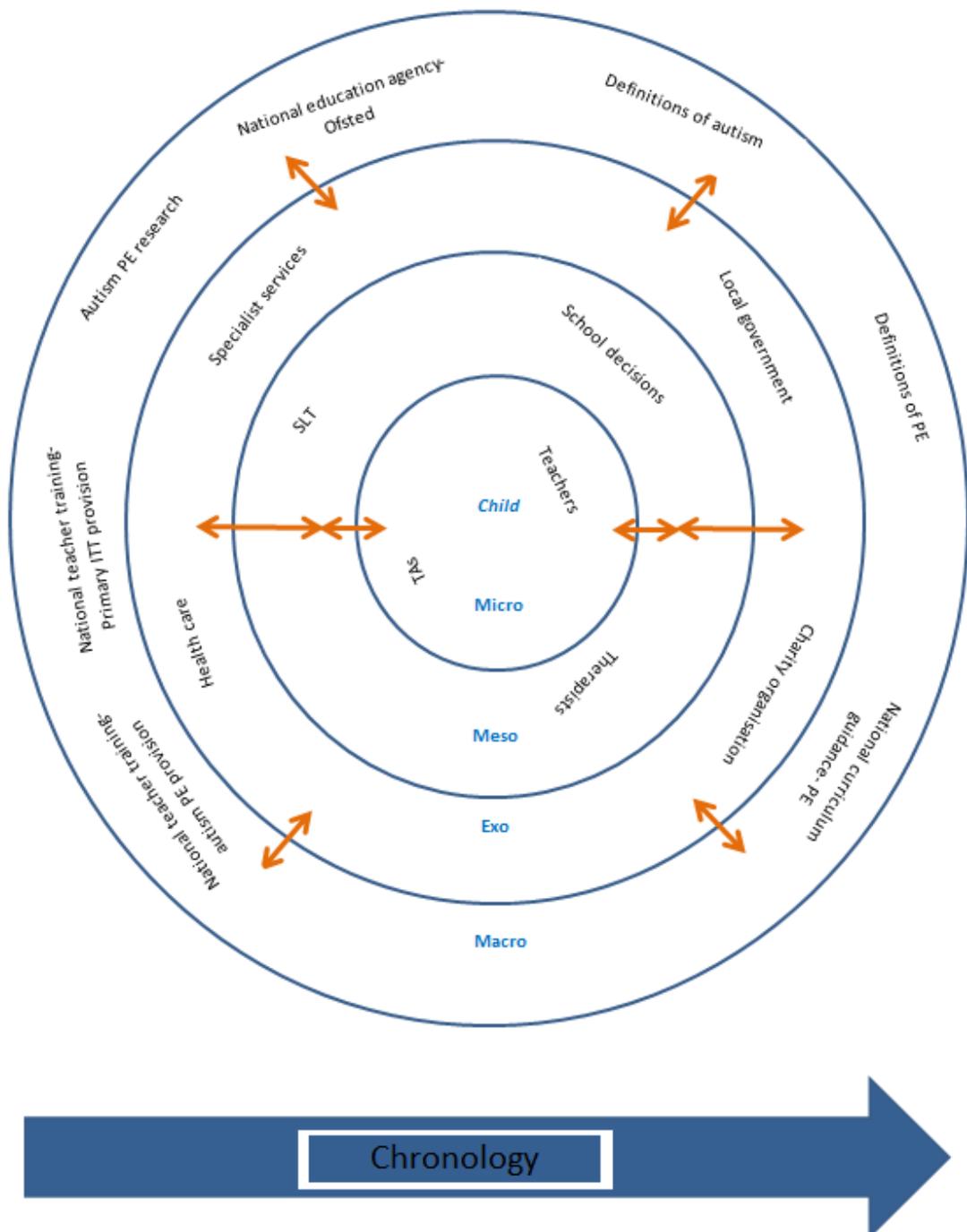
Change across levels might include improving staff and student attitudes toward PE, providing spaces to do PE, providing staff training or increasing staff confidence to implement changes. Working within an ecological model ensures that measurement and assessment take place at more than one of these levels (Spence and Lee, 2003). These authors defined an ecological model as being

influenced by the interplay between environmental settings and biological and psychological factors. Figure 3.2 presents an ecological model of PE relative to Queens School. The concentric circles indicate students at the centre and show the influences on accessing the PE setting for them at each level.

Figure 3.2 also presents conceptual strands that affect PE development and delivery connected to the literature review in Chapter Two. As the challenges at Queens School had not been identified at that point in the intervention, any connections between potential issues raised in the literature were speculative. Findings from Queens School and how they relate to the literature will be discussed in Chapters Five, Six and Seven. In this case, a framework was designed for the Queens School setting in terms of PE access and delivery and the connecting factors interacting with each other across time. These were definitions of autism, PE, autism PE, ITT and staff CPD, the suitability of the NCPE for autistic students and issues around primary school and non-specialist PE teachers.

PE can be provided through a range of learning environments, such as a swimming pool, gymnasium, fitness suite, sports hall, sports field or playground. The facilities offered by Queens School are detailed in Chapter Five. Each environment has a special set of factors influencing students. A social-ecological model provides an all-encompassing framework for understanding the barriers to, and opportunities for, PE through these settings as well as any enabling factors. Consequently, a social-ecological approach to understanding the influences on PE allows researchers and facilitators to identify opportunities to nurture the implementation and maintenance of positive PE practice behaviours and attitudes, rather than focussing solely on intrapersonal factors. Therefore, the purpose of this study was to investigate the determinants of improving PE practice using the ecological model among a sample of teachers, TAs and autistic students in an autism school.

The need to understand PE by combining knowledge across environments is visualised in Figure 3.2. Each environment connects to strands identified in the literature review as factors that need to be targeted and considered when designing PE interventions. For example, an intervention that encourages students to be more actively involved in PE lessons is unlikely to be successful if the facilities are perceived as poor or unsafe, the activities are not enjoyable

or time allocated on the school timetable is inadequate. Staff will not feel confident without sufficient initial training or access to school-based opportunities. The ecological model has been used within the PE field to explore student support and engagement across levels of experience.

Subsequent figures expand on these strands and connect to themes identified in each data stage using the same format. Additionally, the ecological framework provided focus on the thread of inclusion that is woven throughout this study. Ainscow and Miles (2009) agreed with the view that inclusion is a never-ending process, not a fixed state. That is, there is a continuous endeavour to remove barriers through clearly targeted action, outcomes and sustainability. By applying existing understandings shaped by the interaction of multiple, personal, institutional and external factors across different layers, what then emerges is a complex picture of opportunities to question and reconstruct practices, which, in this study, developed over time. By applying an ecological lens, autism is not located within a person, but in the relationship between the person and their environment, allowing for the conceptualisation of the reciprocal impact of both individual and environmental factors on development and functioning (Rothery, 2001). The ecological model highlights the person–environment dynamics of the autistic individual, embedded in reciprocal and temporal relationships of interaction including the family, school, community and social contexts. This study aims to improve autism PE practice by recognising these levels of interplay linking good autism practice principles and PE. The use of the ecological model was a reflective attempt to bring about change within this transdisciplinary approach in a PE context. In this way, disability can be understood through empowerment (Nussbaum, 2007; Sen, 2001). Sallis et al. (2008) stated that ecological models can enhance human dignity by moving beyond explanations that hold individuals responsible for their behaviours.

Much research around the ecological model is concerned with the environmental features of PA (Richard et al., 2011; Owen et al., 2004; Trost et al., 2002). Providing individuals with motivation and skills to change behaviour will not be effective if environments and policies make it too challenging or unattainable to select healthy behaviours. Biddle and Mutrie (2008) also cited how issues such as leadership and group climate need to be considered in exercise motivation philosophy and practice. If realistic changes are going to be

made for autistic children in PE, as many levels of the environment need to change as possible. Policy of change is unlikely to succeed if only one level of the environment is focused upon. Sallis et al. (2006) related their work in the US to PA that includes layers of the intrapersonal, the interpersonal and the physical environment. This study focuses on ecological approaches in PE in UK pedagogies, yet it is noted that there is an overlap between PE and PA. Hutzler (2007) presented a systematic ecological model for adaptive physical activities (APA) in the US. Whilst APA is not common practice in the UK, the usefulness of the frame is that it guides researchers and practitioners in thinking about planning for an intervention that examines the relationships between individuals, and the social, physical and behavioural determinants of PE across multi-levels.

The approach is concerned with understanding social interaction and the reproduction of social systems, thus making it applicable for attempting to understand interpersonal and intrapersonal interactions in PE learning situations. Although this study is not immediately concerned with PA, Corbin et al. (2014) claimed that health-related and fitness education is crucial to PE. Literature about PA behaviour has been inclined to focus on identifying individual determinants (Giles-Corti and Donovan, 2002), which have undermined the impact of the social and physical environment on physical behaviour (Fleury and Lee, 2006). This approach has been criticised because it places too much importance on the individual and does not examine the environment within which the health behaviour occurs (Giles-Corti and Donovan, 2002; Stokols, 1996). Similarly, McCuaig et al. (2016) indicated that micro and macro agendas produce unrealistic expectations for individuals to become responsible for their health. This is a view supported by Cale et al. (2012) who opined that it is too one-dimensional to believe that children can take responsibility for their participation in PA. An all-inclusive focus on the factors that determine such health behaviour is more in line with a socio-ecological perspective of human behaviour that advocates the interdependence between people, their behaviour and their social and physical environment (Stokols, 1996). Creating this social environment in PE calls for considerations of curriculum design, pedagogic strategies, student voice and resource management (Luke et al., 2020).

According to Sallis and Owen (2015), there are multiple levels of influence on PA when applying the ecological model: individual (gender, motivation), social (friends and support) and environmental (equipment and community PA programmes). Because multi-level interventions are considered to be more effective in changing behaviours, Sallis and Owen (2015) recommended a socio-ecological approach that promotes PA within, and beyond, PE and school settings. Lifelong PA or adoption of healthy lifestyles was not studied in this research yet the potential for addressing how early participation in PE could promote such aspects in human behaviour is relevant and has applications in the community as a setting and into adulthood as a feature of chronology.

This study takes the view that since factors at multiple levels can interact and influence PA, a socio-ecological lens to view, understand, teach and promote children and adolescents' PA levels within and beyond the school community and into adult life is practical. A view supported by Martins et al. (2018; 2017); Devís-Devís et al. (2015); Solmon (2015) and O'Connor et al. (2012). Martins et al. (2017) suggested that PE teachers use the identified relationships of PA in diverse methods to develop strategies for promoting physically active lifestyles among children and adolescents. When considering the promotion of whole-school programmes, Carson et al. (2014) designed a socio-ecological framework to facilitate appropriate practice by adding an epicentre of daily PA to the existing levels in the ecological system. In so doing, their framework highlighted the location of the teacher as the central facilitator at the mesosystem level, explicitly discussing the knowledge, skills and dispositions of the facilitators within the context of their ability to implement the mechanisms of a whole school PA programme – in this instance, PA during the school day. This placed central importance on the person teaching the PE and links with the strand that was discussed in the literature review apropos trained PE teachers.

Other forms of ecology exist but they are all, essentially, grounded through a close relationship between humans and their context (Fischer-Kowalski, 2015; Müller, 2015). These ecological approaches are connected by a focus on the interdependent relationships between a human and the environmental setting. A human in the physical education field is an individual who links with the actions of individuals when other environments are connected (Vors and Kirk, 2016). In

this way, ecological models affecting PE behaviour incorporate a wide range of influences at multiple levels.

Additionally, the classroom ecology paradigm is relevant to PE. This paradigm describes the shared existence of teachers and students as interaction among three interrelated systems (managerial, instructional and student social), in which change in one system has diverse consequences for the improvement of the others (Hastie and Siedentop, 1999). This ecological approach demonstrates awareness of contextual elements to reflect the teaching/learning process in PE. Vors and Kirk (2016) described an ecological approach to PE that acknowledged that further interactions take place in the direct sporting environment, such as school lessons and clubs or teams, which are also influenced by family, community, social-economic and cultural backgrounds. They call this situational, and the central tenet of such ecology is *in situ* because the ecological co-determination of the PE class occurs in the same unfolding context (Vors and Kirk, 2016). Chow et al. (2011) proposed several principles for a non-linear pedagogy in physical education including the representativeness of the sporting situation. Non-linear pedagogy compliments and supports movement exploration, with the interaction between task and environment, whilst acknowledging environmental constraints (Chow et al., 2007; 2006). Additionally, Seifert and Davids (2015) stated that the challenge for PE teachers is to create conditions that expedite an exploratory process for the sports performer, rather than simply declaring an exact prescription of a movement pattern or a tactical team strategy pattern to replicate; the implications of which, in PE, are to stifle creativity and the ability to investigate which activities are preferred.

At the core of the ecological model applied to this study is the recognition of PE as a complex and organic ecosystem. In this way, various influencing factors interact with, and on, each other, demonstrating a dynamic state of contradiction and unity, balance and lack of control. Hagger et al. (2007) used this to better understand the changing problems arising in PE policies, and their teaching concepts systematically sought to re-examine and promote PE. This emphasises that the core elements of PE are human, social and natural factors that have a complex relationship.

In the next section, the link is made between the conceptual framework for this study that provided a starting point and a guide for investigating the factors that influenced the change process in PE practice at Queens School.

3.4 How the conceptual framework informed the research design

This section explains the influence of the ecological model on this study and how it was used to apply to PE in Queens School. In this study, a holistic, ecological approach aimed to coordinate multiple actions and complex interactions across different environments. Predescu et al. (2018) cited that measures of these are difficult to implement but are relevant in terms of results and impact. The ecological model applied in this study allowed for multi-directional influences across layers and utilised feedback from teachers, TAs, autistic students and the PEWP, thus allowing for continuous evaluation of the FGP-PE development process. This study recognises that to develop a PE intervention for autism, the spectrum of needs and specific environment need to be understood universally and collectively because the subsequent implementation of actions would benefit from emphasising collaborative research (Dingfelder and Mandell, 2011).

Understanding the multi-level factors influencing outcomes was necessary to develop strategies promoting better outcomes (Anderson et al., 2018). In support of this, Xu and Filler (2008) stated that Bronfenbrenner's approach can be employed to design effective interventions through the perspective of developmental ecological systems and developing embedded learning opportunities across multiple inclusive settings. This study aims to use the concept of Bronfenbrenner's ecological model to provide more details about how PE practice is impacted by the different levels. It also enquires if doing so could provide new knowledge to researchers, practitioners and policy-makers to guide decision-making across the system when implementing a new intervention. To present this visually, the format of the concentric figures is used to present data collected in each data stage chapter, for example, pre-intervention, during the intervention and post-intervention. Strands identified in the literature review are then compared with themes identified in each data collection. In Chapter Eight, a final figure is presented in line with the findings and overall conclusion. Additionally, a summary of levels for each environment

is detailed in Table 3.2 connected to PE and the ecological systems. The descriptions presented provide examples of the layers of influences in action upon a student that were applied to the Queens School setting, and specifically, in PE.

Table 3.2: A summary of the interaction of environments in PE development *using Bronfenbrenner's (1979) ecological model.*

Ecological environment	Queens School situated examples in Physical Education
Microsystem: The most immediate environment a student lives in including close relationships or organisations they interact with, such as close family or caregivers and their school, and peer groups. Refers to the institutions and groups that most immediately and directly impact a student's development.	Who teaches PE lessons? How PE is timetabled across the school. What is taught in PE lessons? Use of TAs to support students' in PE lessons. Planning of PE lessons. Assessment and recording of PE progress and achievement.
Mesosystem: Describes how the different parts of a student's microsystem interact to support a student and consists of the student's school, community, and neighbourhood. A student begins to experience more interaction opportunities outside the home. Interventions within this wider school context could include other professionals.	How the school shares PE news with parents. After-school sport clubs. Whole school sport events. An Occupational Therapist could collaborate with the PE teacher in writing a therapeutic-sensory based diet that a student can access in their home.
Exosystem: Includes other people and places that the student may not actually interact with but which have an effect on them, such as parents' workplaces, extended family members, and neighbourhood. The effects of local government and health care services can impact on a student.	Overall school decisions such as how PE is taught across the timetable. How the school structures subject teaching. Higher-level administration factors in organisational management such as decisions of a Chief Executive Officer. Links with the community in school-time. Access to community sports clubs for families outside of school.
Macrosystem: The largest and most distant set of people and elements to influence a student. This consists of the student's cultural contexts and legal policies that may influence their life.	Initial training of PE teachers. Initial training of primary teachers. Access to PE-CPD opportunities. Research in to autism specific PE practices. The suitability of PE in the national curriculum for all students as well as autistic students. Influence of Ofsted on the school timetable.
Chronosystem: The occurrence of environmental events and transitions over a life course.	

Table 3.1 presents the ecological framework facilitating the organisation of information about people and their environment to understand their non-linear interconnectedness. This conceptual framework was considered relevant to this study for examining the role of multiple environmental levels on human development and behaviour. The ecological model resonated with the research questions that sought to identify the stakeholder perspectives, how to improve PE and identify what the influences were on the process of change. These started centrally from the specifics of the research setting and then radiated outwards whilst allowing for development to flow backwards and forwards across levels as actions took place and were reflected upon. This took place over time, which is a feature of the ecological model and also reflected the need for flexibility and ways to connect different groups of people. The ecological model was employed in this study to explore the selection of PE lesson content, teaching approaches, the organisation of teaching time and enhancement of delivery through a training package. This established the perception of student-centred PE while confirming the value of the collaborative network to promote PE and PA.

It is recognised that these concepts are present within a balance between systems that can improve and develop PE through coordination and communication. This supports the work of Díaz-Cueto et al. (2010) who proposed that the components of PE are inclined to be coordinated within the natural and humanistic environment. Although this can serve to affect and restrict developments, this is an aspect that links with the overall narrative of this study, which is to consider barriers and opportunities presented by integrating PE into a sustainable development strategy across social systems. This can be achieved by paying attention to the improvement of the physical environment of teachers, strengthening the improvement of other environments, dynamically improving the teachers' ecological environment, establishing the overall ecological environment concept and promoting the optimum development of teachers (Yan, 2019).

This study is located in the ecology of PE for autistic students, connecting educators' understanding of PE teaching content and adopting a process that selects different teaching methods based on individual sports levels and personal interests. Alongside this, Yan (2019) advised being more responsive to

students generally but, in particular, noting students' voices, emphasising communication between teachers and students, exploring personalised choices and opening up free-er and more diversified, lifelong routes into sports. This study does not investigate lifelong routes into sports or PA, but as stated in the literature review, PE is often employed as a means to introduce students to a healthy lifestyle. This multi-organisation integrates elements such as psychology, sociology, interpersonal relationships, pedagogy, politics and behaviour; distinguishes the personality characteristics of different students; guides deeper development of PE to the depth of physical education and nurtures in students a positive attitude towards life and wellbeing (Escart et al., 2010). Therefore, the ecological model was considered to be an appropriate and practical approach to developing the PE intervention at Queens School, which considered the multi-level influences on PE participation among autistic students within PE lessons.

It was proposed that prominence be given to implementing PE interventions aimed at improving PE practice through situated PE training, recognising the interactive systems affecting and restricting enhancement. Application of the socio-ecological model allowed a flexible approach to determining the factors associated with autism and PE that could support in the development of an intervention seeking to include a more holistic programme to improve PE practice. For the study, most of the fieldwork occurred at the micro and mesosystems level, whilst the chronosystem connected factors of transformation. At the mesosystem level, there could be an examination of the environment provided for autism PE within schools. This could be anything from the facilities and equipment, budget or funding, time allocated, class sizes, the support of the administration or the teacher involvement with PE teaching and the impact on the individual student. At the microsystem, there could be an exploration of factors, categorised as the demand characteristics, genetics, age and gender, which all play a vital role in the outcome of improvements in PE access from individual perspectives. Along with that, examining past experiences, the skills required and the physical literacy necessary to execute PE lessons would fall under the resource characteristics of the microsystem. The exo and macrosystems were acknowledged from the broader environment in Bronfenbrenner's model as having an interactive effect on progress and were

most connected to Research Question Three regarding influences on the process of change.

Changes in understandings and definitions of PE signify the notion of time present at the outer level, the chronosystem in Bronfenbrenner's ecological model. Elder (1998) defined the principle of time and place in a situated context as, 'the life course of individuals is embedded in and shaped by historical times and events they experience over their lifetime' (p. 3). Due to government and cultural ideological shifts, changes in PE definitions impact each student's cognitive, affective and psychomotor development within the PE field. From this perspective, any alterations in PE practice or value would have an impact on the physical development (cascading down to Bronfenbrenner's microsystem) of a student's health and growth. Within the national context, the volume and nature of changes made to PE curricula set the foundation for the nested environmental side effects of a student's overall perceptions, attitudes, beliefs, and abilities in PE.

3.5 Conclusion

This study took an ecological model and applied it within the context of an autism school to explore the improvement of PE practice. By examining current PE provision and practice, the aim was to demonstrate the impact of an enhancement package, generate evidence of progress and provide guidance on how to move forward to ultimately better each student's access to PE.

This chapter provided insight into the depth and richness of concepts identified by applying an ecological approach to improve PE practice in an autism school. The role of multi-directional reflection was illuminated throughout the continuous learning process as conceptual strands were generated. Strands that were acknowledged as pertinent to the process of change within the school were identified through the literature review, teacher and collective agency, collaboration and aspirations of a transdisciplinary approach, organisational decision-making, staff training and confidence and skills to teach PE and policy-making discourse through organisational agency and policy enactment. How these interact and influence practice was represented through the ecological figures designed to demonstrate connectedness. The influences of these strands appeared to be contextually embedded in the practical real-world

environment where the social situation was most dynamic and highly interactive and displayed the complexity of the social practices that PE, as a medium, had presented. Addressing these strands provided information that helped in the planning of the subsequent intervention designed to enhance existing social practices and support the production of new social practices.

The strands embedded in the conceptual framework were interpretive; interlinked, yet interdependent, forming a subjective basis of ideals. A further construct was the expansion of strands that interacted within, and across, ecological systems that had applications within Queens School yet were, sometimes, beyond the school setting. The story (or narrative) of improvement is told through themes that emerge from data analysis of each data stage. These themes inform the development of a multiple-perspective, conceptual framework to advance the practice of autism PE teaching at Queens School. The conceptual framework provided a logical attitude to a complex situation which, therefore, informed the research design.

In Chapter Four, I explain how the choice of methodology and methods enabled exploration of ideologies and frames of reference as they emerged from the research journey, influencing practice and the drive for change. The methodology and tools employed were described as providing a wealth of thick description of a real-life situation. Methodologically, this study was a narrative of the process of change as a means to present data and findings and to make sense of the intricate multiple understandings of human behaviour through individuals' subjective worldviews. An assumed understanding involved letting participants tell their own story, allowing the research to be concerned with perspectives and feelings. Chapter Four demonstrates the flow between how knowledge is acquired (epistemology) and how views are connected to the physical and social world (ontology) explained through a process of how to acquire knowledge and demonstrate views (methodology).

Chapter Four

4.1 Introduction

Throughout this study, I have sought to identify and incorporate the complexities of participants' lived experiences and feed this back into the research process. This chapter provides a view of the methodology and methods adopted and the philosophical underpinnings of my research. The data analysis methods are defined and the ethical considerations that affect this study are outlined.

A methodology is an expansive collection of ideas that can be employed to generate data and, as Van Manen (2009) says, this guides the research activity. A methodology encompasses a justification of the processes used for collecting data and tools. In addition, according to Whitehead (2012), a methodology is derived from an underpinning philosophy that gives rise to the principles that organise the 'how' of the enquiry – how to change my practice and that of others.

As researcher-facilitator, I needed to respond to these in real time once this study was underway, which, as Ravitch and Carl (2020) have shown, requires elements of a study's research design, such as participant selection and data collection methods, to be judiciously re-examined in relation to the emergent understandings and realities of participants' views and experiences. A qualitative approach to this study was taken because the research topic required enquiry into the perspectives of a specific group of people – staff and students at a special school – and qualitative research detects any issues within the ordinary context and discovers the subjective views and outlooks of those closely involved (Smythe and Giddings, 2007). Qualitative research has a greater focus on words rather than quantity generated from data analysis (Bryman, 2012). The realm of hands-on knowing integrates scholarship and action, which aims to build on the past, occurs in the present and pursues the shape of the future (Coghlan and Brannick, 2019). I set out to elicit the unique perspectives of individuals based on their experiences as insiders, which was important for generating explanations of circumstances. For this to occur, qualitative methods facilitated greater understanding of the experiences of the stakeholders and the extent to which they demonstrated that PE practice was not fit for purpose, how it could be improved and what their perspectives were

regarding influences on this process. Documentation produced during this process was used as evidence of this. Myers (2009) clarified that interviews, observation, documents and participant observation are potential sources of data that can be employed within qualitative research – and these were used in this study.

According to Eisner (2001), qualitative research is useful because it provides coherence and insight. The idea of getting close to practice was relevant since I aimed to show how to initiate a process that changes school practice. Ironically, Eisner (2001) also stated that one concern of qualitative research stems from the very strength of its capacity to particularise, signifying that the ability to make meaningful comparisons may be weakened. This was, however, appropriate in this setting because the purpose was to obtain knowledge that can be applied to a specific situation and does not require hypothesis formulation, extensive technical planning, or control of conditions (Merriam and Simpson, 2000).

This chapter provides the 'philosophical and technical foundation' for the approaches adopted in this study (Trafford and Leshem, 2008, p. 89) whilst creating and integrating knowledge about practice (Whitehead and McNiff, 2006). My chosen methodology is described and authenticates the use of my intervention as the research process. The structure is as follows:

Section 4.2 presents an action research methodology to capture an explanation of real people in real situations – staff and students in a special school. The aim was to understand the perceptions of participants as they responded to, and engaged with, the intervention.

Section 4.3 asserts the dependability of this research and the measures taken to explore the complex relationships, in the location, with the participants. For the data to be trustworthy, it is important to explicitly recognise the range of positions researchers can take. This section presents an account of my positionality, indicating my changing stance throughout the process, socially and micro-politically, within the community of the participant groups. This has enabled me to establish changing relationships as educator, researcher, facilitator and collaborator along the research journey. I highlight potential challenges and opportunities associated with being aware of one's positionality,

and I elucidate the implications of positionality and its potential effects on the research process, participants and the researcher.

Section 4.4 includes a discussion of ethical concerns and how these were addressed in the school location where fieldwork was conducted. This section identifies and critically reflects on the power dynamics that emerged along the research process, as well as the researcher-participant dynamics, which are renowned for being fundamentally intrusive.

Section 4.5 describes how the fieldwork location was approached and how participant groups within the location were recruited. The sampling strategy employed within the school and the resulting sample groups are described.

Section 4.6 presents the data collection tools implemented and the structure of the three data collection phases: Data Collection One, pre-intervention; Data Collection Two, during the intervention and Data Collection Three, post-intervention. A range of methods was employed to capture a variety of lived experiences. The methods were mutually complementary in their ability to produce data to answer the research questions and increase the trustworthiness of conclusions. I discuss the justification of using these methods as the tools to produce relevant data.

Section 4.7 specifies the analysis techniques employed to analyse each data set. I aimed to examine and pinpoint patterns of meaning within, and across, data to interpret shared meaning and networks of ideas. I took a reflexive approach to underpin central concepts that were important to the understanding of this phenomenon.

I explain how, for this study, an action research methodology is as much about developing practice as creating new personal knowledge. This is because developing personal practice, and that of others involved in the research, feeds into influencing children's learning. Research conducted in this manner seeks social understanding through explanations. Dadds and Hart (2001) talked of methodological inventiveness, where a useful and innovative approach suits a situation and is trialled. This situationally accountable methodology offered me authenticity, and I used any similarities and differences between data sources to increase the accuracy of the information (Cohen et al., 2017).

Selecting a suitable research approach prompted reflection and questioning; for example, 'What is knowledge?' and 'How can social reality be understood?' This process considers the nature of knowledge, how people interrelate with others and my position as researcher-facilitator within the research context. The philosophical position of the researcher is important because it shapes the nature of the research (Thomas, 2015).

The next section provides a rationale and justification for the use of an action research approach. It also describes how sustained engagement with practitioners was maintained throughout this study and how it developed into a practical design.

4.2 Action research and educational practice

Action research was selected as the approach for this project because it is concerned with developing interventions in current practice (Cohen et al., 2017), which was appropriate to the aims of this project. Educational action research generally provides opportunities for organisational insiders to research their contexts with a view to improving their reflection, practice, problem-solving and professional development (Herr and Anderson, 2015).

Kemmis et al. (2013) summarised the personal experience of the researcher in attempting to assess the appropriateness of potential research approaches. After much critical reflection and analysis of the strengths and weaknesses of research methodologies, I concluded that the cyclical style of action research lent itself to the evolutionary nature of educational development in a school; a process that allows for continuous growth and enhancement.

The process of investigating my own learning in order to generate a theory of practice with other people was important to this study. Action research was selected to facilitate reflection on the research situation and influence change to PE practice. The approach is distinctive because it is context-bound and involves action that is intended to change local situations. It is an alignment to enquiry attempting to combine understanding with change through a collaborative process, whilst remaining embedded in experience (Reason and Bradbury, 2008). If action research recognises differing ways and forms of knowing, then multiple sources of knowledge must also be recognised (Gaventa and Cornwall, 2001). This means that, as an action researcher, I do not look for

a static outcome that can be applied everywhere. Rather, I produce located knowledge to show what I am learning and provide opportunities for others to learn alongside me in an ongoing and flexible manner. I critique my work, not in terms of replicability but of whether it can show how educational and social values can exist and flow towards the resolution of my research problem, which was improving PE practice in Queens School. Action research provided an important framework for this research, following a process that allowed ideas to be tested and then modified (Coghlan and Brannick, 2014). Being able to analyse and interpret allowed ongoing changes to be made since learning is never complete (Evans, 2016).

While a variety of definitions of the term 'action research' have been suggested, this thesis will use the definition first suggested by Lewin (1946) who saw action and research as being interlinked and, later, further connected to school-based teacher research (Case and Light, 2011). Teachers in the UK have effectively applied action research to challenge understanding, and subsequent transformation, of their practice (Rossi and Tan, 2012; Casey and Dyson, 2009), and action research has been successful as a pathway to individual professional development as well as institutional change (Herr and Anderson, 2015). An assessment of educational researchers' perspectives on action research reveals inconsistent views as to what creates action research. However, there is a prominence in the literature linking action research with change and researcher as participant as though they were in the action context (Elliot, 2004) especially in terms of professional development (Casey, 2013). Action research has been recognised as effective in supporting researchers, practitioners and teachers to better understand their work through a process incorporating reflection on problems identified within their work, as opposed to research that is driven by the generation of hypotheses (McNiff and Whitehead, 2010; Glanz, 2002). This is generally undertaken by a person, or a group of people, identifying and understanding problems within given contexts to improve and promote change in their practice, which Casey et al. (2018) described as 'learning and changing from within' (p. 13). The need to generate (rather than test) a theory concerning participant perspectives enacting improvements in PE practice in a special school was best met through qualitative research methods, which, in turn, formed more meaningful links to the aims of this study and the research questions.

Ferrance (2000) claimed that there are many different descriptions of action research, but the basic aims are the same, 'empowerment of participants, collaboration through participation, acquisition of knowledge, and social change' (p. 6). This study aims to identify how staff might work collectively to raise the profile of PE and develop PE access for autistic students, empowering staff in their professional learning and their teaching of autistic students at Queens School.

With the focus on practical solutions and effecting social change, I noted that Bogdan and Biklen (2007) recommended action research should be steered by 'people in the "real" world' (p. 234). The real people in this study were teachers, TAs and students. Accordingly, Stringer (2014) contended that all stakeholders should be involved in the investigative process.

McNiff (2013) recommended action research as a technique for investigating personal learning as a way to change and improve the situation being studied. It is carried out by people who are trying to live by their guiding principles (McNiff and Whitehead, 2010), intending to improve some aspect of their practice to help someone else. The main methodological assumption of action research in this study is that it is done by practitioners who regard themselves as agents of change (Sen, 2001). In this way, I aimed to use the action research process to take positive action in an attempt to engage with and create developmental, maintainable improvements (Bradbury, 2015). Action research provides a systematic, reflective method with which to study actions, the effects of those actions and the tension between the organisational forces of personal, professional and social change (Pettit, 2010). It reveals a 'web of relationships, events, influences, role models and experiences' (Reason and Bradbury, 2008, p. 16) allowing knowledge and practice to come together. In this study, this was achieved through an iterative, action research approach. Figure 4.1 demonstrates what this looked like in this study operating simultaneously across ecological systems. Hence, there is a focus on practical issues alongside a reflection on practice and collaboration between researcher and participants, which Duxbury et al. (2019) referred to as research–practice knowledge exchange. This links with the British Education Research Association (BERA) (2018) guidelines regarding the role of research in teacher education that emphasise the value of collaborative enquiry in professional learning.

One of the main criticisms of action research is a lack of rigour that Van Manen (2009) called soft science. He stated that because of this, action research sometimes lacks substance, presenting limitations as well as possibilities. While the argument for empiricism gains academic support for some, reflexive rigour and authenticity in action research originates from the outcomes used to move educational development, ideas and strategies forward, which McNiff (2013) advised is a commitment to transformational learning. I have made choices that support practice, creating transformation by taking purposeful action with an emphasis on authenticity, which was essential to taking a research position and to gaining a deeper understanding of practice itself. Riel (2016) declared that every action researcher arrives at their own approach because the conditions and support constructs to each study are unique.

I adopted the influential conceptualisation of Carr and Kemmis (1986) that required intervention in the form of a spiral of cycles to: 1. develop a plan to improve what is already happening; 2. act to implement the plan; 3. observe the effects of the action; 4. reflect on those effects as a basis for additional planning and subsequent action through further cycles. Of importance for an action research approach is how this connects to the ecological conceptual framework. Casey et al. (2018) argued that the spiral effect within the research occurs on multiple levels, from micro to macro in size and scope. This is true of this study, as shown in the figures created in Chapters Five, Six and Seven.

Figure 4.1 integrates what was carried out during each stage within one cycle. The reflective spiral for this study was adapted from Carr and Kemmis (1986, p. 186).

Figure 4.1: The cycle employed within this study.
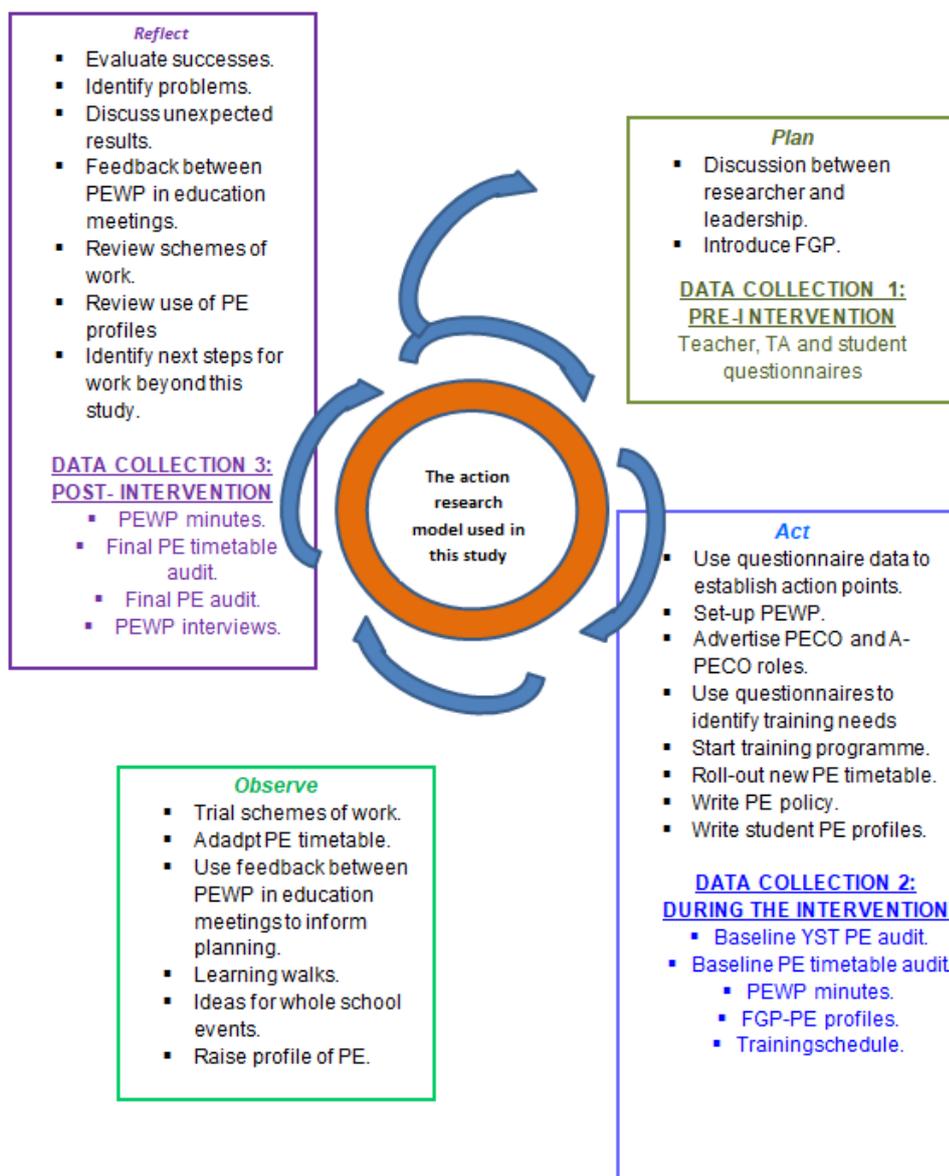
Figure 4.1 shows the continuous work carried out once decisions and adjustments had been made, which allowed the best action choices to be determined (Bradbury, 2015; Stringer, 2014). Practitioners can create their knowledge and understanding of a situation and act upon it to improve practice and advance knowledge in the work situation. However, Denzin and Lincoln (2017) stated that it is not uncommon for action research projects to be adjusted during the research process and, in this study, this was the case. Improvements in PE practice were made simultaneously. This began with the initial planning of the intervention and use of questionnaires to gather perspectives and ideas, which are discussed in Chapter Five. This was followed by the action, which was driven by the PEWP and evidenced through the documentation presented in Chapter Six. Next, there was a time for observation, where actions could be

consolidated or adjusted, and finally, a phase of reflection, where audits were carried out again and semi-structured interviews were conducted with three key members of the PEWP, the results of which are presented in Chapter Seven. This process allowed the possibility for a further spiral to occur post-intervention. A timeline of key organisational events is located in Appendix One. I aimed to support practitioners to be active participants in change through the development of an appropriate intervention model that was developed during the course of the project.

The perception of 'self' as a research tool underscores the likelihood that the researcher impacts on the research and accepts this inevitability, which is discussed further in the next section.

4.3 Researcher positionality

Interpretation involves how the researcher accounts for their own experiences and those of the subjects, as well as how meaning is made of these by subjective reporting and commentary themes and findings. Through this voice, the researcher leaves their signature on the project (Bourke, 2014). To evidence credibility and trustworthiness, I created transparency in my participant roles, the multiples sources of data used, and the research cycle undertaken. It was recognised by Bryman and Bell (2015); Coghlan and Brannick (2014) and Denzin and Lincoln (2017) that a researcher's interests influence the data gathering and analysis. As such, my position affected every phase of the intervention, from the way the problem was initially constructed and conducted, to how others were invited to participate in an ongoing cycle of cogenerative knowledge. Not only did I have to be mindful about the influence of my positionality, I had to be candid in communicating it with participants in order to negotiate a position. Clarity of my intentions as a researcher was central to my research endeavours; 'Positionality is thus determined by where one stands in relation to the other' (Merriam et al., 2001, p. 411).

Sultana (2007) acknowledged the difficulty of approving or maintaining openness when there are multiple scales of power relations and institutional affiliations, time/budget constraints and distances (physical, emotional, philosophical and political). I recognised that I influenced my research because of the levels I was involved in. I could not minimise my influence, but I

attempted to be authentic and trustworthy in my conduct. Herr and Anderson's (2015) continuum and implications of positionality identified a range of possibilities, reaching from an insider self-study to an outsider studying those who are insiders. Here, insider and outsider position are at each end of a continuum with collaborative studies in the middle. Within this study, my positionality could be defined as between 'reciprocal collaboration' and 'outsider(s) in collaboration with insider(s)' (Herr and Anderson, 2015). I was from outside of the school setting, yet I endeavoured to enable staff to develop their teaching and learning strategies. In this respect, I presented options, facilitated group planning and action and supported staff decisions. Furthermore, given that I am a qualified PE teacher who had also worked in the autism field teaching PE, I held insider knowledge and perspective similar to the 'outsider within' space influentially described by Collins (1998). Despite my involvement, I remained an outsider as I did not have a clear association in any single group but occupied the border space between groups. As researcher-facilitator, I understood the field but had less knowledge of the setting so, although I was an outsider working with insiders, this differed across the study depending on whom I was working with. For example, sometimes I worked in the PEWP alongside the SLT, sometimes with a teacher developing schemes of work and, at other times, delivering staff training. Thus, my positionality changed according to what function I was performing and, as Merriam and Simpson (2000) stated, over time. I argue that my positionality was changeable in agreement with Thompson and Gunther (2011) who pointed out that the notion of insider and outsider is multi-layered and fluid and can shift at various times during a research study. Consequently, critics suggest a conceptualisation of a continuum between insider and outsider research, rather than viewing them as opposites (Carter, 2004; Labree, 2002). This was true in my case as researcher-facilitator during this study.

The interpretive stance taken in this study means that as a researcher, I was fundamental to data construction and subsequent interpretation, making reflexivity important because of my connection with the data. This relationship was debated by Creswell (2008) who explored the involvement between the researcher and the object of research, and the degree to which interaction affects the situation. Cohen et al. (2017) claimed that it is exactly because the researcher is inherently part of the research context that they also become a

participant in the process, which was the case throughout my study. Also, the core idea of transformative capacity enabled me to incorporate the insights of others, transform new opportunities and create theories of practice. I was part of the research process across micro levels of ecological systems in terms of interaction and meaning alignment, and I acknowledge that I influenced, and am influenced by, others. The research field cannot be studied in a value-free way, because, as a researcher, I bring these values with me.

I took a view of self-reflexivity to be a continuous process that raises awareness among practitioners about their position in relationships of power (Blackman and Featherstone, 2015). For this study, I sought to employ methodological approaches to generate awareness about actions and perceptions.

Reflexivity involves researcher self-scrutiny; a self-conscious awareness of the relationship between the researcher and an 'other' (Pillow, 2003), which is fundamental because action researchers must interrogate perceived notions of improvement or solutions in terms of who ultimately profits from the actions. Reflexivity provides a critical dialogue of consequences of researcher positionality when attempting to understand how this impacts on the research process and interpretation of research findings (Cahill, 2007; Finlay and Gough, 2003; Finlay 2002) whilst acknowledging the complexity and messiness of qualitative research (Finlay, 2017).

As a researcher, a personal understanding of the world guides practice (Hofer, 2002). At this juncture, the development of new knowledge lies in creating a process by which change can be attempted. King and Horrocks (2010) argued that ontological and epistemological issues often arise together. Ontological beliefs about existence, and the epistemic relationship between the knower and the known, are essential determinants of how an event is approached by social researchers (Lincoln et al., 2011). Following Grix (2019), I needed to comprehend that philosophical underpinning informed and guided my choice of methodology and the tools to answer my research questions. Questioning the nature of reality is a feature of such investigation as the conceptual approaches underpinning social research query how reality is understood and how meaning is shared (Ritchie et al., 2014). Cohen et al. (2007) called this the nature of the enquiry or setting the scene. In my role as researcher-facilitator, it was important to find a way that acknowledged lived and living experiences, allowing

my work, and the study of the work of others, to function and flow interactively as one informed the other.

4.4 Ethics

The concept that all stakeholders are part of the research process meant that I considered how all actors should be protected in their shared lived experience of place. Consideration and planning, whilst using core tenets of research ethics, were applied to the groups within this study and are described next. Applying an ethic of respect may reveal tensions or challenges, for example, harmonising research ambitions, societal concerns, institutional expectations and individual rights. BERA (2018) recommendations guide researchers' behaviour. I conducted a risk assessment that demonstrated my sensitivity and attentiveness to a responsibility to participants and the researcher community.

Ethical principles aim to ensure that all aspects and stages of research conducted should ensure respect and fairness and protect participants from potential harm. I aimed to create shared conditions whereby participants could equally, openly and confidently ask and answer questions. This can be made easier by the participants knowing that the researcher has some knowledge and experience in the field (Duke, 2002). The following section lists the measures in place regarding the subtleties required to minimise the effects of stress or discomfort of participants in this research (Mayall, 2008).

Ethical approval for the research project was obtained from the University of East London (UEL) School of Education and Communities Research Ethics Committee before the fieldwork commenced, which was undertaken during the usual school working day. The UEL Code of Practice for Research was adhered to throughout. The UEL-approved research ethics form is located in Appendix Two. Additionally, the research, and my conduct, adhered to Queens School's safeguarding practices and policies. My ethical considerations ensured the emotional and physical safety of the stakeholders throughout the FGP-PE intervention. All research participants were informed of their right to withdraw from the research without consequence. Names of key staff and the school were changed to protect confidentiality. Staff were fully informed and aware that pseudonyms and codes would be used. Bryman (2012) warned that the use of pseudonyms does not remove the identification of participants, but mechanisms

were installed to safeguard and minimise the chance of identification, such as a list of codes and pseudonyms known and held only by me. The following table summarises the ethical measures that I employed.

Table 4.1: Methods employed to minimise participant identification.

Questionnaires	Documentation	Interviews
Not storing participants names or correspondence on a hard drive.	Not storing participants names or correspondence on a hard drive.	Not storing participants names or correspondence on a hard drive.
Keeping identifier codes and participant's names separately and in a safely locked cabinet.	Keeping identifier codes and participant's names separately and in a safely locked cabinet.	Keeping identifier codes and participant's names separately and in a safely locked cabinet.
Removal of names of people on all examples of questionnaires.	Removal of names of people on all examples of planning, PEWP minutes.	Removal of names of people on all examples of interview transcripts.
Safe storage of questionnaires and participant consent forms.	Removal of names of organisations stated in PEWP minutes and school paperwork.	Safe storage of interview audio recordings and transcripts.

As a teacher, I had been scrutinised through the advanced disclosure process and held an up-to-date enhanced Disclosure and Barring Service certificate.

4.4.1 Ethical procedures and guidance for research with adults

Action research can be empowering or emancipatory (Herr and Anderson, 2015) due to the unique position of the researcher practising and researching inside the research context; thus, understanding the hidden complexities of the situation. The acceptance of the researcher as an insider within action research allows that the researcher's positional influence on observations and interpretations plays a significant role in the process. The importance of the nature of the relationship between the researcher and the research participants means that the researcher's biography needs to be made clear (Thomas, 2015). It may have been threatening to some that I was a researcher, but as a practitioner, I hoped to hold credibility as a trained PE teacher with a background in autism teaching. Introducing myself and explaining this candidly was important to gaining trust and openness at the school as I spent time there as the person conducting questionnaires and interviews, and also being part of

the PEWP. This is connected to the positionality discussed in Section 4.3. Assuming a subjectivist epistemology, I acknowledge how my role as researcher-facilitator and teacher impacted on participants, and my interest and background in the field provided a knowledge base that informed my interpretations.

Staff were invited to participate in this study without obligation, and were aware of the purpose, methods and risks of the research. They were informed of their right to withdraw at any time during the investigation (Bowling, 2014; Boxall and Ralph, 2009). Staff were also told that the research had gained university ethical approval and that the study followed the 'Codes of Ethics and Conduct' ethical guidelines from BERA (2018). It is acknowledged that qualitative research invites people to talk about sensitive issues that have the potential to cause emotional distress, i.e. issues that may be upsetting, embarrassing or cause anxiety (McCauley-Elsom et al., 2009). To ensure that sensitive issues raised by staff could be responded to, information to signpost staff to easily accessible services was provided. However, no concerns were raised, and this provision was not required. A risk analysis was taken for all ethical issues that arose within the study (Long and Johnston, 2007) including health and safety related to the physical training element.

4.4.2 Guidance for the inclusion of children in research

Research practice with children particularly reflects confidentiality and compassion as core values that safeguard them against harm (Powell and Smith, 2012). Employing these tenets provided protective factors for reducing the potential risk of unnecessary harm and distress that may have arisen from involvement in this study. I accessed PE areas for learning walks but did not spend any time with students. The student questionnaires were written by school staff and completed by students with staff support, then gathered by staff for my collection. Increasing children's participation in research from a range of backgrounds and needs requires respect for openness by acknowledging access, negotiating consent, anonymity, confidentiality and safeguarding (Nutbrown, 2011). Codes were allocated to the children's records to protect their anonymity and reduce identification – a procedure recommended by Berg and Latin (2008) as good practice. As for the staff, the list of student names and assigned codes were known and held only by me.

Consent, confidentiality and competence require special attention when working with youths (France et al., 2000), with the information required to be appropriate and accessible and capacity in decision-making accounted for (Coyne, 2010). The student questionnaire was designed to be as accessible as possible. The National Children's Bureau Research Centre (Shaw et al., 2011) asserted that young peoples' involvement in research requires information to be provided in a format that they find clear to aid them in making an informed decision in consent. To facilitate this, a printed questionnaire was provided to students in two communication-appropriate formats; one designed with text and symbol-assisted information called Communication in Print, and another with text using student-friendly language. This is located in Appendix Three.

Involving children in research is a political action that challenges concepts about who has knowledge and expertise and who does not. I recognised that specific research issues arise from children's and young people's legal status, their awareness and understanding of the world, differing levels of cognition and comparative lack of autonomy, making them vulnerable. Each necessitated acknowledgement in this study to ensure appropriate and ethical research practice (Brady et al., 2018). Power imbalances between adults and young people – with adults assuming a lack of ability, understanding or competence of a young person – have been debated (Lansdown, 2005). An assumption about capability made from a developmental perspective may not accurately reflect the skills or abilities a young person has, or their competence to make decisions. Mason (2004) states that the apparent capacity to give consent is affected by developmental delay and creates a dilemma for the researcher. In my study, students may not have understood what was being asked of them, or wished to be involved but could, potentially, have been coerced into completing a questionnaire by a staff member. It was stressed that students could refuse to cooperate, and that this was acceptable. Furthermore, within small-scale research such as this, particularly research involving individuals with learning disabilities, guarding confidentiality and creating anonymity is essential because special schools are usually small. Unique personal descriptions may lead to individuals being easier to identify (Porter and Lacey, 2005). I minimised this risk by being the only person with access to staff and student names and codes.

Protective assumptions can undermine independence, maintaining unfair dynamics in which a young person cannot be heard. Article 12 of The United Nations Convention on the Rights of the Child (1989) has significance in recognising the civil rights of the child and asserting their right to have views heard in issues that affect them, and their perspectives considered relating to age and development. Emphasis must be placed on inclusive practices that empower young people as active stakeholders (Cave, 2009). For participation and consultation to occur, these terms must be understood (Alderson and Morrow, 2011).

Researcher access to young people commonly involves the authorisation of adults, meaning that young people can be powerless in this process and reliant on adults to decide what information they should be given and whether they can contribute (Powell and Smith, 2009). Seeking parental consent assumes that the child does not have to be asked for agreement for their participation (Williams, 2006). Young people are not always asked in the first place, or their voice acknowledged, due to inherent power inequalities from authoritarian attitudes that can suppress young people's views (Davies and Davies, 2011). It was also realistic to acknowledge that some of the students in this study may not have understood what was being asked of them. The SLT determined that parental consent would, nonetheless, be sought. Thus, every effort was made to empower the students for informed inclusion within the study as well as the right to refuse. A letter was sent from the school to parents/carers/guardians requesting student participation in the study and survey. A decision was made to implement a continuing appraisal of the students' acceptance and willingness to participate in the student questionnaire, which was assumed to be an agreement to participate in the research. Also, staff were permitted to make decisions concerning any reluctance to contribute, or anxiety presented by the students towards the research, and to sanction departure as applicable, following BERA (2018) guidelines that 'researchers should also seek the collaboration and approval of those responsible for such participants' (p. 15). This indirect approach for assent/dissent has been positively used within other research with autistic students and those with severe learning disabilities (Blackburn, 2014; Brooks, 2010: Konaka, 2007; Pauli, 2004; Preece, 2002; Beresford, 1997).

All students were informed that they could withdraw from the survey at any point, without having to give a reason. This indirect transfer of power, from that of a child agreeing to a parent's decision, to one of responsiveness from all parties involved in the decision-making process, meant that the right to contribute remained with the child. Stakeholders were invited to participate in this research under no obligation.

There were no refusals to be research participants and, as such, the sampling strategy is detailed in Section 4.5.

4.5 Sampling strategy

The sampling strategy for this study was predetermined in that teaching staff were selected as an expert sample because I needed to collect perspectives from individuals that had particular proficiency in their knowledge of autism. This kind of predetermined population is appropriate for this type of study (Cohen et al, 2017). For phase one and two of this study, the whole school population was used. Purposive sampling was applied in phase three of the study and in initially selecting the school for undertaking the research. Particiapnts provided perspectives regarding their unique understandings and experiences. Thus, the sampling was in alignment with qualitative research in reflecting the research problem as anchored in specific cases (Cheek, 2018) that encompassed the needs of a multifactorial process of enquiry. The intent was to yield information-rich, textual data and was a deliberate choice due to participant traits. Interpretive research employs a sampling strategy in which study locations and participants are chosen based on theoretical considerations, such as whether they fit the occurrence being studied, where conditions can be selected because similar results can be predicted, although not necessarily replicated (Yin, 2009). In this case, the study was based on autism-specific practice in a special school and this characteristic met the study aims (Pope and Mays, 2008) to accurately answer my research questions. The resulting sample groups are detailed next.

Cresswell and Guetterman (2019) said that small sampling sizes of 10–20 participants are acceptable. The sample sizes are presented in Table 4.2.

Table 4.2 shows each sample group at each data collection.

Data collection one participants	Data collection two participants	Data collection three participants
Questionnaires: Teachers- 7/8 Teaching Assistants- 34/36 Students- 16/35	PE Working Party minutes: 1 teacher 1 Higher Level Teaching Assistant 5 Teaching Assistants 1 Senior Leadership Team member	PE Working Party interviews: 1 teacher 1 Teaching Assistant 1 Senior Leadership Team member

PEWP members were invited to be interviewed on completion of this study. The PEWP was originally formed of the researcher-facilitator; one SLT member; one teacher; one HLTA and five TAs.

Table 4.3: Staff members with an active role through the PE working party

Name	Role	Department
Marion Fowler	Deputy Head and Wellbeing Lead (Registered General Nurse and Care manager)	Whole school
Tammy Smith	Class teacher and PE co-ordinator (PECO)	Lower school
Kat Ashley	TA and assistant A-PECO	Lower school

Changes in this group are discussed in Chapter Six. Table 4.3 shows the PEWP members, their respective roles and which department they worked in. Purposive sampling was applied to those who were selected to take part in the semi-structured interviews. Participant demographics are presented in Chapter Five. Multiple methods of data collection were used because there is no particular instruction for action research for which data collection instruments to employ. This was more a matter of what was fit for purpose (Cohen et al., 2017).

The next section scrutinises the varied data collection tools employed in this study.

4.6 Data collection methods

This section describes the structure of data collection tools and their legitimacy. It is important for researchers to reflect on the capabilities and limitations of a

particular methodology and to critically consider how knowledge is produced. As Enright and O'Sullivan (2012) put it, 'our questions can never be considered independent of our method, and methods, therefore, influence how and what knowledge is produced' (p. 46). The purpose of this section is to describe and justify the methods of data production employed in this study to evidence the progress and hence, inform action to bring about change (Stringer, 2014; Stringer et al., 2009).

My data collection methods were varied because of the diverse influences I was attempting to understand, avoiding reliance upon one data collection method (Whitehead, 2008) that otherwise may only have provided a snapshot. Data collected as a part of the story could be a disadvantage if located on its own but, combined with other types of data, a detailed overall picture is created. Bryman and Burgess (2015) noted that when only one type of method is used, only one particular aspect of research can emerge. Collecting different types of data at different times throughout the study provided opportunities to gain insight into the educational influences I was attempting to understand.

In alignment with Strang (2015), the critical analysis begins with the literature review and is supplemented with data collected to validate theory with evidence. Data collected from this study were taken at three data collection points to provide credible evidence. Table 4.4 presents the research questions connecting to the data collection methods.

Table 4.4: The connection between data production and research questions.

Pre-Intervention- data collection one	Intervention (During) data collection two	Post-Intervention-data collection three
Teacher questionnaires TA questionnaires Student questionnaires	Baseline PE audit Baseline PE timetable audit PE Working Party minutes Learning walks Planning documentation PE policy PE profiles Final PE audit Final PE timetable audit	Semi-structured interviews- PE Working Party
Research Question 1. *What were the perspectives of teachers, TAs and students regarding current PE practice, and do they think it is fit for purpose?*	Research Question 2. *How can PE practice be improved?*	Research Question 3. *What were the influences on the process of change and what were the perspectives of those involved?*

In turn, each data collection method was chosen with the intention that the data generated would form a clearer picture of the situation when cross-referenced multifactorially. The fieldwork carried out at Queens School took place across one academic year as one action research cycle. The data collections represent the variety of work carried out by participants before, during and after the intervention process. For clarity, the methods of investigation are presented as they occurred in each data collection phase.

4.6.1 Data Collection One – pre-intervention

The work described in this section aimed to gather perspectives regarding PE practice at Queens School before the intervention. A sample of teacher and TA questionnaires is located in Appendix Three.

4.6.1.1 Staff questionnaires

A pilot questionnaire was administered internally by SLT to teachers and TAs. It was remarked by van Teijlingen and Hundley (2001) that the advantage of conducting a pilot study is to decide 'where proposed methods or instruments are inappropriate or too complicated' (p. 1). Some issues were raised by the

pilot study in a discussion session, which revealed, in agreement with Boynton and Greenhalgh (2004), that the list of potential responses must also allow participants to give meaningful answers. All potential questions and responses must be deliberated to reduce the possibility that participants will select the 'best fit' rather than an accurate response. Although participants in the pilot survey specified verbally that they did not like long lists of choices, they were similarly dissatisfied by narrow responses, indicating that, at times, I had not considered all potential responses (Houtkoop-Steenstra, 2000). I decided to use an 'other' category so that participants could write their personal response.

A questionnaire was developed from the pilot study and given to participants at Queens School with an anticipated completion time of 20 minutes. Teachers and TAs received different questionnaires based upon teacher delivery and planning and the TA supporting role. Although a flaw in the use of a survey may be that a discrepancy such as non-response may affect the selection (Kish, 2004), an allocated time to complete the survey was offered to balance this out. I chose to administer a questionnaire because of the usefulness of gathering a range of perspectives as an initial exploration (Boynton and Greenhalgh, 2004).

Depending on the purpose of a questionnaire it can contain closed or open-ended questions or a combination (Cohen et al., 2017). The final questionnaire included a combination of closed and open-ended questions and Likert-style responses. This is located in Appendix Three. A disadvantage of using only closed questions is that respondents have little opportunity to give their opinions or record their particular responses. Open-ended questions are useful when the issue under research is complex and where the relevant dimensions are either not known, or could be multiple, but are more time-consuming to analyse. The advantage of using self-completion questionnaires is that people could be surveyed relatively inexpensively, and the chances of completion are improved when they are disseminated personally (Munn and Drever, 2004).

A questionnaire enables the researcher to analyse responses to the same set of questions (Denscombe, 2008) maintaining consistency. The role of the questionnaires was to collect perspectives and attitudes relating to the understanding of PE by teachers and TAs. The questionnaire empowered participants to comment anonymously from the SLT, as identities and comments were known only to the researcher. The questionnaires were

designed to provide information to initiate the research process by establishing a starting point from where progress could be launched, with the supplementary information provided by student questionnaires.

4.6.1.2 Student questionnaires

After a trial questionnaire revealed that two formats would be more appropriate, a final questionnaire was produced both as a Word document for the students who were described as 'conversational partners' and a 'communication in print' document for the 'social partners', as described in Chapter Two. Staff support was provided to assist students in answering the questions in the time allocated at the end of the school day. A lot was going on at this point, for example, school–home diaries were completed by staff with students needing to be prepared for transitioning for going home and buses and taxis arriving at different times. Staff were frustrated that they could not support students more. Verbal staff feedback was that, generally, the questions were relevant to students, although this chaotic period was not conducive to students completing a questionnaire, the reason cited for so few questionnaires being completed.

4.6.2 Data **Collection Two – during** the intervention

The work described in this section describes materials produced as the result of action during this action research study. Such documents were the YST PE audit (Appendix Four) and timetable audit (Appendix Five) and a sample of PEWP minutes (Appendix Six). I planned the review of these audits to be transparent in that they were produced during the research journey as evidence of the intervention itself. Additionally, documents produced during this part of the intervention are described in Chapter Six as outcomes and actions.

4.6.2.1 Youth Sport Trust PE audits

A PE equipment audit (Appendix Seven) was carried out across all facilities on equipment used to deliver PE and sport-based activities before the FGP was implemented. This established a baseline from which the project could be started, knowing exactly what resources were available. The PE audit additionally employed the YST 'Outstanding PE' model to track progress and evidence impact. This was carried out at the start of the intervention as a baseline document accompanied by notes specific to the school situation, and afterwards, alongside a self-review tool. This was used to support the efficacy of

the action research process to promote change in PE practice. Targets were drawn from this initial audit, alongside the information provided by the questionnaires, to design the staff training programme. The YST audit was scrutinised regarding any changes or outcomes from the pre-study document. Targets established at the pre-study phase were reviewed and progress recorded. Targets are presented in Chapter Six.

4.6.2.2 PE timetable audits

Copies of class timetables were collected before the FGP intervention commenced. Actual timetabled class PE lessons were recorded, and the allocated minutes of PE counted, to provide a baseline. The class timetables were analysed to support whether timetabled PE had been increased by the end of the fieldwork. Samples of class timetables before and after the FGP-PE intervention are located in Appendix Five. The class timetables were analysed and compared with the pre-study class timetables for any changes in allocated PE time.

4.6.3 PEWP minutes

As stated, the PEWP originally consisted of me, as researcher-facilitator, and eight staff members responsible for meeting with teachers to gain experiences and feedback, writing the PE profiles for the FGP, planning whole-school events and generally motivating staff to proceed with plans and ideas. The PEWP minutes were records of discussions, meetings and actions by the PEWP, as written by me, and, at other times, by the SLT members but checked by one another. These were communications of problems, successes and issues discovered along the research journey that tended to demonstrate the action step of the action research cycle, but also that provided insight into influences on the process of change. This is why they were used in Data Collections Two and Three, linking observation and planning with reflection. It is anticipated that these minutes (located in Appendix Six) will be a valuable record of events, tie the research together and provide additional perspectives around the research questions and the definition of the research problem.

4.6.4 Data Collection Three – post-intervention

The work described in this section aimed to generate information through the use of semi-structured interviews. This signified the completion of the study and

the final stage of the action research process in which I handed the project over to Queens School. In effect, another action research cycle could begin from the school's complete ownership of the intervention. Interviews of the PEWP members were recorded on my mobile phone 'audio recorder app' and transcribed *verbatim* into a Word document in a bid to be clear and to ensure that I did not interpret as I went along. This is located in Appendix Eight.

Despite interviews giving the impression of being informal, Denscombe (2008) stated that 'interviews are something more than just a conversation' (p. 173). Interviews involve a set of assumptions and understandings: ethical consent is required, participants must acknowledge that information is used to write up the research and agendas for interviews are set by the researcher (Denscombe, 2008). The interviews conducted for this research assisted me in gaining perspectives from individuals by probing into opinions, feelings and experiences. The goal was to interpret meaning from the spoken words of each participant to obtain meaning beyond appearance and obvious words (Bryman and Bell, 2015; Gravetter and Forzano, 2015).

Interviews enable flexibility, so respondents can elaborate on themes of interest (Denscombe, 2008). Although the interviews for this study were time-consuming, and data analysis complex due to the open nature of the responses given, they provided depth and insight into the issues I was researching, allowing me to capture the uniqueness of the situation. The data was rich in authenticity as information was derived directly from the interviewees. Denzin (2001) called the reflexive interview one that connects all of us to a greater ethical community that transforms information into shared experiences. In this study, being reflexive assumed that words and language have a material existence in the world – that words have effects on people and that words matter. Interviews allowed an in-depth analysis of a small sample and placed the focus of research on the participant views, thereby highlighting potential issues that the interviewer might not have considered. Interviews may even help to empower interview subjects themselves, allowing for changes in social policy and improved conditions (Fontana and Frey, 2005). Interviewing relies on an interactive method, in which mutual learning occurs between those involved. In this respect, it is an active process by which an interview or a 'contextually bound and mutually created story' is produced by interviewer and interviewee(s)

(Fontana and Frey, 2005, p. 696). Additionally, Minichiello et al. (2008) argued that interviews can fill a knowledge gap, particularly if complex behaviours are to be investigated. Researchers have the freedom to veer off the interview schedule if the conversation seems helpful (Bryman, 2012).

Semi-structured interviews were chosen as a data collection tool because they provided an informal opportunity to explore key themes related to the work carried out at Queens School and in the everyday work issues faced by PEWP participants. Cohen et al. (2017) stated that the semi-structured interview 'sets the agenda but does not pre-suppose the nature of the response' (p. 248). The same approach was taken in each interview, providing me with opportunities to produce data that could be explored further when placed within the whole data set. Semi-structured interviews afford the 'best of both worlds' through an amalgamation of structures delivered by a pre-written interview schedule and the autonomy of direct participant interaction (Thomas, 2015). This makes the method appropriate for small-scale research projects such as this. The choice to use semi-structured interviews to collect data reflects my positionality, the research context and the style of information required. In this instance, an understanding of how participation in the FGP-PE intervention was perceived by PEWP members.

In a semi-structured interview, the interviewer asks judiciously articulated questions to probe more deeply to obtain more in-depth information. Holstein and Gubrium (2004) postulated that subjects are sources for data that have to be brought to the surface. Using Kvale's (2007) metaphor, the interviewer has to dig deeper to obtain understanding. As the semi-structured interview does not involve any detailed guidelines, questions may be asked that lead the respondents to give the sought-after information but can be subjective and time-consuming (Gall et al., 2003), although, an overall shape to the interviews helps prevent drifting conversation. I wanted the interviews to be flexible and not too narrow or pre-arranged, yet, to collect as many data from the interviewees as possible in the given time. I chose semi-structured interviews because they facilitated this. I agree with Opie (2010) regarding the value of semi-structured interviews that allows for a depth of feeling to be ascertained by providing opportunities to probe and expand responses. This also allowed for deviance from a pre-arranged text and to change the wording of questions or the order in

which they were asked, including asking subsequent questions not on the schedule that helped to probe the interviewee. The information was located and expressed context-dependent realities that were locally comprehensible. An interviewer gains meaning from the bigger picture in a process where interviewer and respondent are learning through shared, emerging, lived experiences (Kvale, 2007). Silverman (2005) pointed out that with small groups, which was the case in this study, there can be over-reliance on occurrences to support analysis. Therefore, research can be in danger of using extracts to serve as evidence of an occurrence that becomes merely anecdotal by itself. Potential anecdotalism is overcome in this study because other data types support verification.

I used semi-structured interviews to be able to further examine PEWP members' constructions and perceptions of debatable issues that had been raised, initially through the questionnaires, and later, during the course of the study process. Another important factor for this study was the power balance. Gubrium and Holstein (2002) considered interviewers and interviewees as equal partners in constructing meaning around an interview, highlighting interactive and interpretive connections. The respondent is an active creator of meaning, where the material is co-constructed between interviewer and respondent, so the facts cannot be understood in isolation. Hammersley and Atkinson's (2007) work is useful as a reminder that any interview situation, however transparent, is bound to implicate the interviewer and is limited by the schedule set. The respondent is involved in a process of interpretation, supplying the interviewer with the information they think the interviewer wants to hear. Though there are almost always unequal power relations in an interview, it does not, necessarily, mean that neutral implications cannot be identified. Interviews were held at the end of the fieldwork in the parents' room, a comfortable and informal space, which helped to create a relaxed, non-threatening environment (Opie, 2010). This, coupled with a rapport with participants that had been established over the research period, minimised 'stage fright'.

4.7 Data analysis techniques

Connecting this section to an interpretive approach situates the researcher as an active translator of data, representing participants' lived experiences,

thoughts and feelings. Research questions provided scope for participants to contribute to the research as the process evolved and became more defined, providing new insights, grounded in the participants' situated world views (Bryant and Charmaz, 2010). As a researcher following the epistemological journey of this research, I required a tool to analyse the qualitative data as it was produced, that would allow me to be immersed in the data, as well as able to interrogate it and interpret it by frequently returning. Denscombe (2008) described this as part of an iterative process that allows the researcher to repeatedly revisit data and be meticulous. In this way, the researcher conducting a qualitative enquiry for an action research project serves as a research instrument themselves (Patton, 2015; Ormston et al., 2014). As I was involved, this led me to select thematic analysis. In this section, I outline how data was presented and analysed to gain an understanding of it and achieve trustworthiness.

The data analysis technique must be connected to the procedures used to generate the findings (Graneheim and Lundman, 2004). One of the best ways of judging the quality of findings is to look at whether any new insights increase the understanding of a particular situation or have informed or developed practical applications (Krippendorff, 2004). Underlying themes may not be directly apparent, but as a researcher, I needed to be reflective; frequently reviewing the data; becoming familiar with it and appraising it from different perspectives (DeSantis and Ugarriza, 2000). Becoming familiar with the data is a fundamental stage within an interpretative qualitative methodology (Bird, 2005). This section describes how theoretical construction is a product of working with data to generate meaning through thematic analysis.

Attempting to describe a phenomenon in a community means that some data is statistically descriptive (Neuman, 2011). As conveyed by Wimmer and Dominick (2014), descriptive statistics can be used to describe what has been collected, providing a snapshot, which was relevant for this study identifying context, perspectives and experiences as credible facets. Manifest content is an object of social communication and refers to elements that are physically present and can be counted truthfully. Latent content, however, requires an interpretive evaluation to scrutinise the symbolic meaning of the data and uncover its structural meaning (Berg and Lune, 2017). Both are useful to thematic analysis

and thus, to this study. This provided me with a personal interpretation of the themes in the initial codes identified as both manifest and latent claims in repeating patterns within data. The following overview was taken from Vaismoradi et al. (2013, p. 399).

Figure 4.2: The main characteristics of thematic analysis in the continuum of qualitative research.
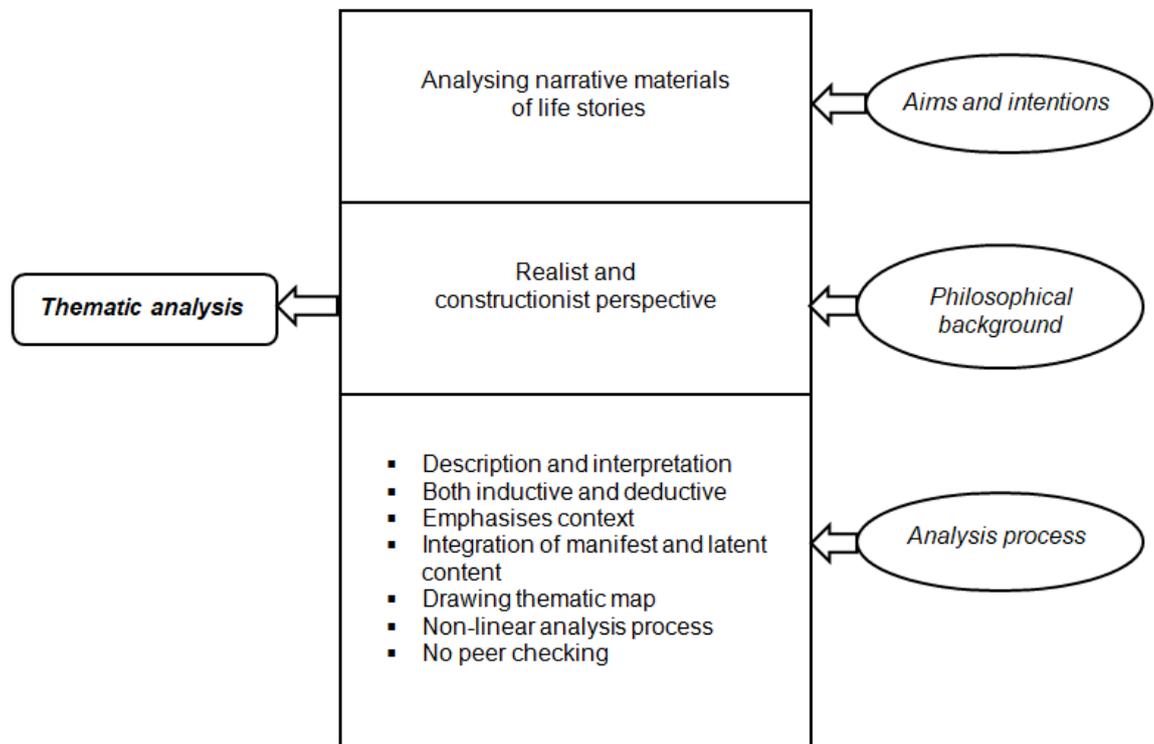
Figure 4.2 summarises the features provided by thematic analysis that aided me in choosing this method. The quantity of data produced in this small-scale study was sufficient to allow me to be actively involved in the analysis. I conducted coding that would not require a data software programme (Ormston et al., 2014) permitting me, personally, to construct knowledge by interpretation. As a thematic analyst, I had to know and understand the conditions under which texts were developed and how they were obtained, to present a picture of types of people or social activities and focus on 'how' and 'who' questions (Neuman, 2011). This allowed me to uncover the nuances of organisational behaviours, stakeholder perceptions and societal trends. The usefulness of this was that I had several evidence sources that would be more credible when supported by one another. By systematically evaluating texts and oral communications, thematic analysis allowed socio-cognitive and perceptual constructs to be

analysed. Thus, descriptive identification of patterns and frequencies of occurrences were produced (Carlson, 2008).

A thematic analysis gives a personal interpretation of the themes in the initial codes and goes on to identify latent and manifest repeating patterns within data. Through re-reading, coding of words and phrases was compressed into themes that emerged from groupings of ideas and thoughts. To make explicit the 'how' of analysis, I applied the thematic analysis framework of Braun and Clarke (2006). Thematic analysis was an appropriate tool for the research as it was epistemologically self-determining; therefore, it would not be affected by the changes in epistemologies during the research journey. It helped me to describe each data set in rich detail and interpret far-reaching, multifactorial aspects of the research topic that needed to encompass more than one ecological system of influence. The process of data analysis in content analysis and thematic analysis, according to Braun and Clarke (2006), is shown in Figure 4.3.

Figure 4.3: Explanation of thematic analysis phases and descriptions. Adapted from Braun and Clarke (2006, p. 87).

Thematic analysis phases and descriptions
Stage 1: Familiarising with data Transcribing data, reading and rereading the data, noting down initial ideas.
Stage 2: Generating initial codes Coding interesting features of the data systematically across the entire data set, collating data relevant to each code.
Stage 3: Searching for themes Collating codes into potential themes, gathering all data relevant to each potential theme.
Stage 4: Reviewing themes Checking if the themes work in relation to the coded extracts and the entire data set, generating a thematic map.
Stage 5: Defining and naming themes Ongoing analysis for refining the specifics of each theme and the overall story that the analysis tells, generating clear definitions and names for each theme.
Stage 6: Producing the report The final opportunity for analysis. Selection of vivid, compelling extract examples; the final analysis of selected extracts; relating back to the analysis to the research question and literature. Producing a report of the analysis.

During this procedure, I made reflective notes, and then created a table of ideas, stating what was in the data that interested me and the motives for noting them. I began to generate codes and classify them into meaningful and relevant categories for interpretation (Singh, 2007). Braun and Clarke (2006, p. 18) illustrated that 'codes identify a feature of the data that appears interesting to the analyst.' I worked carefully through the data sets and recorded as many facts and interesting extracts of data that I thought were important. By using codes, I was able to identify interesting aspects of the data in a way appropriate to the research design. At this juncture, I appreciated that I was simultaneously analysing data and interpreting and choosing which information was relevant. I subsequently focused on attempting to identify common themes within the data, following Braun and Clarke's (2006) definition of the term 'theme' that captures something significant about the data connected to the research question. In

practical terms, the process involved sorting and arranging the codes into potential themes. This was the final opportunity for this data collection to be interpreted – and made sense of – and reported, reviewed and compared with other explanations of similar data.

Significantly for this study, thematic analysis was a flexible research tool that was advantageous because it provided an intricate account of the data (Braun and Clarke, 2006), which was relevant for the type of data collected across this study. Taking the explanation of Loffe and Yardley (2004), thematic analysis was chosen because it offered a logical element combined with an analysis of meaning within a particular context. Figure 4.4 summarises the connections between the data collections with thematic analysis stages that I employed.

Figure 4.4: Data produced by the data collections and the data analysis method.
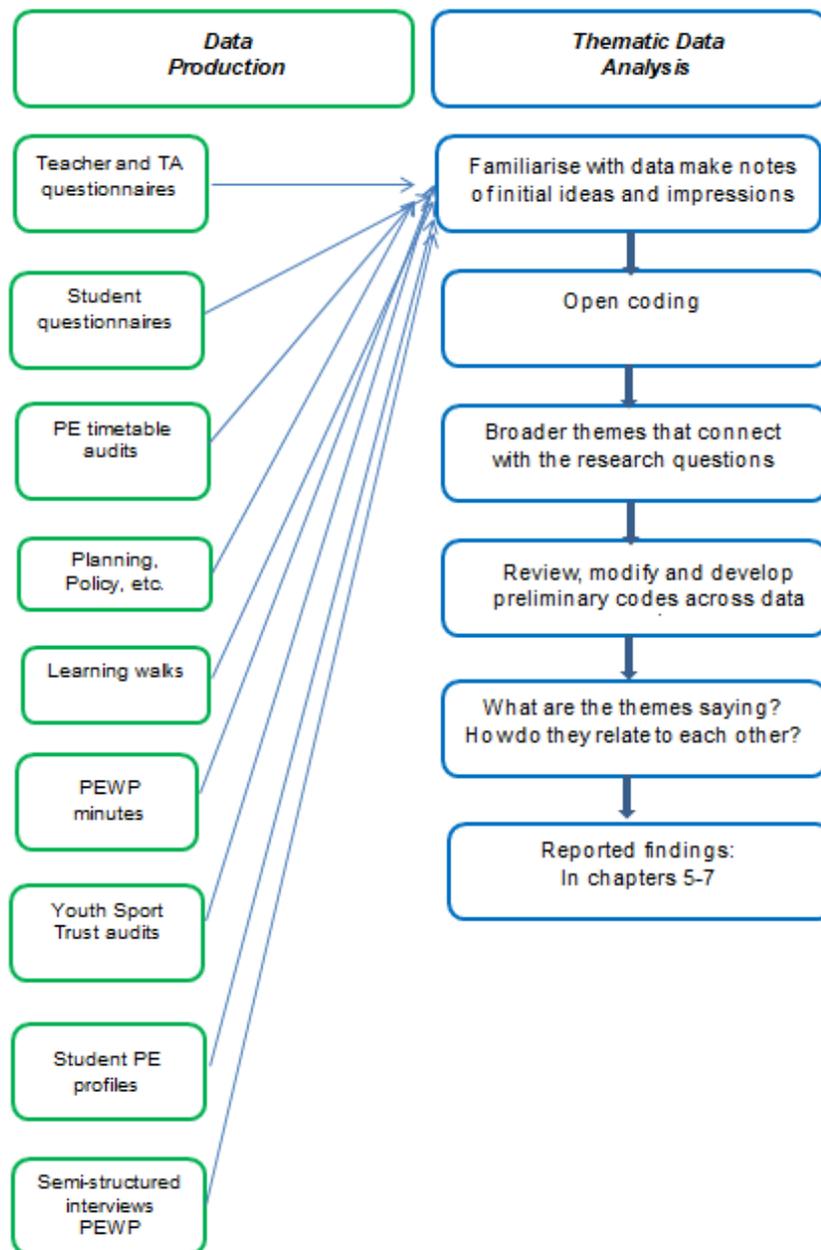
Each type of data was thematically analysed using all the steps of the procedure. Thematic analysis involved the search for, and identification of, common threads that extend across collected data (DeSantis and Ugarriza, 2000). Data were subjected to scrutiny for commonly recurring themes as codes that were constructed into themes. This assisted me to acquire, identify and interpret in-depth meaning and understanding from across evidence sources. Defining and identifying themes allowed for reflection, and for key decisions to be made that shaped the outcome of the process (Maguire and Delahunt, 2017), allowing me to move beyond describing what was said across the data and focus on interpreting and explaining it. Having collected the overall body of

data, I searched for connections across ecological systems to coherently present key issues. A key challenge was how to write up these findings in such a way that usefully described the process and the outcomes of the three data collections so that they added value to the research in this study. Data is presented by separating evidence from commentary and interpretation by using direct quotations, with the aim that some of the original data could demonstrate the fairness and accuracy of the analysis. Showing how my findings had emerged established an 'audit trail' to strengthen credibility (Corden and Sainsbury, 2006).

Polit and Beck (2013) also argued for the use of quotations to indicate the trustworthiness of results. The findings must reflect the participants' voices and conditions of the enquiry, and not the researcher's biases, motivations or perspectives (Polit and Beck, 2013). According to Graneheim and Lundman (2004), researchers present illustrative quotations from the transcribed text to highlight connections between the data and results. In this way, I aimed to use keywords and phrases as evidence from records composed during real events. Documentation is also presented as evidence of actions. This assisted me to acquire, identify and interpret in-depth meaning and understanding from evidence gathered across data sets. This chapter has clarified the interpretive work that was involved in creating findings in this study.

4.8 Conclusion

This section clarified the justification behind the selection and variety of data collection methods employed in this study. Each method had its strengths or weaknesses, but in each situation, the method was chosen on practicality and the ability to capture data relevant to the research questions. This study advocated using an action research methodology to produce knowledge collaboratively, developed through reciprocated understanding. It was important to locate this study within the context of my role as researcher-facilitator and to accurately represent the educational needs of the community in a qualified and personal account. This journey was continually influenced by epistemological and ontological concerns, as well as the practicalities of being an insider-researcher. There were also ethical and methodological considerations informing the practice of others and improving my own future practice.

Chapter Five represents Data Collection One, before the intervention; Chapter Six represents Data Collection Two, during the intervention, and Chapter Seven represents Data Collection Three, after the intervention. Each chapter details findings merged with data analysis and discussion of pertinent literature. Documentation is provided alongside emerging themes and patterns as important evidence.

Chapter Five

5.1 Introduction to the pre-intervention data

Chapter Five presents the findings that emerged through thematic data analysis of the teacher, TA and student questionnaires. These are all located in Appendix Three. As researcher-facilitator, I was interested in understanding the perceptions of the staff and students about PE provision and how they thought it could be improved before the FGP-PE intervention commenced. Emerging themes interrelated across stakeholders and included: more choices, more funding, off-site activities and a trained or designated person to plan and coordinate PE.

The perspectives of the teachers, TAs and students are presented sequentially to provide flow to how they interrelated using concrete data and rich language. Basic statistical data is presented alongside written statements. This data supported and enhanced meaning and provided deeper clarification of the evidence. The teacher data is presented first.

5.2 Teacher demographics

Data were obtained from the return of questionnaires administered to teachers. Out of eight teachers, seven were returned; one teacher was on long-term absence. Identities were matched to each respondent by a code known only to the researcher. Teacher qualifications were cross-referenced with experience in the SEND/autism setting, time spent at Queens School, age and gender.

Table 5.1: Teacher demographics.

Teacher code	Responsibility	Qualification	Years in Queens school	Time in SEND/ASD field	Gender	Age
1	Class teacher	Cert Ed. SEN teacher	9	15	F	30-39
2	Class teacher	Cert Ed.	Declined	Declined	F	Declined
3	Class teacher	BA in English. MA in Teaching and Learning. SEND courses.	2	2	F	50-59
4	Class teacher	Cert Ed.	11	14	F	40-49
5	Class teacher	QTS Primary. Autism Advanced Practitioner.	3	8	F	20-29
6	Class teacher	Cert Ed.	4	10	F	50-59
7	Class teacher	Cert Ed.	9	15	F	40-49

Table 5.1 reveals that all the teachers were qualified to teach, and many had autism training. Some teachers did not specify what their autism training was, but a criterion of the school was that attendance on an autism course, at some point, was mandatory. All teachers were class-based. Five teachers held a certificate of education, which is a formal teaching qualification that preceded the PGCE. T3 stated that she had a BA in English and an MA in teaching and learning, thus, was highly qualified; T5 held primary qualified teacher status, indicating that she was the only teacher with a specific teaching qualification at degree level. All the teachers, except T3, had at least eight years' experience in the SEND field. Most had held a post for a minimum of two years and a maximum of 20 years. Due to the small sample size, it was impossible to determine whether age was relevant.

The following section describes further findings from the analysis of teacher questionnaires, which was carried out pre-intervention and was an indication of current PE practice.

5.2.1 Pre-intervention data analysis of teacher perspectives

This section is a description of data and analysis of the teacher questionnaires. Several issues emerged that related to those presented in the literature review and are organised under the following themes:

5.2.2 Benefits of PE

5.2.3 PE subject knowledge

5.2.4 Personal qualities to teach PE

5.2.5 Confidence to teach PE

The following sections unearth rich data linking teachers' beliefs, actions and behaviour towards student need, alongside their understanding of PE within the boundaries of their school environment.

5.2.2 Benefits of PE

The responses indicated that the teachers possessed an understanding of the therapeutic benefits of PE related to the triad of impairments. This tended to be for the benefits it provided through PA. The most frequently cited benefits are presented in Table 5.3 and are framed within the context of a deficits model that provides activities that students tend not to be good at, such as working cooperatively. Positive perspectives regarding PE opportunities showed that the teachers recognised wellbeing, relaxation and cooperation to be the most useful attributes of PE lessons, as presented in Table 5.3. Their responses showed insight into the perceived effects of PA on health and self-help, and social and independence skills, reinforced by T5 as 'a chance to be active'. The focus was on advantageous aspects of the physical nature of PE. Therapeutic benefits of PA were noted in terms of students learning how to use exercise to self-manage behaviours, suggesting that this promotes their dignity. Teachers recognised that PE offers opportunities to practice weaker skills, as presented in Tables 5.2 and 5.3.

Table 5.2: What opportunities do you think PE can offer autistic students?

Responses	Percentage
Sensory regulation	71.4
Feeling good	71.4
Teamwork	57.1

Sensory regulation was the most reported, alongside feeling good; thereby linking self-regulation with feeling better. This is not only an effect of exercise but may refer to a sense of empowerment by students that they can manage their own behaviours. Perspectives also included the use of PE in providing opportunities for practicing social skills, interacting and responding to others

and fine/gross motor skills coordination. PE lessons were understood as being a positive environment for practicing skills that students would benefit from, given the difficulties they often experience, as discussed in the literature review (Menear and Neumeier, 2015; Curtin et al., 2014; Ohrberg, 2013; MacDonald et al., 2013; MacDonald et al., 2011; Menear and Smith, 2011; Obrusnikova and Dillon, 2011; Bandini et al., 2010; Fournier et al., 2010; Green et al., 2009; Menear and Smith, 2008; Menear et al., 2006; Groft and Block, 2003; Houston-Wilson and Lieberman, 2003; Reid et al., 2003; Reid and Collier, 2002; O'Connor et al., 2000; Schultheis et al., 2000).

Table 5.3: *What other skills do you teach through PE?*

Responses	Percentage
Social skills	85.71
Relaxation	28.57
Turn-taking	28.57

Opportunities were recognised by T7, who referred to the PE environment as being beneficial for developing skills that students may be weak in, in this case working in a team, and mentioned 'opportunities to play with others more successfully e.g. team rules to follow', further suggesting that activities should be based on skills students are short on. T1 made the point that opportunities 'depend on the interests of the students', signifying that the interests and needs of individuals determine what they gain from PE.

As discussed in the literature review, Ruppar et al. (2018) revealed perspectives about expectations of special education, reporting that positive narratives contrasted with deficit-oriented outlooks. This is discussed again later in this chapter, with particular attention to which PE activities were chosen by staff and students, and why. Largely, teachers showed that they realised the social benefits of PE by stating that communication, interaction and teamwork can be delivered through PE. Table 5.3 supports the themes shown by Table 5.2, highlighting that teachers believed PE offered practice for social skills (teamwork, turn-taking) and relaxation (feeling good, sensory regulation), all of which are interlinked. The literature review suggests that team games present challenges for autistic students (Obrusnikova and Dillon, 2011; Morley et al., 2005). Current practice shows PE as providing space for learning yet does not recognise the inherent challenges presented by a focus on games to achieve success, signposting a deficits approach. If PE can provide these benefits,

perhaps there are activities not focusing on team games that could be selected by staff?

Given the importance that the teachers placed on student needs, it was necessary to gain further insight into what they perceived to be useful activities. It was surprising that so many forms of competitive games were cited in Table 5.4, given the evidence in the literature that many students struggle with elements of competitive activities and accessing the games environment (Gréhaigne et al., 2005; Houston-Wilson and Lieberman, 2003). Solo activities, such as yoga, cycling, running and swimming, were cited but to a lesser degree. This is not to say that autistic students cannot participate in team games but by acknowledging their difficulties in this area, as discussed in the literature review, it might be expected that these are less likely to have a high success rate.

Table 5.4: What activities would you like to see during PE lessons?

Responses	Percentage
Swimming	57.14
Team games	42.85
Cycling Rounders Go-carts Tag Football Yoga Outdoor Adventurous Activities Tennis Climbing Horse riding Athletics	14.28

Two teachers chose those activities that they believed would improve coordination and gross and fine motor skills. Team games were given as an umbrella term; some specific sports were identified but to a lesser degree. This data will be discussed later in comparison with TA responses.

Activity selection appears to correspond with those that focus on the very skills that students may find difficult. Teachers operating from a strengths approach would be employing a solutions-focused method based on identifying and using the strengths and resources of individuals (McCashen, 2017) allowing positive teaching strategies to be more authentic (Fenton, 2008). Teachers tended to choose sports more for their uses in addressing the difficulties created by autism, rather than choosing sports that students liked or were good at. If the aim was for teachers to get students active and participating in PA through PE,

then a strengths-based approach to activity choices may be more appropriate than a deficits model that aims to increase skills. It is more likely that students will be demotivated to engage in PE. A better approach may be to achieve a balance between activities that a child is good at and those skills that they need to learn. This study, based upon literature, assumed that educators who view students in terms of their strengths are more successful in achieving participation (Milbourne and Silverman, 2001). This was in alignment with the recommendations of Fenton and McFarland-Piazza (2014) that strengths-based approaches should be learned in ITT and especially in early years in-service training (Fenton et al., 2015).

5.2.3 PE subject knowledge

When asked whether NCPE meets the needs of autistic students, four teachers responded that they did not know (57.14%); two teachers (28.57%) said it did not and one teacher (14.28%) said that it did meet their needs. However, even though, overall, teachers were uncertain about the relevance of the NCPE, as discussed in Section 5.2.2, they did consider PA to be useful and this is one of the NCPE domains.

T4 stated, 'we need someone with PE knowledge'. This was important because subject knowledge was identified as a desirable factor, implying the need for a trained person in the responses presented in Table 5.5. Teachers wanted to know more about planning, assessment and target setting, differentiation ideas and which activities to use.

Table 5.5: What do you want to know about PE designed for autistic students?

Responses	Percentage
How to adapt/Differentiation ideas/How to plan a good lesson	42.85
Targets- monitoring and measuring outcomes/ meaningful objectives	42.85
Range of activities /Matching activities to individuals needs/What are the student benefits	42.85

Overall professional knowledge appeared to be lacking. T5 implied the need for PE-specific knowledge by stating, 'I spend quite a lot of time researching the rules of sports, etc.'.

Linking knowledge to accessibility and technical expertise was the feeling that teachers did not know what equipment was in the store cupboard, raising the issue of responsibility for ordering equipment and for disseminating instructions

for use. T6 stated, 'we have equipment which staff don't know is there and don't know how to set up'. The implication was that if staff knew what equipment was available, and they knew how to use it, they may be more likely to use it. T7 acknowledged that 'PE knowledge includes knowing how to use space and resources'. Responses from teachers, TAs and students in this study link how important resources are to providing quality PE experiences and refer to resource banks for guidance. This study supports the findings of Chróinín and O'Sullivan (2016) who explored how beliefs shaped the process of NQTs learning to teach PE over time. Learning to teach PE requires active participation in PE content, building an array of content ideas and practice in teaching the content.

Investigating what it was that guided current PE practice revealed that the factor most likely to have an impact was individuals in teachers' classes. The next two most important factors were: that access was linked to school facilities (the amenities provided by the school) and equipment and resources that were the medium through which activities could be taught in those amenities. Teachers understood that facilities as an environmental factor affected activity choices, as did the availability of equipment.

Table 5.6: What influences the activities you teach?

Knowledge of autism	Knowledge of PE	Individual students in your class	School-based facilities	Range of activity resources and equipment	Access to the community
42.85%	42.85%	85.71%	57.14%	71.42%	42.85%

PE knowledge is presented in Table 5.6 as being as important as autism knowledge, maintaining that teachers were aware of the need for subject-specific information alongside students' capabilities. Evidence indicating a lack of knowledge was provided by T1, who put the skills of their TA to use by working alongside them to team teach PE and to involve professionals in their lessons: T1, 'My TA teaches the PE lessons although we plan jointly'. T1 recognised that she did not have the knowledge base, so liaised with someone who did. This TA was identified, by cross-referencing TA data in Section 5.6, to be a qualified PE teacher.

Further to finding out what it is that influences what teachers teach, I sought to discover which areas of activity were selected from the NCPE. Responses shown in Table 5.7 were inconclusive in distribution but indicated that swimming was the main medium for PE to be taught and overall, the only area of activity that was always provided.

Table 5.7: How often do you teach each area of activity?

Area of activity	always	mostly	often	sometimes	never
Swimming	71.42%		14.28%	14.28%	
Dance			14.28%	57.14%	28.57%
Games		42.85%	28.57%	28.57%	
Athletics			14.28%	57.14%	14.28%
Gymnastics			28.57%	14.28%	42.85%
Outdoor and Adventurous Activities (OAA)		28.57%	28.57%	14.28%	14.28%

Table 5.7 shows that games were the area of activity next most likely to be taught. Gymnastics was the least likely subject to be taught. Dance and athletics overall did not feature heavily. One teacher often taught it, four sometimes taught it and two never did. However, if class teachers were influenced by students, then this was not necessarily because they did not value all the areas of activity but because teachers perceived that student needs were not necessarily met by these activities. This may also be because, as T7 stated earlier, that staff did not know how to use the equipment. Outdoor and adventurous activities (OAA) were taught by 71.42% of teachers 'mostly, often and sometimes'. This was interesting because there were no OAA facilities available on the school premises and no access to public providers. Perhaps how teachers defined OAA was relevant. Walking could be considered to be part of OAA, so, it may be that teachers offered sessions at other times than in PE lessons but, at this stage in the data analysis, this was not clearly understood. At the time of the survey, understanding of PE content did not appear to be broad and balanced or consistent across classes and had a heavy emphasis on onsite swimming pool use.

Teachers considered the overall aims of the NCPE connected to their classes. Table 5.8 presents data showing that being physically active for sustained periods and leading healthy, active lives were selected as drivers for the role of PE in the daily life of their students, and, to a lesser extent, engaging in

competitive sports and activities. Also, developing competence was selected as sometimes being important to student needs.

Table 5.8: Purpose of PE key stage aims

Aims To ensure that all pupils:	Always	Mostly	Often	Sometimes	Never
Develop competence to excel in a broad range of physical activities	0	14.28%	28.57%	42.85%	14.28%
Are physically active for sustained periods of time	14.28%	71.42%	0	0	0
Engage in competitive sports and activities	0	14.28%	14.28%	57.14%	0
Lead healthy, active lives.	57.14%	28.57%	0	0	0

The next theme is discussed as characteristics that were regarded as being related to motivation. Data collected across sources supported this view, as well as the willingness to be involved in the process of change.

5.2.4 Personal qualities to teach PE

Certain characteristics were deemed by teachers as desirable for teaching PE, including motivation. T7 stated the need for 'someone with enthusiasm'*,* which was reflected by T6 in 'enthusiastic staff is needed'. It was unclear whether this meant that all class teachers needed to be enthusiastic to teach PE or one overall person, for example, a PE coordinator (PECO). Personal qualities could also be linked to training or qualifications indicated in Section 5.2.3 by T4, who stated that 'we need someone with PE knowledge'.

Responses presented in Table 5.9 indicate that teachers appeared unwilling to personally invest in PE. One teacher was trained to teach swimming yet did not wish to teach it. Six teachers stated that they were not trained to teach any sports and did not wish to be. Despite valuing PE and recognising what PE can offer, teachers did not want to deliver it themselves. This linked to other sections in this chapter suggesting that despite seeing how improvements might be made, being skilled and trained in PE seemed to apply to other staff.

Table 5.9: Your skills. Are you qualified to teach/coach a sport?

No - but I would like to be qualified	*No, and I do not wish to be qualified*	*Yes*	*I do teach this*	*I don't teach this*	*I don't want to teach this*
0	6	1	0	1	1

Enthusiasm and training may be linked to overall confidence to teach PE. Being motivated may be beneficial because, potentially, such a person already has an interest in PE, and a qualification may provide additional knowledge and understanding. Evidence is presented, discussed and analysed in the next section.

5.2.5 Confidence to teach PE

Teacher perspectives were cross-referenced to uncover connections between confidence to teach PE, personal liking of PE, and its perceived value, implying underlying principles of subject value and personal involvement. Data is presented in Table 5.10 and implies a prevalence of teachers lacking confidence in teaching PE, even if they liked it and enjoyed teaching it. Evidence supported that teachers believed it to be at least 'important' for students to enjoy PE, demonstrating overall emerging themes related to confidence to teach PE and personal beliefs towards the subject.

Table 5.10: Links to PE teaching confidence.

Teacher code	*Q8* *How important is it for all children to enjoy PE?*	*Q9* *PE skills and knowledge compared to other subjects?*	*Q10* *Like PE/Don't like PE*	*Q11* *Do you enjoy teaching PE lessons?*
1	Vital	Less confident	Quite a lot	Like
2	PE is very important	Not very confident	Don't like	Don't like
3	Very important	Less confident	Don't like	Quite a lot
4	Important	Not very confident	Don't like	Don't mind
5	Very important	Not very confident	Don't like	Don't like
6	Vital	Less confident	Like	Like a lot
7	Very important	Just as confident	Like	Don't mind

Lack of confidence was demonstrated by T5, 'I find it difficult to find a structure that works for my class without chaos breaking out'. This indicates a personal doubt in T5's ability to organise PE lessons to the point where she felt that they were disordered. By the nature of PE lessons, students move around a lot, which is the opposite of classroom-based lessons where students are static and seated in a particular area. Morley et al. (2005) pointed to the assumption that acquired experience is not the same as the development of confidence. If, as discussed in the literature review, teachers enter the profession without specific PE training, and are not supported once they begin teaching, it is reasonable to expect that teachers may feel uncertain and inadequately prepared in a PE setting (Morgan and Bourke, 2008; Morgan and Hansen, 2008; Pickup and Price, 2007; Morgan and Bourke, 2005; Faucette et al., 2002; Faucette et al., 1990; Faucette, and Patterson, 1990).

In this study, teachers already held inclusive beliefs, demonstrated by their passion for working with students and their aspirations for them, but appeared to lack the confidence or competence to make the same inclusivity happen in PE lessons. This aligns with Maher et al. (2019) who found that student knowledge is important in addition to knowledge of content and appropriate PE pedagogies, and recommended ITT placements occur in a special school setting to shape self-perceptions of competence and confidence when teaching pupils with SEND in PE.

It may be that training, confidence and competence can result in teachers not including PE on their class timetables. As discussed in the literature review, it can be inferred that teachers then avoid teaching PE (Jones and Green, 2017; Faucette et al., 2002). Literature has provided evidence of the benefits of attempts to increase non-specialist teachers' mastery expectations through involvement in pre-service and in-service training courses (Xiang et al., 2002; Clarke and Hubball, 2001) especially in a primary PE context (Randall and Maeda, 2010; Morgan and Hansen, 2008). Class teachers receive limited PE training and development (DeCorby et al., 2005; Faucette et al., 2002), resulting in ineffective teaching behaviours exhibited through a limited range of activities. My study concludes that lessons were overly reliant on swimming and that a broader and more balanced timetable can be achieved by reconsidering

content, and by creating opportunities to improve teachers' PE subject knowledge and confidence in areas that they are less familiar with.

A specific need for in-school training was not overtly stated as being a key factor in increasing opportunities, demonstrated by the fact that none of the teachers wanted to be PE trained. I still interpreted this to be an important factor because planning guidelines were frequently stated as desirable: T7's 'how to adapt more successfully' and T6's 'skilled staff are needed'. Qualities suggested as themes throughout this section appear to link enthusiasm with being skilled and being skilled with confidence. These are discussed in the next section.

5.2.6 Teacher synopsis

The key themes emerging from the teachers' responses were that they valued PE and recognised the benefits for their students. Teacher attitude demonstrated that they wanted to improve PE practice, but they potentially lacked the knowledge and the confidence to enact it.

Figure 5.2: Key teacher themes emerging from the pre-intervention data collection.
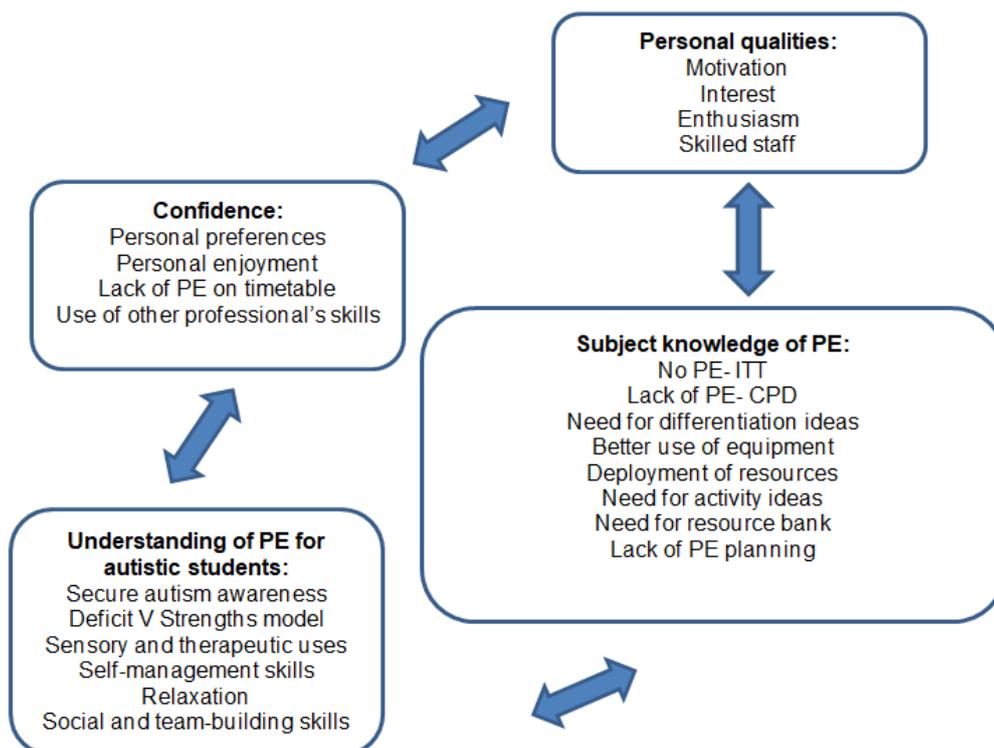
Figure 5.2 illustrates how the themes generated by the thematic analysis were interlinked, displaying the complex relationships between important subthemes.

Teachers generally valued PE, which resonates with the literature saying that despite evidence that non-specialists lack confidence teaching PE, they do generally value PE (Morgan, 2008; DeCorby et al., 2005). The teachers realised the need for someone to coordinate and support PE lessons but appeared not to want the training themselves. Motivation to teach PE was lacking, and this was also linked to personal attributes and confidence. Teachers tended to choose activities that addressed difficulties attributed to the triad of impairments and focused on team games to do this, signposting a deficits approach to teaching PE activities. Teachers' views were presented separately for ease of discussion but, in reality, were interconnected and should not, realistically, be viewed in isolation.

Section 5.3 describes the data from the TA questionnaires that are discussed alongside the literature in an attempt to make sense of findings. TA perceptions of current PE practice were recorded pre-intervention and they were asked whether they believed it was fit for purpose.

5.3 Pre-intervention data analysis of TA perspectives

This section is a description of data collated from TA questionnaires. Like the teacher responses, many themes emerged that related back to those presented in the literature review and are organised as follows:

5.3.2 Benefits of PE

5.3.3 Training needs

5.3.4 Personal qualities to support PE

5.3.5 Confidence to support PE.

Gaining insight from TAs allowed alternative dimensions to be revealed and cross-referenced, providing authentic differences and similarities between data sets. This section is a synthesis of responses from TAs who had a supporting role in PE lessons; except for TA22, who was identified in 5.2.3 by T1 as leading the PE lessons for their class. Section 5.3.1 provides TA demographics alongside experience and training within the school and any patterns highlighted.

5.3.1 TA demographics

The data were obtained from the return of questionnaires administered to TAs. Out of 36 Tas, 34 of these were returned and two TAs were on long-term absence. As per the teacher cohort, the TA team was dominated by women; 24 females and 10 males.

Many TAs were over-qualified, considering that a Level 2 Award in Support Work in Schools, Level 3 Teaching Assistant Diploma or Level 2 Certificate in Supporting Teaching and Learning in Schools is standard for a TA role. Eleven TAs had a degree or Master's degree, demonstrating a wealth of expertise from related areas including autism, social work and psychology. It was implied that TA5 had a degree because she stated that she was a primary teacher, and so, too, did TA3. Some TAs were unclear about their level of training. For example, TA32 said that he had a Child Studies qualification, which could have been a GCSE or a degree.

All the TAs were class-based and, like teachers, qualified to support in a school with autism training alongside this. Diverse age groups and experience range were recorded. Two TAs declined to give their age, but 15 were aged between 20–29 years; 14 were 30–39 years old; one was aged 40–49 years and three were 50–59 years old. In comparison with the teachers' group, the TA age group was younger.

Table 5.11: Cross-referencing TA characteristics by gender, time spent at Queens School and experience in the SEND/autism field.

	Time spent in Queens School						Time spent in SEN/autism field				
	Less than 11 months	1 to 2 years	3-5 years	6-10 years	11-20 years		Less than 11 months	1 to 2 years	3-5 years	6-10 years	11-20 years
Female	11	4	4	5			7	5	1	8	3
Male	5	2	1	2			5	1	1	1	2

Table 5.11 shows that 16 TAs had been recruited by the school within the last year. Some employees were completely new. It appeared that 23 TAs had only ever worked at Queens School, whereas ten had previous experience working elsewhere, indicating that although most were new, many TAs were experienced.

The next section presents evidence regarding how the TAs understood PE and what they thought PE meant for their students. This included their perspectives regarding PE as a subject area, how they valued it and their attitudes towards improvement.

5.3.2 Benefits of PE

In this section, like the teachers, the TAs tended to view PE through the benefits of PA. Table 5.12 presents the perceived opportunities for PA that PE offers, also recognising wellbeing. At the heart of NCPE though, are games and competitive sports, the very activities that literature shows autistic students generally struggle with (Darcy and Dowse, 2013; Obrusnikova and Dillon, 2011; Morley et al., 2005). As long as they provide games and competitive sports, there is a likelihood that students will fail.

Table 5.12: What opportunities do you think PE can offer autistic students?

Responses	Percentage
Teamwork/relationships/group activities/team games/team building	44.1
Lifeskills -Healthy lifestyles/health and wellbeing/looking after your body/Fitness	35.29
Turn-taking/Waiting/ Sharing	29.41
Communication and social skills/ Engagement with others /Interacting with others	29.41
Self-esteem/confidence/Independence	29.41

Most TAs recognised that benefits were not restricted to being healthy and saw PE as a medium through which transferable skills could be taught and practised. As with the teachers, the TAs viewed benefits that addressed the triad of impairments. Providing social opportunities through PE was recognised by TA25 as 'time to build up strategies to get on with peers'; TA28 saw chances to 'engage with others' and TA13 offered 'activities help with gaining friends'.

Being socially accepted is difficult for some autistic individuals, and many do not have friendship groups as they may be seen as 'different', making for fewer opportunities to socialise. They are often not as flexible in their leisure interests and conversation topics as their neurotypical peers, which, in addition to social communication and differences in social-cognitive processing, can lead to isolation. It is often thought that autistic people 'don't want friends', as shown in the title of an article by Bennett et al. (2017), but there can be a strong desire to have friends (Potter, 2015).

TA24 demonstrated aspirations beyond the school, 'PE offers interaction with other adults and peers to be part of the community'. As stated in the literature review, disabled individuals have limited opportunities for active leisure time and few participate in competitive or inclusive community activities (Micacchi et al., 2006). PE teachers can encourage participation in PAs in environments outside of school by generalising PA into their lessons (Holland et al., 2019). Positive accounts of enjoyment of the social benefits of PE, such as initiation of friendship, have also been shown by Healy et al. (2013). TA18 appreciated the potential of PE to provide expression 'PE can give opportunities to communicate with others and help build bonds'. TA3 believed that an improvement in PE would be to provide 'more chances to interact with different classes, levels, ages and skills'.

The role of exercise in self-regulation was reinforced by TA17, 'exercise is an outlet reducing some behaviours', and TA19, 'PE gives opportunities to be active, so students may be more focused on other tasks in school'. This was supported by TA24, 'students can regulate themselves, improve motor skills, stay healthy and use the energy and calories gained from food in a positive way'. Furthermore, TA13 stated that PE was 'an opportunity to help self-regulate and gain better body awareness that can help them in all aspects of their lives'. TA14 cited that PE 'can make students feel good about themselves', supported by TA16, 'to improve self-esteem, awareness of their body and what it can do for them. The fun they can have'. These aspects link to a holistic approach to student wellbeing. This was supported by seminal studies in the literature review that documented reductions in self-injurious, self-stimulatory and stereotypic behaviours when regular PA is participated in (McGimsey and Favell, 1998; Celiberti et al., 1997; Rosenthal-Malek and Mitchell, 1997; Elliott et al., 1994; Levinson and Reid, 1993; Kern et al., 1984; Kern et al., 1982; Watters and Watters, 1980). Despite this positive view of PA through PE, TA22 implied that PE was not prominent in the school by recommending 'giving more importance to PE as a subject'.

TAs understood PE to be a positive subject through what it offered to their students. PE was viewed through the potential to empower students and to contribute to wellbeing. This links with the following section concerning TAs identifying their training needs to improve PE practice.

5.3.3 PE training needs

Most TAs in this study, except for TA22, who was a qualified PE teacher, did not have any PE training, but they all stated autism and/or SEND training. Likewise, Vickerman and Blundell (2012) found that 63.3% of TAs had received SEND training, whereas only 5.5% had attended PE-specific training. Significantly, 70.5% of the 5.5% believed the PE-specific training to be beneficial. Maher (2016) questioned how effective TAs were likely to be without PE-specific training to facilitate inclusive PE, noting that many schools did not appear to involve TAs in the planning for differentiation. In this study, T1 cited that their TA teaches the lesson and they plan together and T2 believed that it would be useful to 'get TAs trained'. Studies by Vickerman (2007); Morley et al. (2005) and Smith and Green (2004) reported a widespread lack of training and professional development for TAs, which is supported by this study.

Table 5.13: Are you qualified to teach/coach a sport?

I would like to be qualified in		No, and I do not wish to be qualified in a sport	Yes	
			I do teach this	*I don't teach this*
15		15	1x Yoga 1x Swimming	1x PE 1x Cycling
Anything	26.6%			
Basketball	20%			
Swimming	20%			

Interestingly, Table 5.13 shows that the TAs in this study indicated a divide between those who wished to be qualified in a sport and those who did not. The most common choices were basketball and swimming, although it was not known whether these sports were influenced by student or personal interests. Training in yoga, Zumba, football, canoeing and climbing, which all scored 6.66% was also stated. Four TAs were qualified instructors: one in yoga, one in swimming, a British Cycling Club coach and a PE teacher. Only the yoga and swimming instructor actually taught or led these activities in their classes. The other TAs did not give a reason why they did not teach their areas of expertise. A general interest in developing skills and knowledge was expressed by 26.6% of the TAs who said that they would like to be trained in 'anything'. I interpreted this to signpost that TAs generally connected subject knowledge with training. Table 5.15 shows that most TAs valued PE-specific training, giving a score of 10 as being 'very important'; except for one TA who believed that PE training

was 'not that significant'. All TAs viewed PE training as at least useful and no TAs checked 'not at all important'.

Table 5.14: How important do you think PE training is to PE teaching?

10	9	8	7	6	5	4	3	2	1
38.23%	20.58%	23.52%	11.76%	2.94%	0	2.94%	0	0	0
a lot		quite a lot		don't know		not much		not at all	

Findings in this study are in alignment with Maher (2018; 2017; 2016) who reported that TAs believed better planning and teaching awareness was essential to PE becoming more inclusive. Data presented in Table 5.15 shows TAs views of what they believed their students would like to participate in.

Table 5.15: What activities/sports would you like to see on offer in PE lessons?

Responses-Activity	Percentage
Swimming	38.23
Athletics/Running/Long jump	32.35
Climbing	29.41
Trampolining	26.47

Of note was that the main sports cited were individual in nature, potentially signifying that TAs were more inclined to understand PE from a strengths-based model, in contrast with the teachers, who tended to approach PE from a deficits model. There was an interesting combination of additional activities suggested, which also included tennis, water sports, yoga, basketball, football, gymnastics and walking. Thus, there was still an inconsistent view of what TAs thought their students would like to try.

In terms of current knowledge, TAs believed individualisation to be most important when supporting PE lessons. Table 5.16 shows three overall themes generated by TA responses.

Table 5.16: What would you want to know about PE designed for autistic students?

Responses	Percentage
Personalisation	41.17
Structure	38.23
Benefit	17.64

These themes originated from a person-centred perspective because 41.17% of TAs wanted to know how personalisation could be achieved, which teachers did not ask about. Personalisation included subthemes of a range of abilities and

choices. TAs also wanted to know about lesson organisation. Subthemes of structure included techniques and strategies to support, motivate and engage students; TA12, 'to know how to better incorporate sensory needs', and TA11, 'how to incorporate more visual understanding materials for teaching'.

Responses signposted that TAs had some knowledge of PE, but this tended to be in recognising the benefits of PA rather than PE as a subject area. However, they did express a desire to know more about how to adapt PE for their students, which was similar to the teachers, who wanted to know details regarding differentiation, target setting and range of activities available. The teachers were more concerned with assessment, whereas the TAs were more interested in how to engage the students, reflecting the focus of their roles.

What was currently achievable and realistic for PE development was inferred by some TAs. TA32 wanted to be assured 'that it is beneficial and personalised' and TA16 wanted to know how it would help each individual, regardless of ability and their access to activities. TA2 said they wanted to learn 'what benefits the students would gain from each activity' and similarly, TA24 asked 'What could be the best way for specific cases and the way I could support them?', further linking the need for individualised learning in lessons whilst improving TA skills.

Another subtheme was student engagement, which several TAs said they would like to know about. TA18 said they wanted to know 'how to get them excited for PE and how to keep them interested' and TA14 said they wanted to know 'how to engage students'. Similarly, TA9 asked 'How do I encourage students who may not be motivated in PE?'. It may be that some TAs did not know enough about how to support PE, shown simply by TA19 as 'I want to know how to support in PE'.

TAs also seemed to want better-organised lessons, implying this was lacking. TA9 and TA8 wanted to know 'how to deliver PE' whereas TA27 said 'I would like to know how to set up the structure of a plan'. I compare these findings with those of Haycock and Smith (2011), in which teachers were positive about relationships with TAs when they were perceived as having a positive influence on the development of students' learning. They said that when TAs did not have skills, knowledge or subject expertise, teachers were critical. In this study, only one teacher stated that training was important for TAs. I believe that the

responses of most TAs in this survey supported the view that PE training was important. Besides training, the next section presents evidence around what else was viewed by TAs as fundamental to PE practice.

5.3.4 Personal qualities to support PE

Being enthusiastic was seen as being a desirable teaching characteristic; TA12, 'we need staff more motivated to teach PE'. Generally, TAs appeared positive about the idea of a PE project; TA2, 'I'm very interested in finding out how students will benefit', supported by TA14, who wanted to know 'everything; the best games'. TAs also expressed an interest in becoming involved. TA4 said 'I want to be as involved as possible' and TA34, 'I'd be interested in getting involved with helping out with the implementation of the programme'. TA24 viewed this as a joint project, using the word 'we'; 'I'm looking forward to see what we can do about this!' This finding aligns with Maher (2017) in that TAs are feasibly more responsive to the specific learning needs of the students they support.

Table 5.17 presents TA responses regarding the need for students to enjoy PE, demonstrating a positive reaction to the subject. No TAs believed that it was unimportant for students to enjoy PE, showing that they linked this to value. Seventeen TAs believed it was very important for students to enjoy PE.

Table 5.17: How important do you think is it that all students should enjoy PE?

Responses	Percentage
Very important	50
Vital	26.4
Important	11.76
Fairly important	11.76
Not important	0

TAs appeared more enthusiastic towards PE lessons and may have represented a positive resource that was not being tapped into pre-intervention. Additionally, TAs seemed to be most concerned with student enjoyment and benefits. The next section considers confidence to support PE, demonstrating a link between understanding and knowledge of PE and the overall feeling of being equipped to support the class teacher.

5.3.5 Confidence to support PE

TAs were asked how they perceived their skills in PE compared with those in other subject areas. The aim was to discover whether there was any correlation between a personal liking of PE, enjoyment and confidence supporting PE. Out of the 34 TAs surveyed, nine TAs said they disliked PE. Out of this group, one TA answered that they did not like PE, did not enjoy supporting it, and felt under confident in supporting it. However, they still believed it was vital for students to enjoy PE. The remaining eight TAs who did not like PE stated that they 'don't mind' supporting PE, with four saying they were just as confident supporting PE as any other subject, and four saying they were less confident supporting PE. Table 5.18 presents data from the TAs who were less confident in supporting PE yet liked PE as a subject. Two TAs answered that they liked supporting PE quite a lot and it was 'very important' for them that students enjoyed PE, indicating that although they felt less confident themselves, they did like PE.

Table 5.18: Data of TAs who felt less confident supporting PE yet liked PE.

TAs who felt less confident supporting PE and like PE personally	*4*
Like supporting PE quite a lot and It is vital that students enjoy PE	1
Like supporting PE quite a lot and It is very important that students enjoy PE	2
Don't mind supporting PE and it is very important that students enjoy PE	1

Table 5.19 presents data from the four TAs who were less confident in supporting PE in and reported not liking PE. Two TAs said they 'did not mind' supporting PE and it was 'very important' that students enjoy PE. Despite not liking PE themselves, they did react positively to the subject. Overall, TAs were positive about supporting PE lessons; only one TA out of 34, as mentioned earlier, said they 'did not like' supporting PE lessons, demonstrating that they were enthusiastic about PE.

Table 5.19: Data related to TAs who felt less confident supporting PE and disliked PE.

TAs who felt less confident supporting PE and dislike PE personally	*4*
Like supporting PE quite a lot and it is important that students enjoy PE	1
Don't mind supporting PE and it is very important that students enjoy PE	2
Don't mind supporting PE and it is fairly important that students enjoy PE	1

Out of 34 Tas, 19 reported feeling just as confident in supporting PE as any other subject and enjoyed supporting PE 'quite a lot'; three TAs were more confident and enjoyed supporting 'a lot'; three TAs were most confident and enjoyed supporting 'quite a lot'. Findings suggest a link between confidence, personal preference, and subject value for students.

5.3.6 TA synopsis

Figure 5.3 demonstrates the interlinked themes and subthemes involved in the complex connection between TAs' perspectives. The factors similar to those of the teachers were a lack of knowledge and understanding from a content point of view. PE was understood through the benefits of PA and these tended to be related to self-management of behaviours, team-building and social skills. Although, TAs did recommend activities that were less games-based.

Figure 5.3: Key TA themes emerging from the pre-intervention data collection.
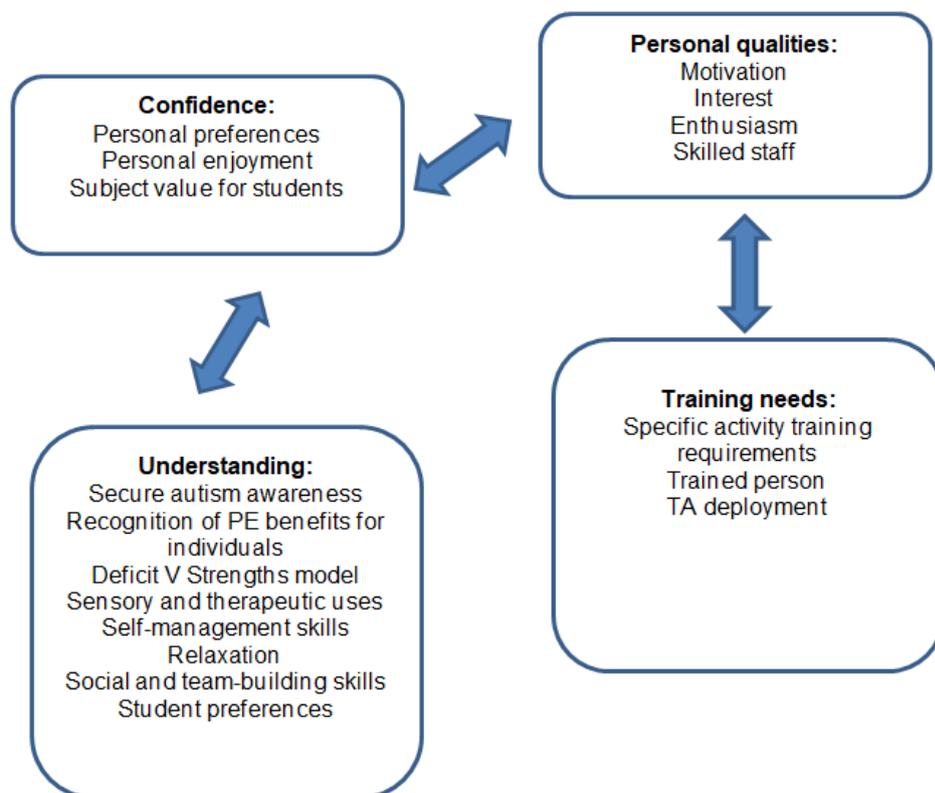
The TAs attitude was that they were keen to be involved in PE improvement plans. Several TAs desired PE training but did not necessarily want to lead activities. This was similar to the teacher findings, yet the main difference was that teachers did not want the training. TAs acknowledged that a skilled person would be useful, indicating that planning, structure and guidance on how to support PE lessons would be beneficial.

Data from the student group is presented next. Gaining insight from the students allowed additional dimensions to be revealed and compared with the teacher and TA perspectives.

5.4 Pre-intervention data analysis of student perspectives

The findings of this study are presented in an attempt to understand the perceptions of autistic students attending a specialist autism school. Findings in this section advocate the stance taken by Walseth et al. (2018) of listening to students to ensure they experience meaningful experiences in PE. Expanding students' understanding of what PE can be, and what choices can be made, has the potential to empower students. The findings in this section resonate with those of Haegele et al. (2017) that to adapt to students' needs and to offer choices ensures that adaptations are readily available within activities. This study holds the view that is especially true for autistic students who may not be able to communicate their views and understandings other than by not participating.

Section 5.4.1 presents the basic student demographics of those who completed the questionnaires. This section continues to describe student perspectives around experiences of PE lessons, and understanding of what PE means to them, linked to motivation, confidence and preferences. The following themes were employed to interpret the data and prompt discussion:

5.4.2 Barriers and opportunities in PE for autistic students

5.4.3 Personal attitudes towards PE

5.4.4 Confidence towards PE participation

5.4.5 PE preferences

5.4.1 Student demographics

The data were obtained from the return of questionnaires administered to students in tutor time. Out of 35 students, 16 of these were completed. Reasons for low returns were cited as lack of time and staffing levels to provide support for each student to complete their questionnaire. As a result, not all class teachers administered the questionnaire, and not every child from each class completed one.

Basic student traits are presented in Table 5.20. A higher rate of boys was recorded however, it is acknowledged that this was skewed by not all students filling in the questionnaires.

Table 5.20: Basic student characteristics.

Age group by Key Stage	Male	Female
KS2	3	2
KS3	4	1
KS4	5	1

5.4.2 Barriers and opportunities to physical education

Early indicators of what engages autistic students are described in this section concerning how they perceived the relevance of the PE environment and how they perceived PE to make them feel. In Chapter One, it was explained how autistic students can find it difficult to engage in a noisy, chaotic sporting setting where anxieties may be heightened. Having a powerful enough motivator to engage them was expressed by S1, 'PE has to be fun and interesting to engage me'. Despite the propensity for activities to be chosen that were repetitive, as shown in the teacher and TA sections, some students indicated that they were uninterested in the narrow range of choices, further limiting participation. This was demonstrated by S7, 'we do the same things' and S8, 'PE is boring, boring, boring'. This demonstrates the tension between creating a structure and being open to new ideas. Examples of positive values dependant on the understanding of internal feelings are signposted by S1, 'PE makes me happy' and S2, 'PE makes me laugh', showing a basic level of personal wellbeing.

Students recognised barriers related to delivery, personal values; S15 stated 'I want to do PE, but it doesn't make sense', showing that they did not understand the expectations, despite wanting to participate. It was unclear, at this stage, whether this was because of instructional delivery, environment or other factors. For S14, an important aspect of participating in PE lessons appeared to be a sense of belonging, 'I want to have a school football team and kit'. For some students, there was a desire to gain identity through a team. Upkeep of equipment was a theme occurring across data sets and a sense of frustration for staff and students alike and a barrier to participation; S6, 'there is no equipment. It's all broken or it's not there. I like getting it out'. This implied a link

to the contribution students can make within the lesson through a sense of responsibility.

Classes at Queens School were organised by age rather than ability, which meant that students who wanted to take part in more age-appropriate activities, and who were more socially aware, did not have opportunities to play team games. For example, if they wanted to play football. This was difficult because there were not enough students in a class wanting to play a game; S6, 'we can't play a proper match'. This was supported by S4, 'there is no-one to play with', indicating that some students might enjoy PE more if there were social opportunities.

Table 5.21 presents the overall themes of the students' understanding of what PE meant for them. Most understood PE to be connected to health and general wellbeing which linked with the findings that students with SEND identified PE as a means for improving physical fitness (Coates, 2011).

Table 5.21: Do you know why you have PE lessons?

Responses	Percentage
For exercise	18.75%
To keep me fit/ To be fun and fitness/Get fitter/	25%
Keep healthy/We can be healthy students	12.5%
To keep fit and healthy/To help us all to be fit + healthy/ Yes it is because we can be healthy + know how to be fit forever	18.75%
Yes to keep alive	6.25%
Learn how to follow rules/To become good sport players	12.5%
Yes to get big muscles	6.25%
No	6.25%

Only one student said they did not know why they had PE at school, whilst 12.5% linked PE to rule-following and sporting behaviour. The next section explores outlooks further in terms of how students view the usefulness of PE individually.

5.4.3 Personal attitudes towards PE

How students viewed PE in this study seemed to reflect how PA made them feel and how they connected with activities. Data in Table 5.22 appeared to suggest that in this study, students related to components of fitness as being the most beneficial to them or, at least, as an end purpose. Taking part in sports outside school represented choice because students opted to do this. Table

5.22 shows that if these are the reasons why students took part in out of school sports, perhaps this could be applied within the school?

Table 5.22: If you do any sports outside of school what is *your main reason?*

Keep fit and healthy	Play with friends/family	Improve my skills	Try something new
25%	12.5%	31.25%	31.25%

Students seemed to understand the effects of PE through sensory aspects – pleasure and wellbeing, and through some developmental aspects – competition and success. Two students did not give a response and four students said they do not participate in sports after-school. Of the students that did participate in sports after school, Table 5.23 presents the most popular activities.

Table 5.23: What are the sports you do outside of school?

Responses	Percentage
Swimming	37.5
Climbing	12.5
Cycling	25

The next choices were judo, kayaking, paddle boarding, go-carting and frisbee; mostly individual in nature whilst allowing for others to be present. Habib et al. (2018) wrote that there is a positive relationship between social development and exercise undertaken in small groups or individually in the same room. This offers creative pedagogies, not evident in my study, that provide activity ideas and exercise options besides games.

Table 5.24: What PE activities would you like to do?

Responses	Percentage
Swimming	68.75
Trampoline	50
Running	25
Climbing	12.5
Cycling	12.5

Table 5.24 presents the spread of data across the activities that students selected as ones they would like to do in PE lessons. The choices are notably solo in nature yet can all offer a competitive element. This suggests that students were not being offered activities delivered in this way. All of these activities can be participated in individually yet in the same playing space so that students can engage with each other as much or as little as they wish. The

responses resonated with Rubin et al. (2014), who suggested employing activities with basic movement patterns in small groups, or individual activities, to reduce social demands within the PE setting, further supporting the use of small groups or solo activities as encouraged by Schenkelberg et al. (2015).

5.4.4 Confidence towards PE participation

The students were asked whether they enjoyed PE lessons and their responses are summarised in Table 5.25. When the reasons why the students did, or did not, like PE were analysed, positive reasons included when the lesson was not in the classroom and instructions were visual. There was a pattern between fun, engagement and understanding of what was happening.

Table 5.25: Do you enjoy PE lessons?

Always	Sometimes	No
12.5%	68.75%	18.75%
When I am not in the classroom	I don't understand always	I hate it
It is fun	When it is not loud and busy	Boring
I can run around	Only when I get to run, climb and throw things	Same games
	When it is exciting	Too difficult
	Sometimes it is boring	
	Good sometimes fun sometimes not	
	Depends on who the teacher is	

When students in this study were asked what their least favourite activities were and why, most of the answers were related to not understanding, noise and activities being too difficult. Challenges reported by students in this study indicated learning style issues, getting hot or sweaty, too many people around to have fun, having to wait, noise and not knowing what to do. Additionally, links to poor motor skills and coordination were made. Regarding tennis, one student stated 'I can't hit the ball, I hit the net' and another described how it made them feel when they perceived failure in cricket 'it frustrates me when I can't catch and when I miss the ball'. Students did not like lessons they perceived as boring or repetitive. Perhaps staff, in their desire to make lessons consistent for autism needs, had made the lessons too predictable.

Inclusive PE research found that for many students, the demands in PE made them feel less confident, often leading to failure (Lieberman and Block, 2017;

Wrench and Garrett, 2017; Healy et al., 2013; Fitzgerald and Stride, 2012; Overton et al., 2009). Table 5.26 shows that tennis, cricket and football were given as least preferred sports, yet football was one of the sports most favoured by staff.

Table 5.26: Which PE lessons do you enjoy the least?

Responses	Percentage
Tennis	50
Football	31.25
Cricket	12.5

Badminton, sports day and specifically, catching, each scored 6.25% of views. Catching is a prerequisite for several games, requiring coordination and confidence. Sports day is a busy event and parents are often present, which can be overwhelming. Tennis and cricket both need an understanding of several actions at once during striking. Reasons for dislikes were based upon negativity towards equipment. S3, 'the bats are too big' and S9, 'I get frustrated by the rackets', implying that equipment needs to be modified. This negativity extended to students who felt they lacked skills: S6, 'I can't play'; S10, 'I can't hit the ball'; S8, 'I hit the net'. This led to negative feelings: S13, 'I get angry when I can't catch' and S4, 'it frustrates me when I miss'.

As a consequence of feeling excluded from PE lessons, students with SEND have reported negative feelings connecting their perception of their ability to participate (Fitzgerald, 2012; 2005; Fitzgerald and Stride, 2012; Fitzgerald, 2005; Goodwin and Watkinson, 2000; Blinde and McCallister, 1998). Healy et al. (2013) reported that autistic students felt excluded by activities being too difficult. Some students indicated that they preferred not to attend PE lessons due to discomfort leading to self-doubt and perceived low competence (self-efficacy) in the activities (Blinde and McCallister, 1998). The origins of this study were in the Queens School reporting difficulties with engaging students in PE who had withdrawn from lessons. This study supports Domville et al. (2019) who reported that primary school students perceived PE enjoyment to be linked to instructor behaviour and individual preferences. Furthermore, evidence from my study supports those of Bertills et al. (2018) and Hutzler et al. (2002), that disempowerment stems from teachers removing options for autistic students, albeit unintentionally, leading to exclusion.

To investigate what preferences the students had in this study, they were asked what lessons they enjoyed the most, and these are discussed next.

5.4.5 PE preferences

This section looks at whether the student participants indicated any preferences that could be used to improve PE lessons. Table 5.27 shows the main three activities out of those offered pre-intervention and the motives for choices, revealing an emphasis on fun and fulfilment.

Table 5.27: Which PE lessons do you enjoy the most?

Responses	Reasons	Percentage
Running/athletics	I like to run I like it It makes me laugh I feel good It makes me happy To have fun Run- to get fast To be in a race	37.25
Jumping	It makes me happy To have fun	31.25
Swimming	Funny games To save my life I feel good I like it It is good to play and collect things It is fun + might save my life Fun + I can get good	43.75

Additionally, dancing was 12.5% because students liked moving to music and watching others dance around them. Football was 12.5% because of a desire to improve skills and play in a match. Sherborne Developmental Movement (SDM) was 12.5% because students could relax, and circuit training was 6.25% selected for getting fit. Reasons for liking these activities inclined towards how the activity affected them, which was comparable to the findings of Hilton et al. (2008) in which enjoyment of high-functioning autistic students in physical activities was related to their competence and enjoyment was linked to wellbeing.

Some students seemed to regard competitive and personal development elements as significant. Meaning and function seemed to play a part in reasons given for swimming as a preference: S8, 'it is good to play and collect things' – implying that water games (or aquatics) is a fun activity; whereas swimming was often viewed as a practical skill and therefore, more useful: S16, 'swimming can

save my life'. Swimming as a setting for increased motor skills resonates with the existing literature, although individually or in small groups (Pan et al., 2017; Pan, 2011; 2010; Prupas et al., 2006; Huettig and Darden-Melton, 2004; Yilmaz et al., 2004).

From drawing conclusions from preferences, realistic changes can be made. These ideas need to connect to those of the educators involved. I agree with Fitzgerald (2005; 2012) when she stated that activity setting, enjoying PE and stakeholder empathy are fundamental to inclusive PE. This study aimed to engage with these emerging themes and act on them. Coates and Vickerman (2008) scrutinised literature concerning the perceptions of students with SEND regarding their experiences of PE in mainstream and special schools, yet they did not cite any further action taken on the perspectives gathered. In my study, however, I used perspectives to change practice.

The following data were interconnected and intended to be used to drive PE improvement. By examining the best and the worst about PE for these students, staff could derive what changes they might make that were likely to motivate and inspire students in their PE lessons. Tables 5.28 and 5.29 present data showing student responses centred on the triad of impairments; not knowing what they are doing, getting hot, waiting, noise and too many people.

Table 5.28: What is the best thing about PE?

Responses	Percentage
When we can run around/ Running/ Running around/I run fast/ Running around not sitting down	31.25
I enjoy going up, down, under + over gym apparatus and balancing	6.25
Outside/Going in the playground/Going outside	18.75
I like interesting fun games + to feel motivated/ Having fun	6.25
Being able to use my body	6.25
When it's finished /None of it	12.5
Dancing to music	6.25
Throwing	6.25
When we get to play with older students or staff	6.25

Table 5.29: What is the worst thing about PE?

Responses	Percentage
When it's complicated to understand/ Not knowing what I'm doing/ Not knowing what to do/ Something that is hard to understand/	25
Too many people around to have fun	6.25
Waiting and noise	6.25
I don't think I dislike anything	6.25
Doing the same things	12.5
No football pitch/ When we can't play a proper game or match/When equipment is missing and when there is no-one to play a game with/Getting broken equipment	25
Getting sweaty in my t-shirt/I get hot	12.5
All of it	6.25

Students' dislikes in this study were related to lack of confidence, frustration, factors based on unclear instruction and expectations, unsuitable equipment and demotivating tasks. Broken or missing equipment and a lack of interesting tasks indicate delivery and organisational issues. Things they did like included being outside, having fun and socialising with other students. Table 5.30 shows the activities students preferred to be doing and represents diverse perspectives. Again, most of the activities chosen as preferences were more solitary in nature or could be carried out individually around others, as opposed to directly with them.

Table 5.30: What PE activities would you like to do?

Responses	Percentage
Running	25
Swimming	68.75
Life-guarding	6.25
Trampoline	50
Climbing	12.5
Dancing	6.25
Cycling	12.5
Rounders	6.25
Skateboarding	6.25
Sailing	6.25
Go-carts	6.25

Trampolining and climbing were not taught at Queens School – however, swimming was. Therefore, it was interesting that students chose swimming as an activity they would like to do. Students appeared to view PE as a subject they could have fun in and showed some understanding of the benefits and what PE meant to them. Students held different meanings from PE experiences according to how they connected to PE. This was similar to autistic adolescents'

responses in a study by Arnell et al. (2018) that concluded that enjoyment was crucial for motivation, especially for willingness to attend and to get involved in PA.

5.4.6 Student Synopsis

Figure 5.4 visualises the themes and subthemes generated by the thematic data analysis of student data. Like the teacher and TA data, each is interlinked and aims to show the complex connections between data.

Figure 5.4: Key student themes and the relationship between them emerging from the pre-intervention data collection.
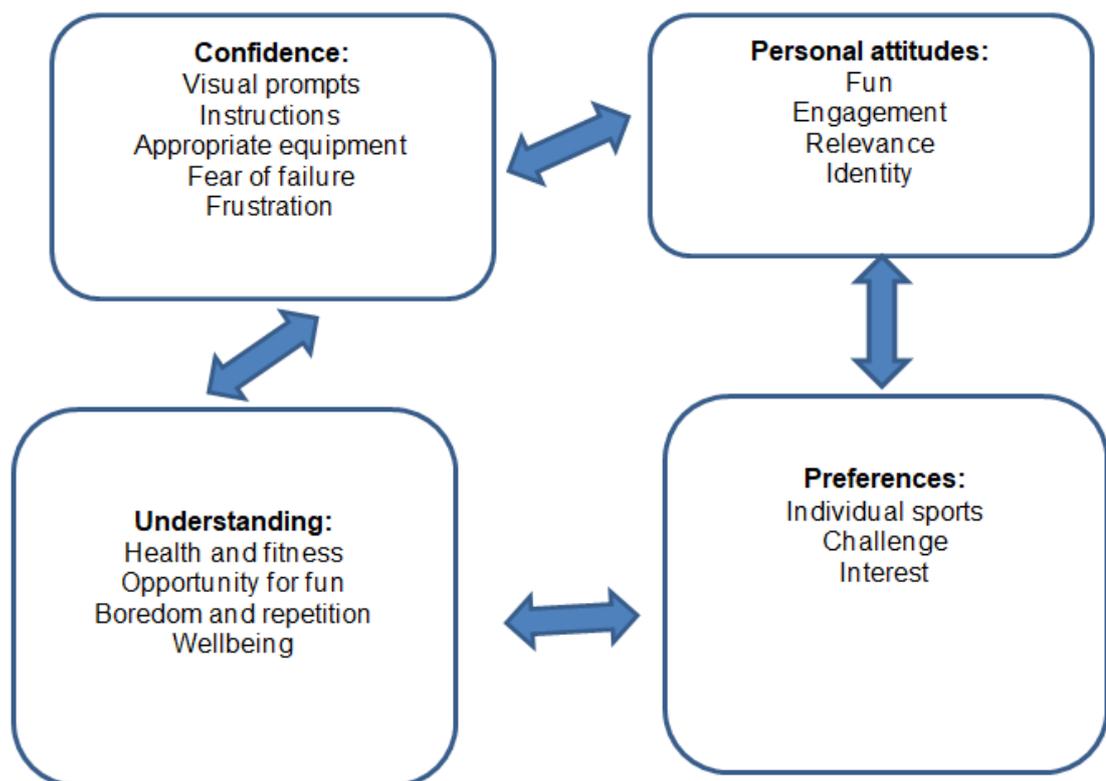
Emerging themes across Section 5.4 need to be considered interactively regarding student perspectives and the factors that influenced their views. Although student perspectives were important to this study, this was a small student cohort. The findings supported staff to guide the improvement of current PE practice for the subsequent action part of the process.

The next section summarises perspectives from teachers, TAs and students regarding what actions could be taken to improve PE, thereby, involving them in the process.

5.5 How can PE be improved?

This section addresses how participant groups pre-intervention, perceived that improvements might be made to PE. Findings at this stage provided a starting point for action during the intervention. This was important because the aim was to incorporate stakeholder perspectives into the action research cycle, which centred on designing an intervention to change practice.

Responses from teachers are presented in table 5.31. Most significant was the perceived need for a trained person with subject knowledge, skill and enthusiasm to coordinate and support staff.

Table 5.31: Teachers: *What do you think would improve PE?*

Response	As a percentage
Subject knowledge/Skilled teachers	71.4%
Resources/more equipment/equipment storage	57.14%
A programme to follow/some direction/planning guidelines	42.85%
Space available/accessible	42.85%
Teachers with enthusiasm	28.57%
Someone to coordinate and support	14.28%

Additionally, equipment and facilities were factors; T7, 'improvements come down to space and resources' and T2, 'more activities with the interests of the students'; but employing T1's 'activities that are fun with community access'. From these statements, I interpret that Queens School teachers believed facilities to be an important factor when planning PE, and they felt that their teaching areas were inadequate. T3 made the point that a person with subject knowledge would improve PE, indicating a coordinating role, and T2 noted that a designated PE space would enhance PE – T3, 'someone with subject knowledge to coordinate and support classes to deliver PE' and T2, 'a hall that is not used as an eating area would improve PE'. The implication was that if a more adequate space with suitable equipment were available, this would improve PE status and be instrumental in enabling teachers to deliver better lessons.

As revealed in table 5.32, less cited, though pertinent, was that planning, assessment and recording could improve PE practice. There were no PE schemes of work available and PE was not assessed by any teachers. PE was not included in the annual review documentation or reported to parents, so, there was no evidence of target setting or progress and achievement. Ideas for

what would improve access included more structured activities and block planning of lessons. Thus, perceptions of challenges to PE included the accessibility of resources such as facilities and equipment and the type of activity being taught.

Table 5.32: Teachers: What needs to be in place for PE at your school to be more accessible?

Responses	As a percentage
Resources/equipment	42.85%
More useful space/more structured space	42.85%
Knowledge/How to teach skills appropriately/ Skilled staff	42.85%
More structured activities/block of activities	28.57%
Enthusiastic staff	14.28%
Understanding of safety in sport	14.28%
Planning, assessment and recording	14.28%
Competition opportunities	14.28%

Further statements included T7, who said, 'We have equipment that staff don't know is there or how to set it up' and T6's notion of 'enthusiastic staff'. Five teachers responded that PE subject knowledge and skilled teachers were needed, followed by three teachers who said that a programme that can be followed would improve PE, as well as direction and planning guidelines. One teacher explicitly identified that subject leadership was needed; T3, 'Someone with subject knowledge to coordinate and support classes to deliver PE'. It is unclear as to whether this meant teaching PE lessons or supporting the class teacher. One teacher cited an understanding of safety, which, I believe, indicates a lack of confidence in providing a secure environment. The same question was asked of TAs who had similar responses, as shown in table 5.33.

Table 5.33: TAs: What do you think would improve PE?

Responses	As a percentage
Facilities/Equipment/resources- more/better	52.91
More lesson structure-Organisation of the subject/Planned activities available/Clear purpose/goals/Dedicated PE lessons	29.41
Guidance/information regarding how to teach PE/ Staff being more motivated to teach PE /Subject knowledge/Someone to co-ordinate activities	26.47
More choices-More off-site activities/More clubs	20.51
More funding	14.70
More emphasis on importance and benefits of PE-Use to release stress and anxiety/ Links to healthier lifestyles	14.70

TAs had clear suggestions for how to improve PE. For example, TA28 cited 'more emphasis on the importance and benefits of PE' and TA22, 'giving more

importance to PE as a subject'; TA16, 'more long-term planning'; TA13, 'dedicated lessons'; TA12, 'staff being more motivated to teach PE and additional equipment'; TA6, 'a coordinator of activities – someone who has skills to teach PE'. Skills were viewed by TA5 as 'having a better organisation in terms of exercise and sport activities as well as something new for all the students' and TA2, 'having a plan of what activities to teach and looking at the benefits that the students would gain'.

Furthermore, TA1 stated that what was needed was 'more information about how to teach PE to students with autism, more funding to buy better equipment and more access to off-site facilities'. Overall, TAs wanted timetabled PE lessons that could be planned and organised by someone who had the relevant skills. One TA recognised the challenge of teaching PE to students with autism by asking for further information.

Analysis of TAs' responses shown in table 5.35 offers support to the theme that they recognised the need for PE planning. TAs possibly need it more because they are endeavouring to support the teacher who knows what they are teaching but has not had time to share it with them. In line with teacher reactions, TAs responded that PE subject knowledge and skilled teachers were needed as well as direction and planning guidelines. Additionally, the need for ideas was stated by TA24 as 'bigger variety based on student likes/dislikes'; with TA22 stating a need for 'encouragement to follow a healthy lifestyle'.

Table 5.34: TAs: What needs to be in place for PE at your school to be more accessible?

Responses	As a percentage
Suitable space/Better use of space/Safe environment	26.46
Resources/Equipment	23.52
Planning/Planning in advance/Achievable activities/Delivery/Better adaptation/individualisation/Activity likes and dislikes	23.52
Continuity/structured timetable/more lessons/Motivating activities/More opportunities	20.58
Clear meaningful objectives/goals/Clear core principles and rules/More guidance/clear guidelines	17.64

Furthermore, TA responses in Table 5.34 indicated that they believed having knowledge, knowing how to teach skills appropriately and having planning and objectives would improve current practice, as shown by TA1, 'a realistic goal at the end of the session' and TA15, 'a structured timetable with clear and

meaningful objectives'. TA21 was more specific regarding how PE can be made more meaningful and personalised, 'maybe an individual, rough assessment on the student to find out what they need/would like, i.e. muscle work, to lose weight, what would work to let off steam, be fitter, etc.' TAs thought that a focus on individualisation could be made; TA12, 'more equipment tailored for the students' and TA2, 'a suitable environment for each activity.' Only one TA said they believed the current practice to be satisfactory; TA27, 'Queens School is well-equipped already and is accessible'.

In terms of knowledge, decisions tended to be made using the information of individuals rather than specialist PE knowledge. TA28 showed insight, 'find what students like, not just what you think they should do' and TA26, 'activities need to be well explained and adapted to the students'. This highlighted the difference in perspective that TAs had from that of teachers, who noted that subject knowledge and skilled staff would be advantageous and did not explicitly indicate student preferences as being a factor in improving PE. Further suggestions included: TA22, 'giving more importance to PE as a subject' and TA12, 'mornings/afternoons dedicated for PE, not just one hour'. Additionally, TA26 suggested, 'change activities to make them motivating for the students'. Person-centred planning was at the forefront of the TA responses; TA2, 'the activity should be individualised for each student if possible'. Another TA wanted to see better contact with other professionals; TA16, 'a wider and fuller array of resources, a link between PE and occupational therapy', which had not been mentioned before.

Teacher and TA responses provided a wealth of information regarding how current practice could be improved. This was embedded into the design of the intervention package alongside student perceptions, which are described next.

Their suggestions were respected in that changes to PE practice would aim to address them.

Most of the students perceived PE to be an area that could be improved (68.75%). Further insight was provided by S6, who stated that 'it's boring and gets cancelled' and S11, 'it is not much fun'. The following statements indicated their ideas; S14, 'play football matches and have clubs'; S15, 'more new things' and S16, 'more stuff to do and to go somewhere else to do it'. Supplementary information provided some suggestion that a sense of identity and an element

of competition were important to students; S16, 'I want to do PE with the new school' and S14, 'I want to have a school football team and kit'. Some responses provided clues as to how some students feel about PE lessons; S15, 'I want to do it, but it doesn't make sense'; S6, 'there isn't any equipment. It's all broken or it's not there. I like getting it out'. For S6, it was frustrating that the equipment was not maintained but also, that collecting the equipment was an important part of the PE experience. S12 suggested equipment, 'some trampolines in the playground'. However, the direct message from S7 and S8 was that PE was boring.

The conceptual framework presented in Chapter Three conveys authentic findings of an ecological model of PE connected to the literature review. Figure 5.1 shows how literature supports interconnected, located structures with the data findings.

Figure 5.1: Environmental aspects that influence PE development across levels at Queens School.
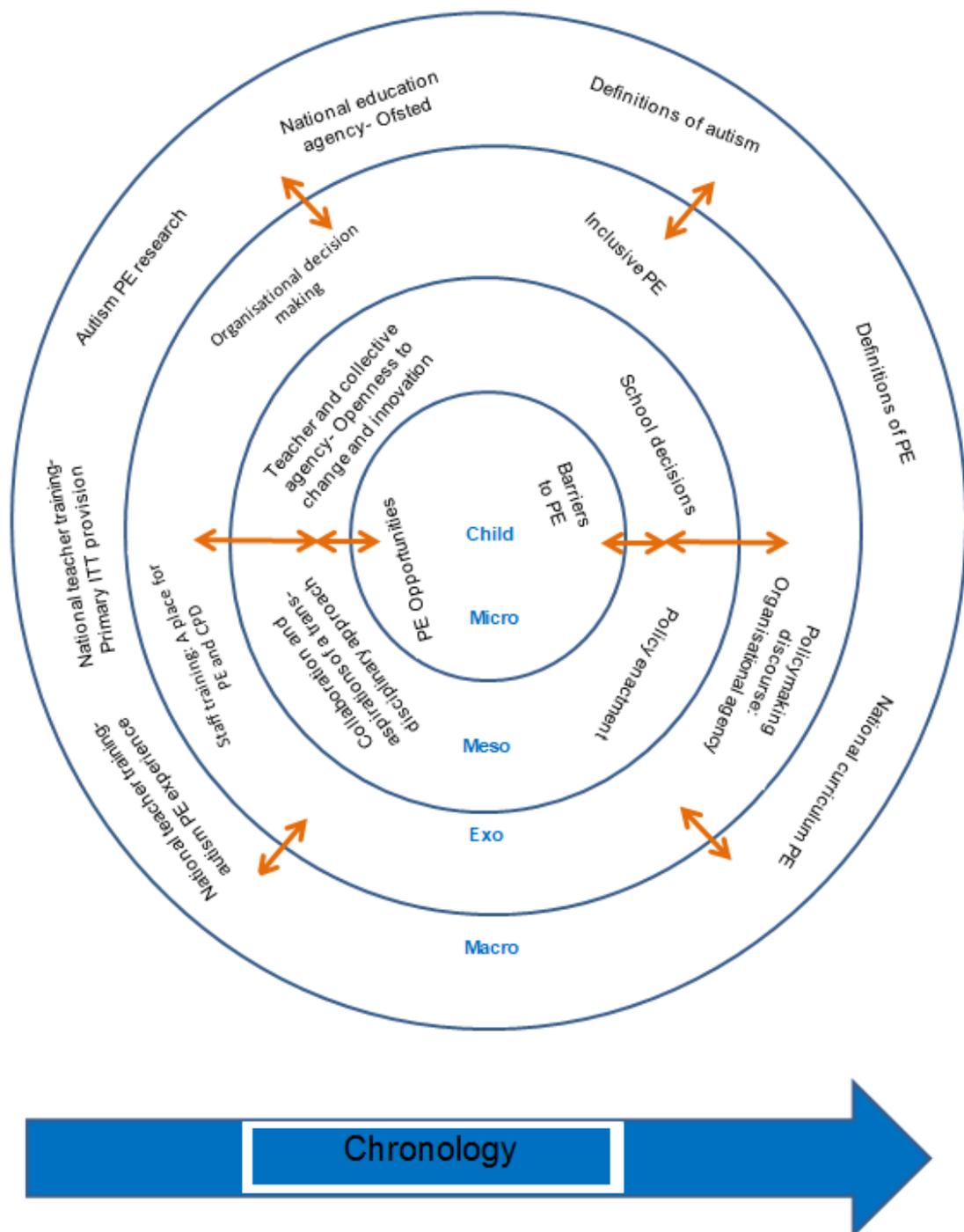
The interrelated aspects of the environment influenced PE development across and within levels at Queens School, requiring a multi-level data collection, rather than one set of insights. The concentric circles indicate influences on PE access pre-intervention, which was useful for understanding interactions. Viewing the school in this way indicated that change at the micro level might include improving staff attitudes toward PE and issues within the more immediate setting to increase positive student behaviour. Implications were that

changes had to be made with, and for, educators and students and they could not be made in isolation. Change at the meso level of influence might be achieved by providing spaces and resources to facilitate PE. Further developments in the exo and macrosystems, although not so evident, signpost that ITT and the NCPE were influential upon staff, suggesting the requirement for a multifactorial approach to making changes that extends beyond the school and organisational systems.

Underlying perspectives related, in part, to the perceived overall subject value and ways to raise the profile of PE. These suggestions were combined with an audit of PE and developed, with key staff, to form the intervention described in Chapter Six.

5.5 Conclusion

Key themes established the starting point for the action stage of the intervention. All groups understood PE through the use of PA rather than the teaching of physical literacy. The teachers and TAs were unwilling to undertake the responsibility of PE training, although the TAs seemed interested in activity-specific training. The teachers and TAs chose activities that focused on mitigating student deficits attributed to the triad of impairments, whereas students understood PE as a means to be fit and healthy. The students tended to select solo PE activities, whereas the teachers and TAs mostly chose team games because they were viewed as providing an ideal setting for addressing the triad of impairments.

Chapter Five presented and interpreted patterns identified from participant questionnaires that were designed to create information to drive action. The first part of Research Question One presented stakeholder perspectives regarding current PE provision at Queens School. Rich description was produced alongside literature identified in Chapter Two to determine that current PE provision was not fit for purpose.

What also emerged was that there was an overlap between groups regarding ways to improve practice. These were built into the action research process cycle that encompassed: selecting activities that students were more interested in as a means to engage; grouping students according to ability and learning needs, rather than age; providing quality equipment matched to motor skills and

physical needs; adjusting the delivery of instructions and staff becoming more confident and creative about delivering PE.

Chapter Six considers how these improvements could be made and the process employed to make it happen. The documentation produced during this part of the research journey is presented as supporting evidence as well as a narrative of collaborative work carried out.

Chapter Six

6.1 Introduction to actions during the intervention

Chapter Six describes the actions implemented during the PE intervention at Queens School through documentation. This began with the YST PE audit and class timetable scrutiny for time spent in PE pre-intervention. These were carried out again post-intervention to record impact. A training package was devised that incorporated suggestions made through the stakeholder questionnaires and combined with data collected from the audits. Key issues identified by staff centred on poor on-site facilities, lack of equipment, lack of PE subject knowledge and no planning in place. Issues raised by students were that PE lessons were boring, equipment was inappropriate, broken or missing and they did not understand PE lesson expectations. Student responses were considered in the training and subsequent timetable changes. A PEWP was founded that would establish changes and drive actions required for these changes to be enacted. Documentation created during this time by the PEWP included assessment templates, schemes of work, an activity resource bank, informal notes from learning walks, equipment audits and a PE policy.

The process of change described in this chapter flows on from Chapter Five as the actions put into place were a direct response to the data presented. In Chapter Five, findings from staff and students were compared, examined and linked to literature. The analysis was a dynamic process, recombining data into patterns to develop greater understanding of inferred social processes for further subject development. In this chapter, documents produced during the intervention were examined, supporting the view of Krippendorf (2012) that documents, including plans and reports, can provide useful information for researchers to address a variety of questions.

The actions, refinement and reflections that occurred in this part of the data collection are presented alongside the literature and represent the development of the intervention at Queens School. Collaboration is highlighted and the need for educators across the school to be represented. This chapter is organised under the following sections:

6.2 Links between the ecological model, literature and actions

6.2 Links between the ecological model, literature and actions

As discussed in Chapter Three, this study used an ecological framework to aid in the understanding of the PE provision at Queens School and for developing the intervention. Figure 6.1 presents an ecological model of PE relative to Queens School. The concentric circles indicate individuals at the centre and show the immediate influences on student access to the PE setting as well as development across and within levels.

Most of the actions made during the intervention were at the micro and meso levels. At the micro level, the emphasis was on improving the attitudes and perceived value of PE, which had been identified as inadequate through the absence of PE lessons on most class timetables (except for swimming, which was not part of the planned lessons either, but time engaged in sensory aquatic games). Training sessions allowed time for staff to become familiar with the planned actions of the PEWP and become part of them. Examples of training content from two training sessions can be found in Appendix Nine. Discussions were held at each session and included opportunities to learn new skills, such as TEACCH within a PE setting and SDM, which was requested by staff. TEACCH was already in use at Queens School but had not been effectively deployed in PE lessons. Schemes of work were written collaboratively, and mid-term plans were designed. Raising the profile of PE generally began when a decision was made by the PEWP to timetable PE into the weekly ActiveAfternoon session. This firmly placed PE on the agenda to promote healthy lifestyles at the meso level alongside the vision of the school wellbeing

nurse. Interventions at the meso level included purchasing new and appropriate equipment, creating a resource bank of activities, introducing the PECO and assistant PE coordinator (A-PECO) roles and developing the field and playground areas.

Figure 6.1: The interrelated aspects of the PE environment.
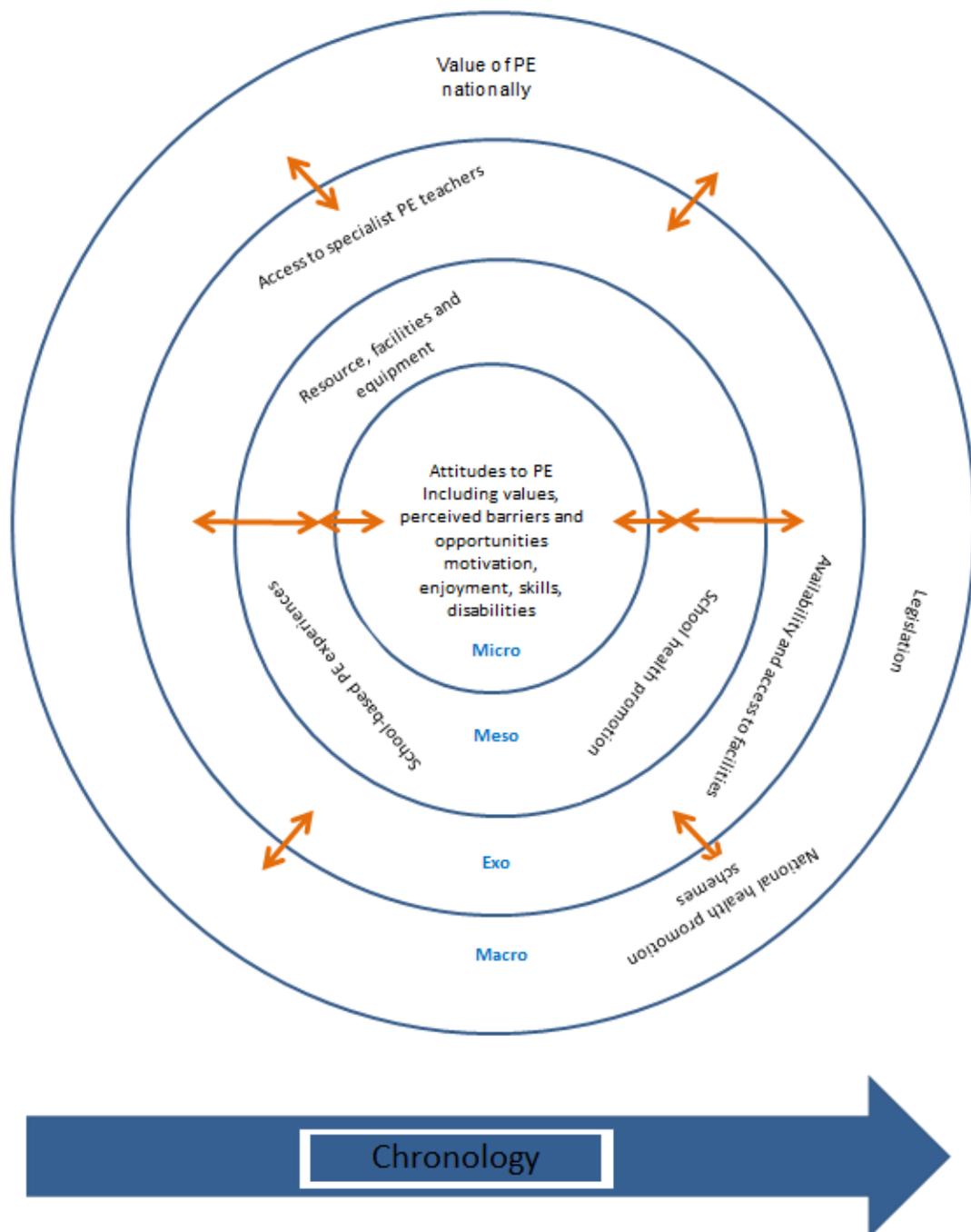
Further, smaller actions were made at the exo level by the end of the intervention, which were initiated by the decision to use off-site facilities to access activities led by specialist instructors. Although no actions occurred at

the macro level, its influence led to PE being viewed by staff as games-based, with a focus on a multi-activity approach.

Themes shown at each level were drawn from the Chapter Five data collection that engaged with the literature review. For example, change at the meso level might include improving attitudes toward PE from a wider range of influences and the interaction between these at the exo level. Improving overall attitudes may be influenced by factors outside the immediate environment, which, although not felt directly by the individuals in the centre, occur jointly over time. The factors shown within each system do not act alone, so, changes need to be enacted simultaneously. The changes made in this study were multifactorial, flowed back and forth and could not be made in isolation. This phenomenon is explored further in Chapter Seven. Section 6.3 is a description of the work of the PEWP – the driving force behind the FGP-PE intervention – and is the combined work of the researcher-facilitator and the school.

6.3 Rationale for creation of the PE working party

The opportunity was offered to staff to become more involved as a member of the PEWP. The PEWP was originally formed of nine people, being the researcher-facilitator, one SLT member, one teacher, one HLTA and five TAs. Due to staff turnover during the intervention, this fluctuated and finally became five, which is detailed in Table 6.1. Names have been changed. TAs were keen to sign up to the PEWP, as shown through the comment alluded to in Chapter Five, 'tell me everything!'.

Table 6.1: PE working party members and their roles.

Name	Role	Department
Davina Cook	Joint Headteacher	Lifeskills
Laurie King	Joint Headteacher	Lower school
Marion Fowler	Deputy Head and Wellbeing Lead (Registered General Nurse and Care manager)	Whole school
Tammy Smith	Class teacher and PE co-ordinator	Lower school
Kat Ashley	TA and PECO assistant	Lower school

The PEWP met regularly to discuss plans and ideas. They were the driving force and the main people who made the ideas possible. Tasks included, but were not limited to, completing the sports premium application, ensuring that

suitable equipment was purchased, organising photos to be included in weekly parent newsletters and designing the FGP ActiveAfternoon timetable. The PEWP also gave feedback during whole staff meetings, keeping their colleagues apprised of any developments and of my input as researcher-facilitator.

PEWP members represented a spread of roles across the school; three senior leaders at different organisational levels, a teacher and a TA, each with a different experience of everyday school life. Accounts taken from PEWP minutes support evidence and are used to tell the story of the action research process that facilitated the changes made to PE practice. The PEWP became central to the planning and running of events and activities, supporting the premise of Block and Obrusnikova (2007) that attitudes are a critical factor in ensuring meaningful learning experiences in inclusive PE. Having members of the SLT involved meant that decisions could be made, and actions enabled. Involving staff created opportunities that reflected student learning and community contexts, as in Enwright and O'Sullivan (2010) and Wood and Bennet (2000), who wrote that this could impact on improving practical knowledge and professional attitudes. When decisions are made through a transparent process, people tend to support those decisions and commit to intervention. Involving employees in organisational decision-making can be achieved by forming problem-solving groups. This represents innovation and adaptation at a local level. Motivation was fundamental, as PEWP members seemed to be inspired by what they could achieve once they understood how to put things in place. PEWP members were able to begin to challenge the reluctance to take managed risks in organising events and this seemed to empower them. The primary schools' sport premium is 'ring-fenced', and therefore, should only be spent to support student progress and participation in PE and school sport. Pre-intervention, this had not been accomplished. Kell et al. (2008) named sufficient financial resources as a requirement for creating barrier-free environments. Action was taken to address the sports premium application (PEWP minutes – 27/9/17).

The PEWP minutes captured the narrative of the action and the thread linking how change unfolded. Internal staff meetings were held for all staff in which information and further actions were disseminated. The PEWP minutes were a

rich account of evidence that recorded the progress of the PE intervention across one academic year, an example of which is located in Appendix Six. The PEWP minutes documented the process of collaboration between the researcher-facilitator and the staff team to process and enact actions. These results were similar to those reported by Ainscow et al. (2016) regarding collaborative enquiry that encourages greater flexibility for school autonomy, which generates new opportunities for driving improvement forward. Thomson and Hall (2011) noted in their study of inclusive teaching that if teachers have the right conditions and support in place, positive attitudes follow and their open-mindedness for change can be increased. A critical aspect of the sense-making process at Queens School encompassed staff thought processes regarding whom they believed was in their professional network to support them and what they believed the barriers to be that affected realistic change. This seemed to affect how they understood inclusion.

The following statement by Laurie King (LK) indicates the state of PE development pre-intervention:

> *PE is a weak area. Nothing is in place. Staff do not have enough experience, knowledge or ideas to create good PE lessons or plan them. There are no schemes of work and mid-term plans are unrealistic. Activities include walking around the playground* (PEWP minutes – 11/10/17).

This was taken as a starting point for change and was supported by data generated in Chapter Five from teachers and TAs as a whole.

Making meaning of new ideas and learning takes place in social interactions with others and leads to the development of shared understandings. Sleegers et al. (2009) and (Coburn, 2001) described the learning community as multi-dimensional. This links with the ecological model proposed in Chapter Three. The interrelatedness of different dimensions within learning communities means that learning, and capacities to conceptualise, occur at multiple levels: individual, team and school. Social interaction becomes critical because as individuals process and makes sense of information, their ideas and thoughts filter back through the community in which they are working. Ketelaar et al. (2012) described the use of a teacher's existing experiences to build on a new occurrence as a form of sense-making, called assimilation, which adapts new

ideas to fit the existing frame. This links with the process of individual and group change created by this intervention. Each layer of change produced views and ideas that were processed as individuals and groups made sense of them for their needs and beliefs and assimilated them in their environment. For me, as a researcher-facilitator, this represented the process of establishing a model of change, collaborating with stakeholders and then handing over ownership to them through the FGP-PE intervention. This is similar to findings in Blömeke et al. (2015) who wrote about competence to do this. Additionally, this study supports how important it is for teachers to discover purpose related to their everyday work (Tirri et al., 2016). Of particular interest to this study are the YST initiatives to transform PE and remove barriers to sport. The 'outstanding PE' template was used to begin the drive for PE practice transformation.

6.4 Pre- and post-intervention Youth Sport Trust PE audit

The document shown in Figure 6.2 was the template used to formulate a direction for changes in PE practice. The questions were answered by me, as researcher-facilitator, alongside deputy headteacher, Marion Fowler (MF), as a self-review tool to help assess provision and outcomes in PE and school sport. Building an accessible learning environment requires the development of collaborative practices that create positive peer relationships (Grenier et al., 2017). In this case, it identified the school's priorities and was employed with the FGP ethos and PE profiles to become the 'FeelGood Programme at Queens School'. The full audit is located in Appendix Four.

Figure 6.2: Youth Sport Trust template for achieving outstanding PE.

	Questions	Emerging	✓	Established	✓	Embedded	✓
1	Does your school have a vision for PE and school sport?	There is a limited (or no) vision which identifies the potential for a whole school approach to, or recognises the value of, PE and school sport.	✓	There is a vision statement, adopted across the school and included in public documents available to parents.	✓	There is a clear vision statement included in the school's aims that recognises the value and impact of high quality PE and school sport which pupils and parents understand and have contributed to.	✓
2	Does your PE and sport provision contribute to overall school improvement?	PE and sport are recognised for the impact they have on a positive school ethos and there is some attempt to use major sporting events or the positive values of sport in whole school strategies.	✓	PE and sport are celebrated across the life of the school. The context of sport is regularly used in other curriculum lessons and as a whole school theme.	✓	PE and sport is a central part of the school development plan. The context of sport is used across the curriculum and the skills and positive values of sport are integrated into the school ethos. PE and sport are used to engage the wider community and foster positive relationships with other schools.	✓
3	Do you have strong leadership and management of PE and school sport?	The headteacher understands the importance of PE and school sport and there is an identified PE co-ordinator.	✓	The PE co-ordinator is a skilled professional who has developed core provision and is supporting all staff. The headteacher values PE and school sport and it is integral to school development.	✓	There is a detailed PE development plan with short and long term targets that enable all pupils (including target groups) to progress and achieve. The PE co-ordinator is highly skilled, able to motivate staff and has the support of the headteacher, staff, governors, pupils and parents. Staff regularly participate in CPD relevant to high quality PE.	✓
4	Do you provide a broad, rich and engaging PE curriculum?	The PE curriculum covers the minimum National Curriculum expectations in a safe, yet limited, range of environments. It focuses mainly on developing pupils' physical skills. Pupils receive less than two hours timetabled PE each week.	✓	The PE curriculum is broad and balanced, going beyond the National Curriculum expectations. It is fun and delivered safely in a range of environments, which develops all physical skills and some leadership and coaching skills of pupils. All pupils receive two hours of timetabled PE.	✓	The PE curriculum is diverse, providing pupils with the confidence to try new activities as well as enhancing their existing skills in a diverse range of environments. There are opportunities for all pupils to develop their leadership, coaching and officiating skills. All pupils receive two hours or more of timetabled high quality PE.	✓
5	How good is the teaching and learning of PE in your school?	The confidence and competence of staff varies. A limited number of lessons are good or outstanding. Most pupils make some progress but assessment lacks rigour. Limited reporting of progress to parents or carers.	✓	Most staff are confident and competent to use a range of teaching and learning styles in PE. Most lessons are good or outstanding. The majority of pupils make good progress, which is fully reported to parents or carers, and there is a sound assessment process.	✓	All staff are confident and competent to deliver high quality PE and the quality of all lessons is good or outstanding. Teaching and learning styles are matched to lesson content and to encouraging all pupils to participate. All pupils make good progress which is clearly reported to parents or carers. Assessment involves pupils fully and identifies and celebrates their achievements.	✓
6	Are you providing high quality outcomes for young people through PE and school sport?	Most pupils are engaged in PE and can demonstrate their level of understanding and skill. The majority of behaviour is good and pupils are starting to make healthy lifestyle choices.	✓	All pupils are engaged in PE and can demonstrate their level of understanding and skill. Behaviour is good across all PE lessons and pupils co-operate in collaborative and competitive situations. All pupils are starting to make healthy lifestyle choices.	✓	All pupils are engaged, motivated, demonstrate a high level of understanding and skill and take some lead in high quality PE lessons. Behaviour is excellent across all PE lessons and pupils make decisions that challenge and inspire them even further. All pupils consistently make healthy lifestyle choices.	✓
7	Are you providing a rich, varied and inclusive school sport offer as an extension of the curriculum?	Most pupils are able to access a basic range of opportunities to take part in school sport through clubs and competitions. Through these opportunities pupils learn about training and competing, although leadership development is not catered for. Provision for, and the inclusion of, young disabled pupils is inadequate.	✓	The school sport offer includes activities that cater for and appeal to all pupils. The programme enables pupils to utilise a range of skills and establish participation habits through regular clubs and competitions both within and between schools. Pupils enjoy participation and leadership, this enhances their understanding of sports participation and increases the likelihood that they will continue to take part.	✓	All pupils are able to access a broad offer of school sport activities (as participants, leaders or organisers). An extensive range of sports is available, including opportunities for young disabled people, through a programme that both responds to demand and introduces sports activities that the pupils may not otherwise experience. Numerous young people represent the school and are part of community clubs that the school has links with. Pupils' achievements are celebrated and shared with parents or carers.	✓
8	Are all pupils provided with a range of opportunities to be physically active and do they understand how physical activity can help them to adopt a healthy and active lifestyle?	Staff in the school have a knowledge and understanding of the key behaviours of a healthy and active lifestyle. There is a programme of extra-curricular and informal opportunities that promote physical activity, but the breadth of the provision is limited and the offer is universal.	✓	The school is committed to supporting every child to be physically active. Staff can identify target groups of pupils that are deemed less-active and barriers to their participation are being addressed. Positive attitudes towards healthy and active lifestyles are encouraged among all pupils.	✓	The school has a clear physical activity policy which incorporates PE and school sport but also offers informal physical activity such as break-time activity, active travel and supervised play. Strategies are in place so that pupils are consulted about the activities offered. Positive attitudes towards healthy and active lifestyles are encouraged among pupils and staff, and is extended to parents or carers.	✓
9	Does your school know how to effectively utilise the new PE and school sport funding?	Consideration has been given and a basic plan of how to use the funding is being established.	✓	It is clear how the planned budget will improve provision and outcomes in PE, physical activity and school sport.	✓	Budgets are monitored regularly, enabling the school to see which elements of spend have the greatest and most sustainable impact.	✓

Table 6.2 presents the outcomes of the YST-PE audit pre-intervention and the actions planned to improve PE quality. Evidence against each benchmark showed that the school had not achieved an 'emerging' level of PE provision before the intervention. The aim was to ensure that all 'emerging' outcomes were achieved before moving on the 'established' outcomes. This was used to arrive at targets for guidance and to indicate the impact of the FGP intervention, thus focusing the training schedule.

Table 6.2: Outcomes drawn from YST audits pre- and post-intervention.

YST Target	Emerging provision	Response pre-intervention	Response post-intervention
1	There is a limited (or no) vision which identifies the potential for a whole-school approach to or recognises the value of, PE.	There is limited vision to a whole-school approach to PE.	PE policy. Parent newsletter. CPD training sessions. PEWP established.
2	PE and sport are recognised for the impact they have on a positive school ethos and there is some attempt to use major sporting events or the positive values of sport in whole-school strategies.	There are not any major sporting events within the school.	Sports day. Wimbledon event. Football event.
3	The Headteacher understands the importance of PE and school sport and there is an identified PE co-ordinator.	There is not an identified PE co-ordinator.	PECO and APEO recruited.
4	The PE curriculum covers the minimum National Curriculum expectations in a safe, yet limited, range of environments. It focuses mainly on developing pupils' physical skills. Pupils receive less than two hours of timetabled PE each week.	Pupils receive less than two hours timetabled PE.	Pupils receive two hours timetabled PE. ActiveAfternoon and swimming timetabled.
5	The confidence and competence of staff vary. A limited number of lessons are good or outstanding. Most pupils make some progress but assessment lacks rigour. Limited reporting of progress to parents or carers.	Confidence was identified through staff questionnaires. PE is not assessed. PE progress is not reported to parents.	CPD training delivered. More equipment and appropriate resources purchased.
6	Most pupils are engaged in PE and can demonstrate their level of understanding and skill. The majority of behaviour is good and pupils are starting to make healthy lifestyle choices.	Many pupils are not engaged in PE. Staff lack confidence, motivation and creativity.	Schemes of work written. Resource bank created. Health and care linked through Wellbeing Nurse.
7	Most pupils can access a basic range of opportunities to take part in school sport through clubs and competitions. Through these opportunities, pupils learn about training and competing, although leadership development is not catered for. Provision for, and the inclusion of, young disabled pupils is inadequate.	There are currently not any clubs or competitions. Provision for, and the inclusion of, young disabled pupils is inadequate although understanding of autism is good.	Resource bank and support packs created.
8	Staff in the school have some knowledge and understanding of the key behaviours of a healthy and active lifestyle. There is a programme of extra-curricular and informal opportunities that promote physical activity, but the breadth of the provision is limited and the offer is universal.	Staff in the school have some knowledge and understanding of the key behaviours of a healthy and active lifestyle. There are no extra-curricular clubs.	Staff in the school have increased knowledge and understanding of the key behaviours of a healthy and active lifestyle. Extra-curricular clubs are planned.
9	Consideration has been given and a basic plan of how to use the funding is being established.	Sport premium is not used accurately.	Sport premium plan in place. PE budget allocated.

The targets were decided jointly by me as researcher-facilitator, but MF was to be responsible for leading the everyday changes. The aim was to realistically

make the progression from 'emerging' to 'established'. This was termed 'aspirational' by MF, so these targets remained as 'aspirational targets' as detailed in Table 6.3. The YST-PE audit was carried out again at the end of the intervention, following the same process alongside the targets designed to provide the school with a checklist.

Table 6.3: PE audit outcomes.

Youth Sport Trust audit question	Baseline audit focus points- Aspirational targets for action	Success?	Evidence
1	Need for vision and value through whole school training and establishing the PEWP.	✓	PE policy. Parent newsletter. Training sessions.
2	Timetable for sporting events within the school or between other schools.	✓	Sports day. Wimbledon event. Football event.
3	Identify PE co-ordinator and assistant.	✓	PECO and A-PECO recruited.
4	Raise timetabled PE to two hours a week.	✓	ActiveAftenoon and swimming.
5	Increase confidence and competence to teach or support PE through training, support and equipment.	✓	Training delivered. More equipment and appropriate resources purchased.
6	More pupils to engage in PE through better planning, ideas and resources.	✓	Schemes of work written. Resource bank created.
7	More creative provision through ideas and a dynamic approach.	✓	Resource bank and support packs created.
8	Sport premium to be used accurately.	✓	Sport premium plan in place.
9	Make clear how the planned budget will improve provision and outcomes in PE, physical activity and school sport.	✓	PE budget allocated.

Table 6.3 shows desired outcomes from the YST-PE audit before the FGP-PE intervention started and afterwards, with progress showing that all statements had been addressed and achieved. The targets used to achieve these were the actions employed to gain a fully-achieved 'emerging' level of provision that had not been in place before the intervention. The intention was to gain an 'emerging' status first to provide a springboard to begin to attain the

'established' level in the future when Queens School would be working towards the 'embedding' level to achieve outstanding PE. Section 6.5 describes how and why the PECO role was created from the YST audit.

6.5 PE Coordinator role

Question Three of the YST audit asked, 'Do you have strong leadership and management of PE and school sport?', as shown in Figure 6.2. To address that question and gain an 'emerging' level of provision, the recommended YST response was, 'The headteacher understands the importance of PE and school sport and there is an identified PECO'. The YST-PE audit revealed that there was no PECO at Queens School. For this reason, the PECO role was seen as the preliminary action point by the PEWP. This was internally advertised and offered, without pay, but as an example of leadership that could be stated on a curriculum vitae. As the PECO role evolved, it was clear that it needed to be more secure for the school to recognise their commitment to it, 'protected time is needed for the PECO role' (PEWP minutes – 27/9/17). Later an A-PECO role was also advertised. A job description for the PECO role was created, based on the curriculum, budgeting, staff development and policymaking. The PECO job description is located in Appendix Nine. The PECO and A-PECO roles were taken by Tammy Smith (TS), a teacher, and Kat Ashley (KA), a TA, respectively.

The A-PECO and PECO were given time to complete tasks, such as designing posters, adding PE to the weekly newsletter and creating a photo display and book in the school's reception. Data from staff questionnaires, as described in Chapter Five, indicated that staff believed that a trained person would be an investment. It was noted that 'What would improve PE is for someone to either come into PE lessons to help deliver the lessons or to actually teach the lessons' (PEWP minutes – 27/19/17). Although not receiving formal training, the PECO would receive informal training alongside me as researcher-facilitator. The PECO could support with lesson planning, ideas and a resource bank and also guide the writing of the FGP-PE profiles with class teachers and TAs. The original template was provided by the researcher-facilitator and adapted by the PEWP. The FGP-PE profiles were intended to be a method of presenting individualised information in the form of a 'passport', as discussed in Section

6.9.1, as a recognised way of pulling complex information together and presenting it in an easy-to-follow format.

I carried out an equipment and resources audit with the PECO and A-PECO, which is located in Section 6.8.4. This revealed that most equipment was inappropriate for the students or was in a bad state of repair. The PECO and A-PECO were tasked with purchasing new equipment and ensuring that everyone knew how to use it. They designed a rota for keeping the cupboard tidy and safe, which was an issue that emerged throughout the staff and student questionnaires. They regularly monitored the equipment cupboard for broken and missing equipment and held an 'equipment amnesty' (PEWP minutes – 11/10/17), which resulted in several items being returned that had been stored in classrooms for class use rather than in the equipment cupboard for everyone's use.

This section has presented the creation of the PECO and A-PECO roles and has emphasised that they bridge the gap between the PEWP ideas and the staff team. Another significant aspect of this intervention was training staff and staff supporting staff, which also provided a space to hear experiences regarding the barriers to, and opportunities for, enacting the intervention.

6.6 The FeelGood programme training schedule

This section represents the actions and outcomes of the action research cycle, which applied the perspectives of staff and students alongside the FGP to transform PE practice. Common themes from the questionnaires included the provision of student goals, the need for lesson plans and schemes of work, and the need for PE instruction. To entrench the targets and information taken from the suggestions that emerged from the questionnaires, as described in Chapter Five, a training schedule was designed. Based upon the theme raised regarding a need for more subject knowledge, it was decided by the PEWP that a staff training schedule would be created. As researcher-facilitator, I designed the training that was held as eight 45-minute workshops in after-school staff meetings.

Table 6.4: Training sessions linked to targets from YST audit and themes from stakeholder questionnaires.

Session	Topic
1	FeelGood Programme whole staff presentation and introduction: Q+As
2	Feedback from PE audits and questionnaires
3	PECO (PE coordinator) and PEWP (PE Working Party) recruitment
4	Implementing the FeelGood Programme part 1 Timetables and planning
5	Implementing the FeelGood Programme part 2 FGP-PE profiles
6	PE subject design and teaching strategies
7	FeelGood Programme activities- Sherborne Developmental Movement (SDM)
8	FeelGood Programme activities- TEACCH (Treatment and Education of Autistic and Communication-Handicapped Children) in PE

The sessions shown in Table 6.4 consisted of a combination of PowerPoint presentations, collaborative tasks and, in the case of Sessions Seven and Eight, practical demonstrations and interactive games. SDM was selected because it was noted in PEWP minutes that staff wanted further training– 'SDM was chosen as an activity. Some staff are trained but would like a refresher; others would like to be trained' (15/3/18). TEACCH was selected because I noted that although intervention elements were evident in classrooms, there did not appear to be any used in activities involving PA, such as in yoga, swimming or sensory sessions (PEWP minutes – 11/10/17 and 26/3/18). The training schedule was planned as a springboard to establish the FGP-PE intervention and to keep all staff informed as a collective. Ongoing support was in the form of guidance requested individually by staff. This aspect was important because, as noted by Suhrheinrich (2011), workshops alone do not provide training for teachers to sufficiently learn skills. Adding to this notion, Stahmer et al. (2015) indicated that intervention requires extensive training, coaching and time to reach and maintain implementation. The intention was that all of these actions combined would achieve this. In the same way, this resonates with Morgan et al. (2018), who maintained that effective PE CPD should be supportive, job-embedded, collaborative and ongoing. This links further with the recommendation of Armour and Yelling (2007) that PE CPD has to meet the needs of the teacher, which are determined by student needs. This study agrees with Domville et al. (2019), who recommended that primary schools should support the ongoing professional development of generalist teachers

and facilitate better working relationships with specialist coaches. However, it is noted in this study that this does not mean completely replacing teachers with coaches. This form of CPD meant that the training was directly relevant to the work that staff were involved in. There is an indication that ongoing staff training is more likely to deliver high-quality pedagogical frameworks and motivating learning environments that foster children's development (Munton et al., 2002), especially when researchers and staff cooperate on local projects (Johansson et al., 2007) to attain positive outcomes for students (Fukkink and Lont, 2007). Examples of presentation slides are located in Appendix Nine.

Curriculum and professional development support changing programmes and pedagogical practices to maintain PE that is relevant and inclusive. As presented in Table 6.4, there were two training sessions around the FGP: timetables and planning, and also subject design and teaching strategies. This included a PE planning format promoting a consistent approach. This was provided because the PEWP identified that there was a need for such information, as can be seen from the minutes, 'Basic planning requirements have been stated by MF and TS – warm-up, session, cool-down, and recording the aims' (PEWP minutes – 20/9/18). Petrie (2016) argued that PE practices are dated, despite research in curriculum developments and professional learning opportunities that support changing programmes and pedagogical practices to guarantee the relevance of PE and inclusivity. Of relevance to this study is the exploration of what constrains and enables transformative approaches to PE in a special school. Kemmis et al. (2012) explored the idea that practices can be understood as living things, and that they are interdependent with other practices to which they are connected in ecologies of practices. This draws upon how practices of educational leadership, professional development, teaching and student learning connect, each influencing and being influenced by the others.

The training was already felt to be making an impact during this part of the intervention/action research cycle: TS stated, 'PE is the only subject that has been developed (for Ofsted preparation) so a model for subject improvement in our school will be refined from this' (PEWP minutes – 26/3/18). Instructional changes were included in the training, to be viewed as either a refresher for experienced staff or as an introduction for newer staff, providing clear and

structured information for subject delivery and presentation. TEACCH elements were used across subject areas, so staff discussions tended to focus on transferring the skills that teaching staff already had but which were not being applied in PE. This session promoted visual prompts to support teaching, such as symbols and photos, and tangible resources, such as throw-down feet and arrows, to provide physical cues in the environment. Makaton was reinforced as a common method to be embedded throughout the school, not just in certain subjects or situations. The use of individual PE schedules was introduced, as well as a whole-school approach to a PE routine, which was implemented to familiarise students with expectations across classes.

Training included practical variations of equipment modifications and utilisation of interesting and creative apparatus to increase engagement, such as colour, sound, smell, size and weight. No commercially available PE equipment could be described as 'autism-specific'. Moola (2015) reported that PA opportunities need to be enjoyable but also, to provide safe, mastery-filled opportunities to reconceptualise how disabled students see the moving body. Therefore, equipment was purchased with individuals in mind, such as items that were visually stimulating or had a particular texture, to provide engagement and a 'way in' to gaining motivation. The range of needs experienced by autistic students meant that it was quite difficult to find autism-friendly equipment that was robust.

Once an understanding of pre-intervention PE provision had been identified from stakeholder questionnaires, how PE practice could be improved was clearer. These perceptions were added to the information drawn from the YST-PE audit in Section 6.5, which informed the action to provide a framework or guiding criteria for improvement whereby impact could be recorded. All elements of this action process were combined and interlinked to make a clear rationale for improvement.

Section 6.7 describes the process of how and why an audit of weekly class timetables was carried out, and what emerged.

6.7 Pre- and post-intervention PE allocation

An audit of weekly class timetables was carried out by the PEWP to understand what PE was offered pre-intervention. This was chosen as an action point to

determine whether PE was being taught as a distinct subject or as embedded activities across the school week by each class. Table 6.5 shows the weekly time allocated to PE for each class pre-intervention. Data indicated that no classes had PE specifically named on their class timetables. This was similar to the findings of Faucette et al. (2002) and Jones and Green (2017), who indicated that class teachers demonstrated resistance to teaching PE, so, avoided teaching it. However, this did not mean that PE, as a subject, did not occur. There may have been other times where PA instead may have been provided, for example, playground times labelled 'break'.

Table 6.5: PE allocation pre-intervention.

Class	Named PE lesson yes/no	Swimming session minutes	Playground minutes	Specified physical activity
1	No	60	270	Yoga-75 minutes
2	No	60	210	No
3	No	30	300	No
4	No	45	300	No
5	No	45	225	No
6	No	60	210	No
7	No	75	250	Sensory stimulation-60

Class 5 had two sessions of 30 minutes a week designated time with an OT. This may have involved a form of PA because some therapy activities are designed for therapeutic and sensory needs and self-management of behaviours (Cohn et al., 2014). Ashburner et al. (2014) reported a focus on sensory integration in occupational therapy as an intervention. OTs are recognised as part of the team providing services for autistic people (Volkmar et al., 2014), employing a holistic approach to planning programmes for autistic children by considering the physical, social, emotional, sensory and cognitive abilities and needs of students. I considered that occupational therapy sessions may have contributed to overall PA time because although the focus of these sessions was not evidenced, they may have included work on a trampette, swing or a gym ball. Kuhaneck and Watling (2015) highlighted the need for OTs to consider all sources of evidence as they endeavour to understand the lived experiences and needs of autistic students and the effectiveness of various

interventions in meeting these needs. I did not involve the OT in any planning and did not observe any sessions, but this could have been explored further.

Class 7 had a daily session called 'sensory stimulation'. It was not clear what this involved but there may have been some form of PA, indicated in the term 'stimulation', linking with therapeutic activities. The school, potentially, had other instances of this situation where evidence was not produced, or terminology was unclear. Timetables did not accurately reflect what interventions were being carried out or how time was allocated. Because there was no PE planning, it was difficult to record if other activities covered PA. For example, every class had a minibus booked for an educational trip. Hypothetically, these expeditions could have been used to support cross-curricular subject topics and may also have provided an environment for hiking.

All classes timetabled swimming, which was not surprising as the school had an on-site pool. Sessions ranged from 30 to 75 minutes and were timetabled once or twice weekly. Swimming was specifically named and not called PE. It would have been interesting to have discovered why timetables were designed as they were. It was inferred from staff questionnaires that factors such as student ability and needs determined what was taught in PE lessons, so, it may be that this also decided how the school day was planned in each class. The only class that indicated an additional PA was Class 1. Yoga was delivered daily for 15 minutes in the afternoon, possibly as a calming and focusing session. This class also had 270 minutes of 'play' time across the week, which was the second-highest allocated time. Classes 3 and 4 had 300 minutes of 'play' time.

Additional terms used on the timetables included 'sensory room' and 'interactive box', which may have involved physical activities related to therapeutic programmes implemented by the OT. Similarly, Class 4 carried out 'jobs' at the end of every day, which may have included heavy lifting work such as moving chairs and tables when tidying the classroom or gardening in the outside area of the classroom. This goes some way to uncovering that there was more on offer at Queens School regarding PE-related activities and PA, and also, towards understanding how links can be better made with consideration to the curriculum and timetable restrictions to make this more explicit. Being able to record more PA that linked to PE could have been achieved by renaming some

of the sessions on the class timetables, thus preventing the misconception that little time was allocated to PE.

This baseline was compared with new data after the introduction of the FGP-PE. Of note was that time was allocated for dedicated PE simultaneously for all classes, which Queens School called ActiveAfternoon, and which, whilst beneficial for mixed ability opportunities, did raise issues around space and equipment allocation, as noted in Section 6.8. The idea of blocked PE lessons came from the teacher and TA questionnaire responses and was trialled. Because PA was recognised as a powerful way to address many student needs, as discussed in Chapter Two and Chapter Five, it was decided to consistently increase the amount of time offered to students and to ensure that PE was timetabled as a whole school initiative.

Table 6.6: PE allocation post-intervention.

Class	Named PE lesson yes/no: ActiveAfternoon minutes	Swimming session minutes	Playground minutes	Additional specified physical activity minutes
1	Yes-90	30	210	Yoga-60
2	Yes-120	60	180	Sherbourne Developmental Movement- 30
3	Yes-120	45	210	No
4	Yes-120	60	225	No
5	Yes-120	45	225	No
6	Yes- 120	60	210	Soft play-90
7	Yes- 75	55	210	Yoga-60 Exercise-60

As seen in Table 6.7, Class 7 carried out four weekly yoga sessions of 15 minutes and four weekly exercise sessions, which was previously termed 'sensory stimulation', indicating a recognition of providing evidence that this was PA, even if it was not termed PE. Class 6 timetabled soft play, Class 1 continued to timetable yoga and Class 2 timetabled SDM, which may have been as a result of the SDM that I provided in the training programme. In comparison with the pre-intervention data, all classes stated the difference between snack, lunch and playground time, which was useful in clarifying that the whole session was not entirely spent on the playground. The results may have been misleading because every class had PE imposed upon them by the decision to have the ActiveAfternoon, but it indicated that four out of seven classes timetabled additional physical activities and all classes continued to timetable

swimming. Playground time varied but it was still unclear as to whether structured play was organised during this time. Data was next scrutinised to discover what effect increasing PE had on class timetables overall and is shown in Table 6.7.

Table 6.7: The impact of increasing PE on class timetables.

Class	Numeracy	Literacy	Lessons removed from
1	No change	No change	Relaxation
2	No change	No change	Mini-Enterprise Art Golden time Music
3	+75	+45	Sensory room ICT DT Relaxation Art Cooking
4	+105	+60	Sensory room Jobs
5	No change	-75	Occupational therapy Art Library
6	+60	-60	Horse riding Art Board games Record of achievement
7	+60	-135	Music

Several activities were taken off the timetable in response to the intervention. Numeracy either remained the same or increased whereas time allocated for literacy fluctuated, suggesting a higher priority for numeracy across the school. There may have been other reasons for activities being removed but this reflects the difficulty of balancing the school timetable in general and demonstrates the tension between increasing PE and decreasing something else to fit in more PE. In addition to national curriculum subjects, being a special school means also providing autism therapies that mainstream education would not, such as sensory integration, occupational therapy or relaxation, which means there was potentially more to fit into the timetable, making re-allocation more difficult.

PE is not a mandatory part of the curriculum but is a recommendation. According to the YST, exercise is associated with both physical and mental wellbeing and, despite the increase in childhood obesity and type-two diabetes, 38% of secondary schools have cut their PE time in the last five years, just when it is needed more than ever (YST, 2019). Inactivity and obesity are increasing when there is a growing need to develop resilience and employability skills. The YST endorse that, along with English and Maths, PE should be part of the foundation of a good education that equips young people with key skills to support their wellbeing and prepare them for learning. It was decided that the ActiveAfternoon was how PE would be increased at Queens School, with its whole school approach. According to the PEWP minutes, this was originally timetabled for a Friday morning and called 'Clubs' but after a trial, this was changed to a Wednesday afternoon and renamed.

The next section presents the changes to the ActiveAfternoon as the sessions evolved.

6.8 ActiveAfternoon timetable design

After the PE timetable audit, it was clear that PE was not getting a high enough profile on the timetable, despite staff recognising the benefits. As stated in Chapter Four, I had originally approached Queens School to discover whether they had found issues similar to mine in engaging autistic students in PE. They agreed that it was difficult and had not found a solution. In response to the questionnaire feedback, a designated time was planned to ensure an opportunity to access a PE lesson. This was a high-level decision made by senior leaders as a way to address the need for greater subject value. It was noted that a decision was made to 'keep swimming in addition to newly timetabled PE lessons. These swimming sessions will be informal in comparison to the PE lessons, which should be taught' (PEWP minutes – 11/9/17), reflecting a commitment to achieve this.

However, this decision had a mixed response, which is described in more detail in the PEWP minutes. This was because staff assumed that a timetabled PE lesson required additional planning. This was fed back to me, as the researcher-facilitator, verbally. It was quoted in the PEWP minutes that PE is 'supposed' to be timetabled, which was not monitored by SLT, although MF said

it should be. This was a situation that she said was an area for development that also involved monitoring of minibus allocation and on-site areas such as the swimming pool, sensory room and food technology base. The underlying organisational tension arose from some classes having more time using these facilities than others and some using them in addition to allocated time that was not necessarily shown on the class timetable (PEWP minutes – 11/10/17). Activities were discussed as the yearly cycle of events played out, such as arranging sports day in the summer term, which was a new focus in Queens School. SDM was noted in PEWP meetings (PEWP minutes – 11/9/17) regarding training needs alongside a scheme of work. Training for DanceFit was to be delivered by an external instructor (PEWP minutes – 27/9/17). Water polo and archery were activities proposed and senior leaders began to investigate the idea of after-school clubs. This had been previously difficult because some children used local authority transport to access school which presented a dilemma regarding equality of access. Nevertheless, the PEWP discussed early plans and decided to gain feedback from parents regarding whether they would like after-school clubs to take place, 'an out of school extra-curricular club proposal form has been sent out to staff and parents' (PEWP minutes – 17/1/18).

The curriculum maps for the ActiveAfternoon session are presented in Tables, 6.8, 6.9 and 6.10, demonstrating the evolving nature of the intervention as an action research process. The timetable was designed for all classes to do PE simultaneously, 'MF, the deputy head, has designed a new timetable for PE next year' (PEWP minutes – 10/7/18). This meant that there would be designated PE on the timetable and teachers could add to this if they wished. Table 6.8 shows the activities that had been selected at the start of the intervention. Students were allocated activities based upon abilities and friendships, allowing students to work together across age groups.

Table 6.8: FeelGood *ActiveAfternoon 2017–2018 overview.*

	Autumn 1	*Autumn 2*	*Spring 1*	*Spring 2*	*Summer 1*	*Summer 2*
Group 1	Badminton	Gymnastics	Athletics	Tennis	Cricket	Swimming
Group 2	Swimming	Badminton	Gymnastics	Athletics	Tennis	Cricket
Group 3	Cricket	Swimming	Badminton	Gymnastics	Athletics	Tennis
Group 4	Tennis	Cricket	Swimming	Badminton	Gymnastics	Athletics
Group 5	Athletics	Tennis	Cricket	Swimming	Badminton	Gymnastics
Group 6	Gymnastics	Athletics	Tennis	Cricket	Swimming	Badminton

The initial plan for the implementation of the PE lessons in the autumn term included six activities led by a combination of teachers, TAs and senior leaders. Athletics was offered by the Primary Sports Partnership that had been established during the intervention (PEWP minutes – 27/10/17). Equipment was ordered for each activity. By the time autumn term had been completed, the PEWP realised that six activities were too many because it was chaotic organising that many students at the same time. Also, there were problems around where to teach each activity. Plans to convert a room attached to the swimming pool building did not work out and funding to turn adjacent unused land into a playing field was not received in time. As a result, it was decided that there would be five activities, 'The 'activity selection for ActiveAfternoon has been cut from six to five choices because of lack of locations and no-one wanted to teach gymnastics' (PEWP minutes – 27/10/17). Table 6.9 presents those changes.

Table 6.9: FeelGood *ActiveAfternoon, Spring and Summer terms 2017–2018.*

	Spring 1	Spring 2	Summer 1	Summer 2
Group 1	Athletics	Tennis	Cricket	Swimming
Group 2	Badminton	Athletics	Tennis	Cricket
Group 3	Swimming	Badminton	Athletics	Tennis
Group 4	Cricket	Swimming	Badminton	Athletics
Group 5	Tennis	Cricket	Swimming	Badminton

Table 6.10 shows how the timetable became four groups for further manageability. The PEWP also realised that there needed to be space to practice sessions for sports day activities to familiarise students with the format, so, one half-term functioned as sports day preparation. Autistic students often need to rehearse for events and, as sports day is quite a noisy and busy occasion, staff wanted students to be familiar with tasks and expectations.

Table 6.10: FeelGood *ActiveAfternoon, Spring and Summer terms 2017–2018.*

	Spring 2	Summer 1	Summer 2
Group 1	Tennis	Cricket	Sports day preparation
Group 2	Cricket	Tennis	Sports day preparation
Group 3	Badminton	Swimming	Sports day preparation
Group 4	Swimming	Badminton	Sports day preparation

The final version of the timetable was still not particularly indicative of the preferences expressed by students in Data Collection One, except for swimming.

As discussed in the literature review, Cothran and Ennis (1997) signposted tensions between teachers and students regarding lesson content, causing students to refuse to participate. Teachers can either force students to engage, persuade the students of the value of class content or modify the content to meet students' values. Activities appeared to be chosen because of available

facilities and staff willingness to deliver these activities at Queens School. Similarly, Kasari and Smith (2013) cited that an intervention is only successful when it is in alignment with the needs of autistic individuals, creating a good fit within the school environment. I agree with this, because the difficulty for Queens School was that although their environment did not seem to offer many options for a wider range of activities, staff could be creative by offering activities within the boundaries of that they did have. Purchasing new equipment to increase the range of activities was one way of achieving this, accessing other schools was another. Engagement with other schools was explored (PEWP minutes – 26/3/18) although the Primary Sport Partnership broke down, which meant that athletics was no longer timetabled.

In terms of how PE could be improved, it was noted that Queens School was committed to gaining student perspectives, 'let's link with the student council for students to have a further say' (PEWP minutes – 21/2/18). This demonstrated that the school wanted to get it right by asking students what they thought, by including their voice more and promoting advocacy. In addition to sports day, and overall attempts to raise the profile of PE during the intervention, the PEWP introduced a range of sporting activities to their annual summer Learning, Enrichment, Activity Programme (LEAP) week. The schedule included go-karting, sailing, kayaking and paddle boarding, an 'outward bound' day, golf, swimming and water games and a sports day. The PEWP opted to present all students with a participation certificate for sports day, with medals for the first three places in races, demonstrating successful participation with a competitive element (PEWP minutes – 18/6/18).

Section 6.8 presents how the FGP-PE intervention was processed and translated into action by Queens School. Additional documentation was created collaboratively throughout the course of the intervention, which generated further evidence of how events influenced actions, which, in turn, influenced events. Section 6.9 describes the various types of text produced.

6.9 Documentation created during the intervention

All the textual data supports an overall positive impact of the intervention on PE practice and helps to link all the data in this study to the actions and outcomes. It was important to view the evidence as a whole because the textual data

sources were outputs of action and this complemented the overall process of learning and development. The impact could be demonstrated through the progress of the school team through the audits, timetable changes and types of documentation, such as schemes of work, resource banks and FGP-PE profiles. This involved the FGP training for staff, as well as understanding the ongoing collaborative elements required to make this meaningful for staff and, in turn, for students because, as Cale and Harris stated (2013), PE experiences should be meaningful, relevant and positive.

6.9.1 FeelGood programme PE profiles

Targets were taken from IEPs and EHCPs and, where possible, students were involved. Some students wrote their profiles and made their choices regarding the design. For example, changing the border and placing photos of themselves participating in an activity or inserting a logo of their favourite football team. The FGP-PE profiles were linked to the original concept of the FGP by clarifying how PE benefited each student and how they learned in this environment that may be different from how they learned in others.

Learning passports helped make sense of formal assessment information and enabled important personal aspects to be shared. Each FGP-PE profile was written so that it could be reviewed as progress and achievement, 'TAs, in particular, are working hard to achieve the FGP-PE profiles' (PEWP minutes – 18/1/18). An example of an FGP-PE profile is presented in Figure 6.3, which details the links made between how PE benefits this student, how access can be enhanced and how this relates to self-management of behaviours, wellbeing, EHCP targets and student preferences. This is in alignment with Maher (2018) who recommended that PE teachers and TAs should have access to the informed learning targets of students. Modifications began with basic changes to subject standards because PE was not assessed pre-intervention, as noted in the staff questionnaires. Identifying student strengths through the FGP-PE profiles was the starting point. The PECO and A-PECO were instrumental in getting these completed.

Figure 6.3: Example of a FeelGood Programme-PE profile.

<u>PE profile for Feel Good programme</u>

Student friendly PE target:

I can recognise when I need to feel calm and use the trampette

Name	Age	Class	P/NC level	EHCP objective	Overall PE target
				To control and learn acceptable expression for his frustration	Use exercise as a self-help technique to control his frustration

Student PE aspirations:

Any conditions/medication affecting delivery of PE lesson:
Dyspraxia/Epilepsy/cochlear implant/Other: Prada-Willi
Additional sensory information affecting delivery of PE lesson: noise/touch sensitive; clothing issues/ Other: regurgitation

PE changing notes: individual changing due to CP
PE activity likes: swimming; cycling; football; running
PE activity dislikes: tennis; badminton; volleyball

<u>How PE/FeelGood programme benefits this student:</u>
Movement: practice gaining control over large body movements.
Concept of self: develop bodily awareness and spatial awareness- SDM; yoga; aerobics
Operational skills: hold equipment effectively leading to better FMS: throw with direction and correct force; look at what he is doing.
Health and fitness: regular access to aerobic activities.
Intervention: link the positive internal feelings of taking part in sport and leisure. Learn to be more aware of feeling calm, focused or energised through exercise.
Sensory integration: whizzball; parachute; gym ball; trampette.
Leisure options: walking; horse riding;

Behaviour links: BSP strategies and monitoring
Individual risk assessment: High/Medium/Low- tendency to not follow safety instructions when on trampoline and over-excited
OT links: sensory diet linked to calming effects in the vestibular system

The FGP-PE profiles were specifically designed to be one page only to aid speedy assimilation of information. There were often volunteers in Queens School who were tasked with working with students in PE and this would quickly aid their understanding of each student. Agency staff were also required to read the FGP-PE profiles.

Passports are practical and person-centred documents that provide an efficient way of presenting student information in an accessible style and can improve student quality of life by reducing anxiety and challenging behaviour.

Every student had an FGP-PE profile and I provided training, as seen in table 6.4, for these to be implemented. Originally, the school's new assessment tracking package 'Classroom Monitor' was going to be used to record PE progress for the first time. However, there were delays with inputting numeracy and literacy data, which were prioritised, resulting in PE not being developed (PEWP minutes – 26/3/18). The PEWP decided that the FGP-PE profiles would link EHCP objectives with a PE target that was linked to the assessment recording form shown in Figure 6.4.

6.9.2 PE assessment templates linked to schemes of work

PE was not assessed pre-intervention or reported back to parents. An attempt was made to create an assessment process that was linked to the school's adopted practice recognising the social, communication, emotional regulation and transactional support (SCERTS®) system of developmental stages of social, language and conversational partners (Prizant et al., 2006). SCERTS® is an all-encompassing educational approach to autism education employed by a multi-disciplinary team. Queens School used SCERTS® to identify students' learning strengths and needs, which included all types of picture communication, written schedules and sensory supports. Specific, individualised plans were developed to provide educational and emotional support to families and to encourage collaboration between professionals in educational, home and community settings, in order to regularly track progress and make modifications. Within this framework, an assessment and progress form was devised collaboratively, by me, as researcher-facilitator, and TS, the PECO, to combine PE assessment with lesson aims and objectives, as presented in Figure 6.4.

Figure 6.4: PE recording document.

Term:				Name:					

National Curriculum Areas of activities

Key Vocabulary:	**We are learning to (WALT):**

Session Outline

Starter:

Main:

Plenary:

(Taken from the termly planning)

Resources:

Comments/ Evaluation:

PE Assessment Form

EHCP target :	Experience a range of social settings	PE Target:				Join in activities with peers		
Phase 1	Targets from scheme of work	Wk 1	Wk 2	Wk3	Wk4	Wk5	Wk6	Wk7
Encounter/ Early Awareness								
Phase 2								
Attention and Response								
Phase 3								
Engage and Participate								
Phase 4 Refine and Improve								
Phase 5								
Consolidate								

PE remained a subject that was not formally assessed post-intervention. However, it was decided by SLT that FGP-PE profiles would assist staff to recognise what PE targets linked to EHCPs could look like. Also, in the future, when the Classroom Monitor tool was ready, there would be some PE data to upload into the assessment system.

6.9.3 Planning

It was decided by the PEWP that schemes of work would be produced because the deputy head revealed that there was no PE planning in place, 'PE tends to be 'made-up', with no continuity or progression' a 'what shall we do today?' approach (PEWP minutes – 11/19/17). Furthermore, 'SLT want to have a common template' (PEWP minutes – 23/9/17). The mid-term planning template was also written collaboratively, by me as researcher-facilitator and TS, an example of which is shown in Figure 6.5.

Figure 6.5: Mid-term planning template.

		Active Afternoon FeelGood Programme		
		Group:		
		TERM:		Wednesday
Session	**Activity**		**Session objectives**	**Resources**
SESSION OVERVIEW	Students will be practicing:			
Week 1	Introduction- Warm up Main: End- Cool down			
Week 2	Introduction- Warm up Main: End- Cool down			
Week 3	Introduction- Warm up Main: End- Cool down			
Week 4	Introduction- Warm up Main: End- Cool down			
Week 5	Introduction- Warm up Main: End- Cool down			
Week 6	Introduction- Warm up Main: End- Cool down			
Week 7	Introduction- Warm up Main: End- Cool down			

Mid-term plans were completed by those who were leading ActiveAfternoon sessions, with ongoing support from me as researcher-facilitator and the PECO, once she was fully conversant with the format. This was to ensure planning was completed consistently (PEWP minutes – 23/9/17). These plans could facilitate more organised PE activities with clear aims for all involved, including TAs who wanted access to such information. Each mid-term plan detailed activities for one half, which rotated as each student group changed. This step was taken as a result of the feedback from staff questionnaires that there was no planning in place. Schemes of work were written, initially by me as researcher-facilitator, and discussed with TS. These were then distributed to teachers and TAs. Any amendments were made after this and then became the work of the staff team. Alongside this was a review of all equipment, including a facility check, storage space and support materials, mainly carried out by the A-PECO, KA.

6.9.4 Equipment audits

Two equipment audits were carried out by me as researcher-facilitator and the A-PECO. The 'amnesty' aided the collection of equipment and resources across the school so that a conscious effort could be made to establish what there was and what needed replacing or developing. This enabled a collaborative approach to deciding that resources should be centralised rather than distributed across individual classrooms. The first equipment audit is located in Appendix Seven. This step was taken as a result of the feedback from staff questionnaires that there was not enough suitable equipment. An important feature that emerged from this audit was that equipment was often poorly maintained, had missing parts or could not be located. For example, there were multiple tennis racquets, balls and nets but no tennis posts. Similarly, there were 13 uni-hoc sticks with only one puck; one archery pack with missing arrows; one SDM pack with the training disc missing; two broken trampettes and one pair of rollerblades. This indicated that not only had there been insufficient monitoring of equipment pre-intervention, but also, safety was not attended to, as some items were often found left outside on the playground, exposed to the elements, or thrown into the cupboard in an unsafe manner. Broken equipment and sets that had missing parts were subsequently discarded. An order was made for more appropriate equipment, such as throw-down hands and feet for visual cues, Yuckee-medicine balls and gym balls for

fitness and deep pressure work, giant dice for interactive activities and a giant soft-textured ball with a bell inside for students with sensory interests. As part of the centralisation of equipment, it was decided that a resource bank would be useful. This was a list of activities that were provided alongside the schemes of work, but which also gave ideas and inspiration. This process is described in Section 6.9.5.

6.9.5 Activity resource bank

The PE resource bank was initially created by me as researcher-facilitator and further developed in collaboration with the PECO and A-PECO. This step was taken as a result of the feedback from staff questionnaires that they wanted more ideas for activities and guidelines for how to deliver them. Staff were then trained on how to adapt these and add their ideas. This approach was selected because establishing quality practices requires an understanding of how knowledge is applied to a setting – a complex, interrelated and interdependent process (Cushion et al., 2006). The people best able to achieve this were Queens School staff, with guidance from me as researcher-facilitator. Resources were created in packs that could be signed out for each group and included flashcards, Makaton sign cards, symbol prompts and PE schedules. Some packs also contained photos to assist with setting up PE-specific TEACCH layouts.

Figure 6.6: Example from the Sherborne Developmental Movement resource bank.

Pupils should have opportunities to:
- Show awareness of massage of hands/ feet/ arms/ legs (maybe with
- aromatherapy oils), and various sensory stimulation on different parts
- of the body (silk material, fan, parachute, cheer leading pom-poms)
- Show awareness of a range of total body movements (swinging, rolling)
- Show awareness of a range of different body orientations (flat,
- Curled up, upside down)
- Show awareness of where their body is in space (e.g. On top, under, through)
- Show awareness of a range of pace of movement (slow, quick, jerky, smooth)
- Show awareness of limbs to be moved passively (stretching in exercises or as part of action songs)
- Move their hands and arms together
- Show awareness of body awareness songs and games (e.g.: Heads, Shoulders Knees and Toes or Chilli bean game
- Actively move as part of body awareness activities

Reaching - Children should have opportunities to:
- Bring their hands into mid-line
- Touch objects of various kinds with their hands
- Touch objects in midline/ on left/ on right / cross midline
- Touch objects with one hand/ with two hand
- Bend and straighten their arms unprompted
- Reach for objects just out of reach – midline/ right/left – one hand/both hands
- Reach for objects and bring them close (not necessarily grasping them) one hand both hands/ midline/ left/ right / cross midline
- Reach for objects and grasp them (whole hand)
- Reach for objects and grasp them (pincer grasp)
- 'Reach' / aim with feet to hit target / obtain object

The example in Figure 6.6 was intended to provide enough information to make clear what was expected of students but also enough flexibility for staff to choose how they would achieve this with their students. The schemes of work were linked to these activity ideas, P-levels and levels of engagement. This document was taken from the SDM resource pack and was designed to be used alongside the scheme of work. The resource bank was created in response to staff declarations that they needed ideas and examples for tasks. Figure 6.7 provides a connection between these ideas and what assessment criteria could be used, which would be useful for plans to assess PE on the school's Classroom Monitor assessment tool.

Figure 6.7: Example from the Sherborne Developmental Movement resource bank linking assessment with activity ideas.

Encountering/Early Awareness Narrow contexts for example table top or work stations and skills teaching in closed activities.	Respond to PE objects of reference or pictures of PE equipment and toys. Respond to familiar sounds/words and/or PE-based signs. Show understanding of the meaning of words and signs (look at the ball/ sit on the bench). Interact with familiar people (smiling, turning, giving eye contact). Work co-actively with familiar people (join in 'row the boat'). Show anticipation of familiar social activities and events (start to rock for 'row the boat').
Attention and Response The context remains narrow.	Awareness of stimuli – people, objects and activities in the PE context. Recognise when a stimulus starts and stops (stills, moves limbs, turns after the stimuli start or stop). Accept stimuli for an increasing amount of time (persist with physical activity with prompts). Respond to a widening range of stimuli (attention gained by music, favoured PE equipment). Anticipate stimuli that occur over and over again. Transfer attention from one stimulus to another.
Engagement and Participation The context begins to broaden and may include 1:1 and small group settings.	Exploration of how all parts of the body should be used. Move to moving stimuli (e.g. track a glow stick). Move randomly but with increased confidence. Make things move deliberately with gross movement (e.g. fabric, objects from activities). Make things move deliberately with finer movements (e.g. whole hand to manipulate objects). Shift attention between different actions (e.g. different actions in an activity centre)
Refinement and Improvement The range of learning situations and settings broadens further.	Increased control of objects and materials through physical manipulation. Take turns in repetitive games where adult stops to wait for a response (movement activities, action songs). Move with intent. Explore objects that are used in familiar routines (warm-up equipment). Take turns actively (rolling hoop to partner, passing objects backwards and forwards). Choose between 1 or 2 movements.
Consolidate The learner is able to demonstrate when and where required	Control of body and materials through physical manipulation. Lead repetitive games where leader stops to wait for a response (movement activities, action songs). Lead routine events – design a warm-up routine. Move with fluency and control. Share equipment. Select 3/4/5 movements to link together in sequence.

As part of the overhaul of whole-subject development, it also became apparent by the SLT that there was no PE policy supporting the ethos of the school and linking to other well-established documents, such as the Healthy Schools policy and the monitoring of medication, weight management and food and drink intakes, which were all connected to students' autism needs.

6.9.6 Policy-making

Schools are complex systems of people. To be safe within this complexity, the most effective way to create a supportive learning environment is through the development and implementation of clear and focused school policies. These are put in place to guide the day-to-day functioning of the school as well as to make it a secure and effective place for learning. SLT and the PEWP opted to develop the PE policy as a way to drive enthusiasm and openness to the training and to establish expectations for specific behaviour and standards. PEWP minutes noted discussions regarding willingness to change practice, 'initial reluctance over what is required; feelings that this would be additional work as well as another unfinished project' (27/9/17). This is recorded again in PEWP minutes, 'some staff resist change and have ingrained ways of doing things' (11/10/17). However, comments were also positive:

> *PE sessions are progressing weekly and the feeling is that a lot has been achieved in a short time. Staff are enthused and pleased that time has been allocated for lessons to be planned by someone else.* (PEWP minutes – 27/10/17).

As the intervention progressed, decisions about which innovations were possible and desirable became more grounded in values and ethical principles. The evidence presented here supports the notion that reforms were interpreted and translated into school practices through sense-making before being accepted or acted upon (Ganon-Shilon and Schechter, 2017). For example, staff needed to understand the relevance, and trust the sustainability, of the intervention:

> *Momentum has been lost due to keen people leaving and this has happened before. Staff don't want to invest time if they don't think it will go anywhere* (PEWP minutes – 24/1/18).

This is evident in the writings of Thomson and Hall (2011), who explained the relationships between persons, actions, contexts, histories, environments and cultures. Thus, there is a focus on activities, what drives them and how the school is understood.

Policies address the practical implications of how to achieve the school's vision and are a key means of ensuring that agreed values underpin day-to-day decisions and actions in a school. It was decided by SLT and the PEWP that work on a PE policy would link to the school's wellbeing policy, creating a whole-school approach. Lorusso and Richards (2017) indicated that limitations in PE policy and status are threats, so, by simultaneously working on raising the profile of PE, Queens School was attempting to achieve transformation. This supports evidence that non-specialists generally believe that PE is a valuable component of the curriculum (Morgan, 2008; DeCorby et al., 2005;). These connections were aimed at strengthening staff commitment to PE. A PE policy was created, followed by swimming and then a health and safety policy. By producing a PE policy, the intention was to raise the profile across the school. Bailey (2018) stated that the educational value of PA and PE is understood through its value within the school curriculum. Policies are concerned with key processes within the school and are about interactions between the environment, the students, their parents and the community to ensure effective teaching and learning, secure safety measures and basic human rights. Policy writing was undertaken collaboratively, using my guidance as a PE specialist with previous experience because there is, generally, a lack of guidance to shaping policy for a subject leader (Griggs and Randall, 2018). This makes it difficult for any reforms to be achieved. Headteachers and staff are guided by policies to provide a framework for the smooth functioning of a subject as part of a shared understanding of a school's strategic plan. Queens School's vision was to support the education and personal development of each student so that they could become active citizens enjoying independence and good quality of life.

As it was not possible to use student progress data, and I was unable to perform lesson observations, I undertook learning walks to record notes of any fundamental changes that took place regarding delivery and teaching styles.

The next section presents a short description of learning walks that I undertook pre- and post-intervention.

6.9.7 Learning walk notes

During this study, I was not permitted to conduct formal lesson observations of PE teaching. As a compromise, informal notes were permitted. A small selection of pre- and post-intervention learning walks is presented. Figures 6.8 and 6.9 are examples of two learning walks conducted by me as researcher-facilitator, with notes that documented a swimming lesson pre- and post-intervention. In the case of the examples provided, positive impacts of action steps on practice were recorded.

Figure 6.8: Learning walk notes recorded pre-intervention.

Learning Walk notes

Date: 21/6/17

Activity: Swimming

Observations:

Session led by a teacher in the schools on-site pool.

6 students supported by 4 staff; of this 3 staff members were on poolside with the teacher.

All students were following rules and got in the pool safely.

No indication of a lesson at all i.e. no activities and no swimming teaching going on.

Students were enjoying themselves however there were no targets or structure.

No countdown given for students to finish the session resulting in an incident of behaviour.

The notes documented on this learning walk were informal and represent basic observations of teaching practice. For example, there were four staff present in the pool area yet only one of them was in the pool supporting students. The school risk assessment endorsed a higher staff-to-student ratio in the pool itself as there was also a lifeguard present on poolside. Also, it would simply have been easier to run a lesson if more staff were in the water helping to support behaviours. Other improvements would be to the overall lack of lesson structure

and planned activities and the abrupt end to the lesson without a countdown, which resulted in some students not accepting that this fun activity had finished.

Figure 6.9: Learning walk notes recorded post-intervention.

Learning Walk notes

Date: 10/7/18

Lesson: PE-ActiveAfternoon

Activity: Swimming

Observations:

Led by a teacher in the school on-site pool.

6 students supported by 4 staff; of these 3 were in the pool with the teacher on poolside.

New equipment for water skills games were being used alongside a large activity schedule which was crossed when each activity was completed. Clear start to the lesson with a warm-up swimming then swimming stroke practice for breaststroke; followed by water skills game where students collected either floating items or sinking items depending on choice their ability to dive.

A timer was used for some of the games as well as symbol cards as visual prompts.

The TAs did a countdown for students to prepare for getting out of the pool.

The same teacher was documented teaching another swimming lesson post-intervention, as presented in Figure 6.9. This time the teacher was noted to be using equipment as part of a structured and planned lesson. A resource pack was being employed to support instructions and sequencing of activities. Overall, the learning walks were well-received by staff, 'Learning walks were carried out for the first time for the PE activities. This was perceived as a positive experience' (PEWP minutes: 21/2/18).

Throughout Chapter Six, I have presented and discussed the main findings from the data collected during this action phase. Changes and the data collection occurred simultaneously as actions developed. Themes that arose in this action research process were explored as actions evolving into learning opportunities and occurred across individual, group and wider systems as interlinked processes. These needed to be developed separately yet were interlinked,

supporting the concept that a pedagogical model of PE comprises the interdependent elements of curriculum, learning and teaching (Armour, 2011). Similarly, inclusive PE requires not only a trained teacher but adaptation of games, equipment, time and organisation (Rizzo and Lavay, 2000), which could not be achieved in isolation and were not developed independently, which is why the mind map in Figure 6.10 shows many connections and some of these were multi-directional. Further interlinked factors revealed in this study were the influence of physical educators to adjust the physical environment along with the capability for guiding student choice and engagement, curriculum design, grouping arrangements, staffing and delivery, as stated in the literature review (Byra, 2006).

Figure 6.10: Actions and outputs drawn during the intervention.
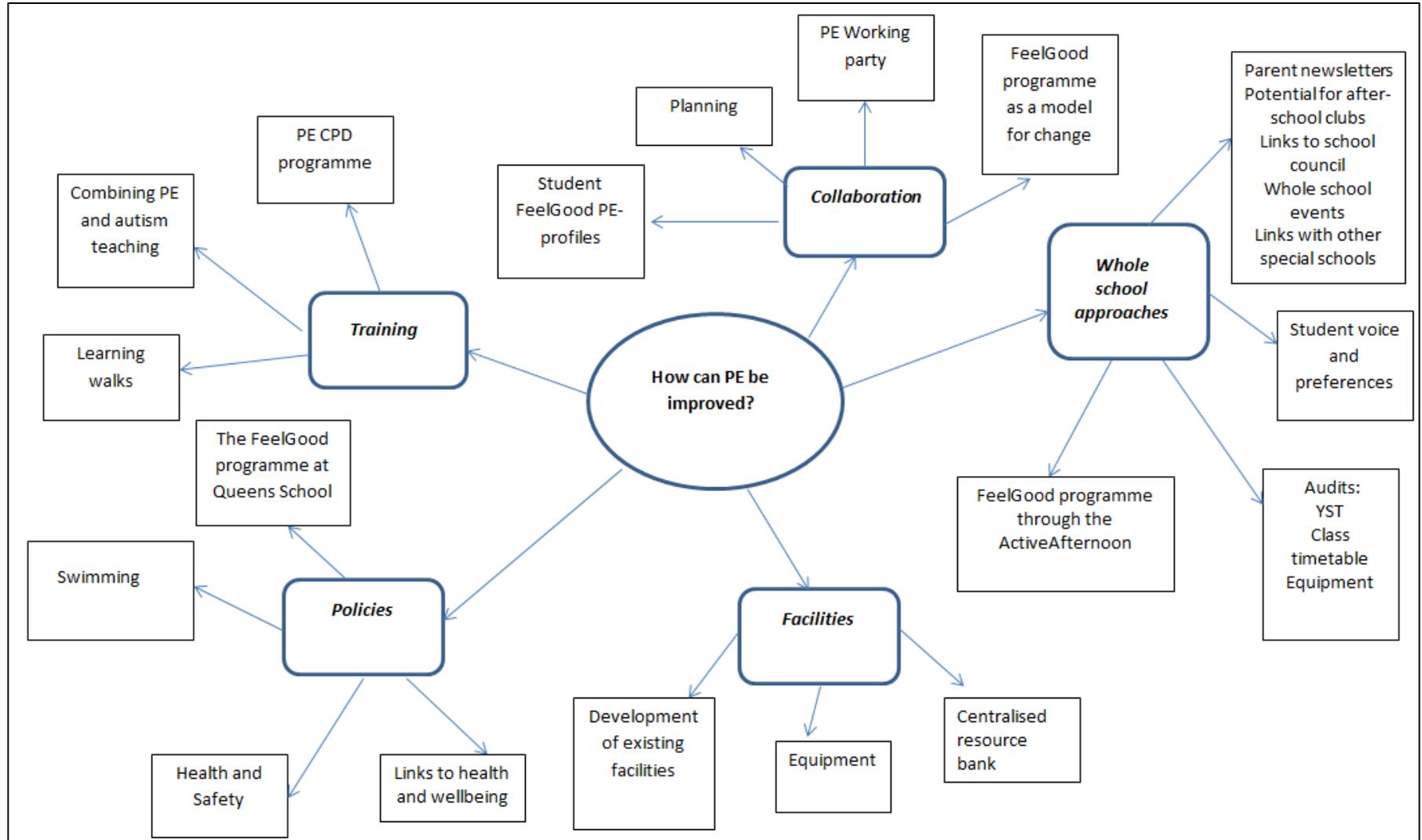
Figure 6.10 is a mind map showing a network analysis of influences and interconnecting concepts drawn from data sources during the intervention. Many tasks could be undertaken relatively quickly by PEWP members, such as PE being included more often in the parent newsletters, photos of students being active on display in the reception area and the organisation of whole school events. Some were complex and required further and regular planning. These actions and outputs were enacted simultaneously to address the second research question, 'How can PE be improved?'. Actions were mapped to show how improvements were achieved by forming a PEWP to develop resources and activities, write policies, create training, allocate funding and plan schemes of work. Not all the changes were reliant upon government policy. For example, it was the school's choice, pre-intervention, to opt for a primary school timetable design where all teachers were class teachers. Being in control of this choice by creating the PECO and A-PECO roles meant that PE practice could begin to be enhanced. MF said that 'the impact of the FGP is that it has provided opportunities and has raised the profile of PE' (PEWP minutes – 19/7/18). Learning opportunities were dependent on this element being realised and, in the team, being confident to act upon it. The strength of such an approach was that ideas and progression through the intervention process were dynamic and constantly evolving.

6.10 Conclusion

The purpose of this study was to determine how PE could be improved in a special school. Chapter Six, in particular, is concerned with making changes in PE practice, what this can look like and how it can be achieved, as evidenced through documents produced during the course of the intervention. A summary is provided of the main findings and of the principal issues and suggestions that have arisen in this discussion.

The YST and class timetable audits acted as a justification of decision-making and sense-making by all staff involved, including me as researcher-facilitator. The PEWP minutes provided a timeline of actions that recorded this journey, as well as augmenting the documentary evidence. The training programme was designed through an amalgamation of ideas that emerged from stakeholder questionnaires pre-intervention, further discussions in PEWP meetings and the targets drawn from the YST audit. The FGP-PE profiles were outcomes of the

action implemented for students. A collaborative model for improvement to PE practice that emerged from the work in this chapter involved rethinking traditional ideas about PA and PE for autistic students. The organisation of lesson activities, student grouping, choice and deployment of resources, questions about who makes decisions and what constitutes meaningful PE were all key to the process of change, and to the concept of staff sense-making and willingness to change in order to create genuine improvements.

The use of an action research process allowed staff at Queens School to trial ideas and become engaged in a dynamic situation, making them 'owners' of their learning in improving outcomes for their students. They faced many barriers and opportunities during this action stage of the intervention, and these are discussed further in Chapter Seven through the voices of three key people who experienced the journey in its entirety.

Chapter Seven covers the final data collection, taken post-intervention once ownership of aspirations had been achieved. The factors contributing to individual and group perspectives across systems and the influences on the process of change are presented and discussed through the analysis of semi-structured interviews.

Chapter Seven

7.1 Introduction to reflections post-intervention

Chapter Seven represents the final stage of this action research study that took place post-intervention. Three PEWP members were interviewed: the deputy head, MF; the PECO and class teacher, TS and the A-PECO and TA, KA. They contributed to the action, reflection and refinement of the intervention throughout the whole process. The same semi-structured interview schedule, located in Appendix Eight, was used for each but completion times varied, which was likely to be due to the level of involvement of each person. These were 40 minutes, 20 minutes and 15 minutes, respectively. Individuals were recorded discussing their perspectives of the process of practice change and the factors that impacted on the course of their journey.

Evident throughout the PEWP minutes is the transience of senior leaders. The headteacher changed five times during the course of this study, and so too, did the organisation of leadership hierarchy. This transitioned from one headteacher, one deputy headteacher and one assistant headteacher to two joint headteachers and one deputy headteacher. In addition, as part of the overall restructuring, a new Chief Executive Officer (CEO) for the charity organisation was appointed. Furthermore, the status of the school shifted from residential to day school. Each is recognised as influencing the research process from wider systems.

Findings are presented from staff reflections on engagement in this intervention and how this impacted upon their professional learning, their initial understandings of their practices and of the school team as a whole. For clarity, these perceptions are organised as significant strands that emerged from the data analysis and I considered the extent to which these strands were connected throughout the intervention. All interviews were carried out at the end of the summer term after one year. This chapter presents the perspectives of PEWP members on how an action research approach was introduced to initiate change in PE practice, how PE could be improved and what the influences were to answer research questions. Personal reflections are embedded alongside these and presented as quotes from transcripts.

The PEWP minutes add to the overall flow of perceptions over time and these are also embedded as quotes. Strands emerging from this data collection are presented and discussed alongside literature, and are organised as follows:

7.2 Links between the ecological model, literature, actions and reflection

7.3 Interviewee demographics

7.4 Staff training

7.5 Organisational factors

7.6 Subject value

7.7 Influences of attitudes

7.8 Openness to change

7.9 PE confidence and motivation

7.10 PE as an aspect of healthcare

7.11 A model for change

7.12 Post-intervention plans

7.13 Conclusion

7.2 Links between the ecological model, literature, actions and reflection

An ecological lens allowed me to explore and understand my observations and data in greater detail in an attempt to understand and explain practice. Kemmis et al. (2014) described concepts of practice as comprising particular doings, sayings and how these relate. A practice can be described based on what is said and done, as well as how those who participate in the practice relate to their surroundings, to each other and to others. The ecological model was insightful in terms of understanding the teaching and learning relationships in this study. I identified and interpreted key strands arising from a process of development that was embedded in multiple spheres of influence ranging from those that were immediate to those that were broader. Schools are dynamic and adaptive systems. They can respond, change, develop, act on and modify their environment. All parts of the environment are interrelated and influence one another; thus, I used the ecological model to interpret the intricate and

unique web of proximal, distal and environmental factors shaping day-to-day experiences.

Strands emerging through this process related to staff perceptions of their students' needs and their environments, and how staff came to see these differently; and the degree to which the intervention was both empowering and limiting.

Figure 7.1: Ecological framework related to post-intervention barriers and opportunities.
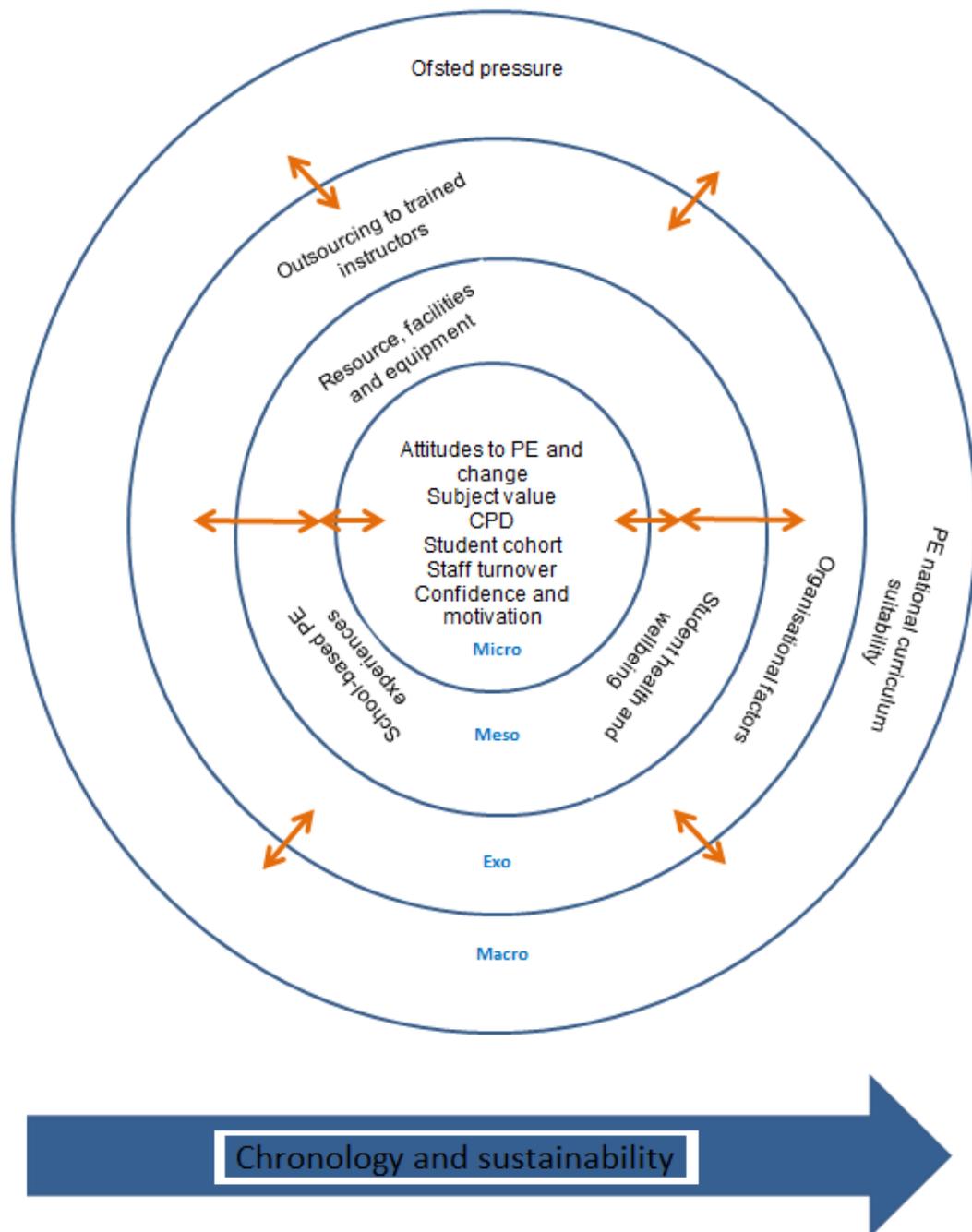
Features of transformation are evidenced through the dialogue between the PEWP, me as researcher-facilitator and staff overall as we discussed

challenges and barriers throughout PEWP meetings, as well as the semi-structured interviews with the three PEWP members who gave their reflections. The conceptual framework presented in Figure 7.1 supports an ecological view of the teachers and teaching; organisational culture; resources provided, and how they were allocated, and relationships that connected people within Queens School. There were interconnections between practices, which were continually formed, and which created an interdependent interplay. Practice improvement was both facilitated and hampered by cultural, material, economic and social-political contextual conditions within each system.

The intervention systematically targeted mechanisms of change at each level of influence. It was used to create the FGP-PE intervention to improve PE. It was also used to understand how PE could be improved and the influences of, and on, the intervention. This model supported me in providing a complete perspective of the factors that affected specific behaviours and to understand the concept that the decisions and actions of all participants shaped the teacher-learner relationship and the practices of the wider classroom community; factors that unavoidably influenced the learning route of every student and staff member.

This ecological model highlights the intricate nature of stakeholder journeys and educational outcomes, functioning as an analytical lens to support both the understanding of staff as practitioners and myself as researcher-facilitator. Practically, the findings may help in the further design of educational policy and training programmes. These policies and programmes may promote student achievement and participation, as well as help to identify applicable ways to prepare schools to develop leadership practices that suit their different contexts. The next section is a summary of the PEWP participants' characteristics, providing context to this part of the investigation.

7.3 Interviewee demographics

Data were obtained from conducting semi-structured interviews at Queens School from three participants, as detailed in Table 7.1. This captured the views of three active key members representing three tiers of the school hierarchy.

Table 7.1: The three staff members interviewed post-intervention.

PEWP Member	Role	Gender	Age	Years at Queens School	Years of previous experience in SEND/Autism	Qualifications
Kat Ashley	TA	F	28	4	5	NV2. In-school autism training.
Tammy Smith	Teacher	F	35	6	4	QTS primary In-school autism training.
Marion Fowler	SLT Deputy Head	F	47	7	8	Registered Nurse. In-school autism training

Staff roles were cross-referenced with time spent in-post at Queens School, time spent in the SEND or autism field, age, qualifications and gender. Due to the small cohort remaining, no discernible patterns were obvious, except for the facts that they were all female educators and were well-qualified and experienced. As described through the PEWP minutes, several PEWP members came and went along the research journey; therefore, the interviewed group consisted of one TA, one teacher and an SLT member who had been present throughout.

The next sections describe the wealth of data produced by the semi-structured interviews post-intervention, supported by excerpts from the PEWP minutes. Examples of responses show the complexity of teaching autistic students in this setting. Elements could not be developed in isolation and did not always fit into a clear category. Some strands, such as facilities, resources, PE training and autism knowledge, were evident and were similar to responses stated in Chapter Five, raised in the pre-intervention stage. These were viewed as factors for action that influenced the process for change, but which might also be considered as barriers. Strands emerging from this post-intervention data collection included: lack of PE subject knowledge, training, organisational factors, personal values, PE as an aspect of health and care and the concept of a special school.

A model of change is suggested, and an overview of projected interventions plans presented.

7.4 Staff training

In this section, training is discussed as a theme that initially emerged in Chapter Five but was also prevalent throughout this phase of data collection. The actual training sessions are detailed in Section 6.6, Table 6.4.

Generally, perceptions were divided into autism training and PE training. Queens School was proficient at providing autism in-house training for new and existing staff, as noted in Chapter Five. Additionally, TS, who became PECO, said, 'the initial training is quite complex. There is a lot of training and we are updated every year for a refresher' (TS – 31–32).

Alongside evidence from the pre-intervention YST audit highlighting the lack of PECO, there was also no PE CPD training available for someone unqualified to become better equipped to lead PE. TS said, 'the only PE training we have had is when you came in with your training programme' (TS – 38). In alignment with Morgan et al. (2018), the CPD programme was supportive, job-embedded, collaborative and ongoing. Data collected in Chapter Five (Section 5.2, Table 5.1 and Section 5.3.1, Table 5.11) showed that all staff received at least in-school autism training and some were advanced practitioners, indicating how vital autism training and awareness was to everyday school life.

Kemmis et al. (2014) wrote that student learning, teaching, professional learning, leading and researching are interdependent practices that exist in ecologically interdependent ways. Therefore, transforming education requires more than professional development for teachers; it necessitates changes in learning and leading practices, which additionally means reshaping the organisations that support teachers and teaching, organisational cultures, the resources organisations offer and allocate and the relationships connecting people within organisations – all part of my intervention at this stage. The PE CPD training delivered at Queens School aimed to be part of the overall model that was designed to address autism-specific issues in PE in an autism school through a tailored and focussed developmental approach to PE. Professional learning should not be seen as an isolated experience, but one that is

connected directly to the student, the class, the school and nested environments (Pickup and Price, 2007).

MF felt all external coaches and instructors needed to be suitably qualified because the projected plans for Queens School were to follow the FGP, but to deliver it by instructors rather than class teachers or a trained PE teacher, as described in Section 7.12. 'There is a cost element, but then there's the sustainability of having experts delivering learning and delivering learning opportunities' (MF – 302). This was part of the evolution of the research journey as Queens School took ownership of the direction of their changes. The PECO role would be retained. MF indicated that she tended to view training as instructional credentials that gave access to individual activities rather than to PE as an overall subject. She was clear that instructors would be qualified, including the coaches from the county sports development team who provided some of the ActiveAfternoon sessions, 'we have also had the volunteers who helped us. They have all the relevant qualifications' (MF – 122). Trampolining will be with an instructor with an award system (MF – 188) and at the climbing centre, all the staff are trained rock climbers (MF – 200).

It was, perhaps, a compromise between acknowledging that PE qualifications were important but that the route they would take would be to outsource the sessions. The view that external providers are expert PE teachers and classroom teachers are inexpert is indicative of this situation (Powell, 2015) and in keeping with Griggs (2016) who explored the primary PE and sport premium in UK primary schools, finding that sports were often organised by bought-in sports coaches. The next section discusses the structural influences that interplayed with the research journey.

7.5 Organisational factors

Staff turnover was highlighted throughout the PEWP minutes, where references were made to staff leaving, 'PEWP staff have already left the school' (11/9/17) and 'more PEWP staff have left the school' (11/9/17), which did not assist consistency of staff who took on certain aspects of the intervention. When asked what she thought were the main challenges to the process of change in PE practice during this transformative process to Queens School, MF stated:

Staffing, in terms of logistics and facilities. When I first started with the PEWP, we had an awesome team of eight or nine people and then, for whatever reason, people left the school. Trying to replace that skillset highlights, for me, the problem. Also, if staff go off sick, you want people able to step up and carry on and that's been a slight barrier (MF – 264–269)*.*

KA stated that 'restrictions in staffing levels, such as absences and short-staffing, resulted in not being able to deliver sessions unless specific staff members were made available' (KA – 78–82). Something worth considering is the impact of student characteristics, such as challenging behaviours, symptom severity and student rate of progress. Although not directly referenced, yet suggested by the use of the phrase 'student behaviours' throughout, these aspects, plus the mention of absences and short-staffing, could contribute to staff turnover when working with autistic students (Kazemi et al., 2015). Challenging behaviours of students with intellectual disabilities have been found to impact burnout in special education teachers and their support staff (Hastings and Brown, 2002) with autism severity as a predictor of intention to turnover justified by Novack and Dixon (2019). Garwood et al. (2018) noted, in their study of special education teachers' burnout, that lack of clarity in their roles, too many aspects to the roles, emotional exhaustion and lack of accomplishment contributed to their perspectives. Good working relationships with colleagues and administrators, building relationships with students and a high level of self-advocacy were found to help in maintaining mental health and a work–life balance. All of these factors may have impacted on staffing at Queens School, as well as it being such a small school.

A particular influence on the progress of this study was the high staff turnover, 'a lot of people have left the school, which makes a lack of continuity' (KA – 158). MF alluded to the magnitude of the changes in a short space of time that meant staff had to learn and adapt quickly (MF – 242–245). Regarding staff turnover, it was noted by LK that it is 'hard to recruit generally, especially TAs. Location doesn't help with poor public transport. The school also has had to recruit agency staff in the past' (PEWP minutes – 29/9/17). This is further supported by suggesting the loss of specific skillsets, 'we lost our headteacher who was our Classroom Monitor expert, so we lost the ability to add and upload

data. We're still trying to find a way through it. I think that has been a barrier, the actual assessment tool' (MF – 168–170).

In the overall administration of the school by the charity organisation, the influence of wider social services structures on staffing and organisational factors can be seen: 'We have a new CEO, the whole organisation then shifts and the focus is different… so big projects like our sports facility have been put on hold' (MF – 281–282). A narrative of changes, including change of school status and new CEO, is located in Appendix One. In general, this study found similarities in the research of Sulek et al. (2017) regarding the challenge of providing high-quality autism interventions against a backdrop of staff turnover, leading to unreliability of interventions and impacting on the intervention plan.

Next, I consider the consequences of school changes. In the course of the time spent immersed in the action research process, Queens School underwent a fundamental transformation in student cohort that influenced teaching and learning practices:

> *The cohort of students we had in our residential services were out-of-county placements because they were extremely complex young people. And because of their limited communication and personal skills, we were teaching within the P-levels and PE was not necessarily featured in the curriculum. It was timetabled but I would describe it more as tokenistic movement without including learning objectives* (MF – 10–16).

This is reflected by KA, 'We had a lot of low-functioning, physically challenging students, but we now have students who are more high-functioning' (KA – 15–16). This indicates that needs determined lessons to a great extent and that teaching practices were required to adapt to this. Connections with mainstream schools were now of relevance within the changing landscape of what a special school can offer:

> *We have three children who now go to PE in other schools, so it's shifted in response to their voice, as well as us recognising that it was something that needed improving. I would say that now we stand somewhere in between a mainstream PE curriculum and I think over this next year that we will become better at defining what our timetables should be because we've adapted to their needs (MF – 57–67).*

Regarding student diversity, 'some students can work as a team' (KA – 134) and 'can play a football match and organise it' (KA – 137) but 'others will just be struggling to achieve getting changed or getting the footballs out' (KA – 138).

Cohort diversity impacted teaching practices and choices. A consideration is that PE is a unique setting because it requires getting changed and then transitioning to another area for participation in the lesson. This highlights PE teaching issues not faced by other subjects, such as needing several players for a team, transitioning to a different lesson area and needing to get changed.

Queens School organises its classes into small groups of up to eight students, which makes it difficult to teach PE lessons that are team-based, 'If there are not many students in the class, and even only one has time out, then it's hard to keep any kind of game going' (KA – 17–17). Furthermore, the influence of student behaviours, referred to by KA as 'time-out', has an impact on the flow of the lesson as well as the number of students taking part. This issue of lesson continuity and participation may be inferred by the following comment that students 'sometimes dip in and dip out' of PE lessons' (KA – 114). Student achievement is acknowledged in 'progress is in small steps' (KA – 123).

From wider ecological systems, interpretation of government policies appeared to have influenced the special school setting; for example, KA stated that lessons should be autism-specific (KA – 146). She added that 'We have different planning, written by Queens staff, so it has been adapted. The national curriculum isn't that effective, we had to adapt it'. The assumption was that if it had been relevant, it would not have to be adapted for this particular group of students, beyond that of expected differentiated approaches to inclusion. With the change in student cohort and need for a more versatile approach to autism teaching, there is a link with MF's earlier statement regarding falling in between mainstream and special school education. It is recognised through this reflection that there is a need to evolve as an education system in provision for the range of student needs:

> *A lot of our new students have come from mainstream placements, so, they would be used to having a session a couple of times a week where they would be expected to be physical and active, so, it's important similar opportunities are provided* (TS – 47–50).

This statement is relevant because, although it is related to organisational and structural changes, it questions what is expected of special school education and the concept of what opportunities can be afforded by an autism special school. The employment of a primary school model was an influence on provision at Queens School. The design of the building, although autism-friendly at the time it was constructed, was based upon the traditional architecture of a primary school with a small assembly hall, centrally located in the building and also used as a dining area. In addition, class teachers were not subject specialists but the need for this to be relevant for some subjects is recognised:

> *Maybe, having class teachers teaching all subjects except for PE and ICT? If there was a PE teacher who just taught the PE, this would solve that issue; someone who represented PE and just did PE* (TS – 147–150).

However, there was tension between protecting their specialist status and wanting to action this:

> *One barrier is that we still want to stay as a special needs school, and we want to stick to being class teachers. And being a class teacher means teaching everything and it's not possible to teach everything properly (*TS – 142–154).

It was interesting that TS viewed this stance as a barrier, implying that it would be a better option to have subject specialists. However, it was noted that the decision to teach students in this way was an organisational choice because not all special schools are based upon the primary model. Another governmental influence upon the school was Ofsted:

> *I think, because of Ofsted recommendations, there is a huge drive for literacy and maths, so every teacher, it's understandable, has tried to schedule in as much literacy and maths in their timetable as they could* (MF – 70–73).

The tension with Ofsted understanding the special school setting, however, is revealed, 'With Ofsted, recommendations are not always relevant to a special school … but they are often the driver for why we do things' (TS – 79–81). Ofsted not necessarily recognising what appropriate education is for a special

school is indicated here, implying that things might be done differently without this restriction.

This section has analysed the influences of student diversity and staff and student changes and has argued that these have determined many of the teaching and learning practices at Queens School. Some decision-making appears to occur within the school, whilst some has been influenced by wider ecological systems that have filtered down to the local level. The next part of this section discusses school facilities and resources.

As seen through PEWP minutes and questionnaire responses, poor equipment choices and lack of care and maintenance were common features throughout the intervention process:

> *We had bits and pieces of different things, we didn't have enough*
> *footballs or enough tennis balls or tennis racquets, so I was looking at*
> *that and doing an inventory and seeing what we needed so we could*
> *then order* (KA – 59–61)……*We've ordered loads more stuff, and*
> *replenished the stock* (KA – 63).

This was carried out in KA's capacity as A-PECO. Also included was a reference to inadequate PE facilities:

> *Another barrier is our school site to run all of these activities. The hall*
> *isn't very big; the playground is ok but not set up to have events. We had*
> *the amazing idea of developing our field, which was really exciting and, I*
> *felt, was going to be really proactive, but then we've had a new CEO who*
> *has changed priorities. She hasn't said that PE isn't a priority but that's*
> *something we need to pick up in the next business plan* (MF – 272–278).

How PE was going to be viewed by the new CEO was a significant aspect that would affect further developments. The improvement of the field next to the school was an exciting project that would allow a greater range of activities to take place, as well as whole school events and the potential to host events. The business plan had been previously agreed and the SLT were in the process of getting quotes for work to commence. There was a danger that the project might not be signed off by a different CEO if they did not see the value in developing this resource for PE.

Next, the value of PE is considered further, through evidence that supports the changes to staff perspectives post-intervention.

7.6 Subject value

Pre-intervention, there was no PE planning, which LK stated in Chapter Six. It was felt that including more PE on class timetables and putting planning in place would increase perceptions of subject value. Because of the history of projects not running smoothly in the past, it was decided by the PEWP that planning would be written collaboratively. This would also decrease the initial amount of work for class teachers. After the collaborative process detailed in Chapter Six, schemes of work were written for class teachers, 'a lot of the planning is now being done for them' (KA – 100).

However, KA stated that she did not think that PE had the same value as numeracy and literacy (KA – 169). Teachers will come back and say 'I'd rather do a science lesson. I need time to assess and then plan them properly rather than do PE' (TS – 130–131). This was cross-referenced to TS's earlier statement that if the PE were not explicitly timetabled, the class would probably be doing more numeracy and literacy instead. The value of PE appeared to be linked to an understanding of PE to provide PA through lessons. Value of PE was described by KA as PE having a specific role for autistic students, 'PE is especially good sensory-wise for proprio-receptive input and they need to have that physical aspect' (KA – 131–132).

There seemed to be a shift in the understanding of PE, and with it, an increased value of what PE could offer students at Queens School. Pre-intervention, PE had been viewed as the means through which PA could be provided rather than a subject in its own right with an opportunity to become educated physically. Post-intervention, PE was explained differently:

> *Teaching has moved from: it sort of looked like PE, to, now it is PE, with goals and learning objectives. It was about going on educational visits and doing lots of walking in the forest. They were active but it was referred to as an 'outing', whereas PE has become a feature within the timetable* (MF – 17–22).

Also, TS stated:

> *We've spent a long time setting it up and then trialling it but I would like to see different opportunities for other activities for the ActiveAfternoon; a*

new set of ideas for September, so the kids say 'Yes – it's Wednesday!'.
They will like it because it's fun and it's interesting (TS – 153–155).

Subject value can also be seen to be linked to the influence of personal attitudes and values of PE and the development of PE practice, showing the relationship between being confident and motivated to learn and having the flexibility to accept and embrace change.

7.7 Influences of attitudes

The following section is about personal attitudes and perspectives towards PE, which are interrelated with strands of subject value and confidence and motivation. Some of this data was presented and discussed in Chapter Five, concerning views pre-intervention. This section is a reflective look at any changes. The views of the three PEWP members add further dimensions to how these influenced the intervention process or were influenced by the research process.

TS was interested in teaching attitudes by linking attitude with subject interest, 'The way you teach PE lessons differs. It depends who you are, how you think of the subject, if you like teaching the subject … and if you have passion. Then, you plan it as well as the other subjects' (TS – 44–47). The inference here is that the personal value is subject interest and passion, which are linked to motivation and confidence, discussed further in Section 7.9. TS added that a contributing factor may be that 'they lack passion for PE. I don't think PE was a favoured subject' (TS – 54–55).

Attitudes may be the most critical factor in ensuring meaningful learning experiences in inclusive PE (Block and Obrusnikova, 2007).

KA seems to have enjoyed her role except for the hands-on experience of organising the resource cupboard, 'My personal experience has been positive apart from access to and use of the PE storage cupboard and that's down to staff not taking responsibility' (KA – 174–175). Some of the apparent neglect of equipment was not necessarily a lack of interest by staff but lack of time, 'part of it is that people don't have the time to put things away or they're not emotionally invested in it. So, they don't think about the next person that is coming in' (KA – 69–70).

Staff made meaning out of what they did via the model that was formed through knowledge and experiences and culturally situated knowledge arising from social interactions. Optimistic feedback was recognised during this process, 'positive comments were made by the PEWP that improvements have been made across the school despite staff changes' (PEWP minutes – 18/1/18). This was supported by the PEWP, reporting that they were happy with the progress that had been made and that it was important to be involved in these changes, 'the entire team I was working on this with was so motivated, they were so behind the vision for PE' (MF – 276–280). This is related to staff attitudes because although people were lost along the journey, the process was seen as a positive experience with encouraging results. Decisions about what innovations were appropriate seemed grounded in history as it had been indicated in staff questionnaires that the school was involved in yet another project and staff wanted to know how realistic this one would be. Regarding staff attitudes, one teacher reported that 'staff don't want to follow lesson plans because behaviours mean you can't keep to a lesson plan' (PEWP minutes – 5/3/19). This staff member commented that this could be said for all lessons, but this is what other teachers explained to him when he attempted to coordinate PE. This teacher made an effort to see how another school had been working on PE accessibility but subsequently, left the school. Staff priorities were seen to play a part in how change was produced because PE, at that time, was not viewed as significant. Priestley et al. (2013) noted that although some teachers may have aptitude and aspirations, it is realistic to accept that other teachers may evade certain circumstances that they consider exceed their competencies. However, collaborative practice with key stakeholders, within and beyond school, may support teachers to act purposefully and be empowered to apply collective agency to decide what could be taught, as was the case in this study. This reflects an openness, and capacity, to change (Ketelaar et al., 2012).

It was, again, indicated that the teaching practices at Queens School had been influenced by the student cohort at the time. Throughout Chapter Five, PE had been described as not looking like PE and potentially, being delivered through other activities, such as minibus trips. Educators had been creative about how they taught PE, but it was not consistent or structured. SLT responded to the new student cohort and the PE training by supporting the decision to offer PE

that looked more like PE, but which was unique to the environmental aspects of staffing, resources, facilities and funding. MF made the connection that since the intervention, not only were more verbal students able to ask for more PE, the FGP-PE intervention had allowed this to be enacted:

> *Because we now have more conversational partners, students also came to us saying they wanted to do PE, and that's where we've also linked in with the inclusion team to offer different pathways. We have three children who now go to join PE in other schools, so it's shifted. It's more organised. The PE training made this possible* (MF – 55–58).

In Section 5.5, S16 stated, 'I want to do PE with the new school' and is one of the students who now access PE at another mainstream school.

This partnership was developed during the FGP-PE intervention, allowing staff to be proactive in what learning opportunities they provided.

If PE is viewed as having the potential to contribute to the achievement of a range of favourable student outcomes across an array of domains, then a models-based approach needs to be in place. This would enable flexibility in teaching practices and the activities offered, as linked to Bailey et al. (2009), thus, aligning learning with learners' needs and their environment. Interestingly, PE appears to have been understood as a subject that was concealed in the timetable. Post-intervention, PE lessons became more organised and, alongside the change in cohort, became more visible on the timetable, gaining prominence.

MF identified how she has seen people's attitudes develop, 'it's been good in terms of some people's attitudes and determination to do things well' (MF – 123–124). This is about the ability to accept guidance and change, not merely towards PE but professionally and personally. Being able to change and to want to change is also part of this. As stated in the literature review concerning PE content, Cale and Harris (2006) noted that whereas some teachers of PE spoke positively of promoting it, this was not always complemented by an understanding of how to tackle it or initialise how to do it. Luke et al. (2020) emphasised the importance of being able to practice professional judgement in curriculum and pedagogical approaches and understand what is negotiable or non-negotiable. Education should not be limited to a government control perspective, where a process of policy development begins with legislation and

ends with teachers delivering the policy message. This study acknowledges individual, social and environmental factors that influence policy implementation, and also, the role that teachers can play in co-producing policy that they may not, previously, have considered to be possible.

7.8 Openness to change

Staff at Queens School encountered a significant range of changes during the course of this study, including the intervention itself. Learning and mechanisms of accepting change were apparent throughout the PEWP minutes, as presented in Chapter Six. MF indicated, 'before this, I had no experience until this project, but it has been a very positive shift in culture' (MF – 295–296). It may be the case that teachers lack the training to enact subject development and change, especially if the development required is subject-specific and the teacher is primary trained. A primary trained teacher, although well-qualified, may not have enough knowledge at the subject level to be able to make effective changes. This change in culture could, then, be a result of the training provided in this intervention, considering that all the class teachers were either tutors or primary trained generalists. A similar connection was made by Lorusso and Richards (2017) who indicated that limitations in PE policy and teacher preparation are threats to the future of PE. MF was the person who, overall, made the most impact on the progress of the PE intervention. Furthermore, MF was a registered nurse, not a teacher, so, although she was open to change and made most of the decisions in this intervention at a managerial level, she did not possess the training or experience to do this within an educational context. Curriculum development and systems development were seen to be connected practices, interdependent of one another, being connected ecologically (Kemmis et al., 2014; Kemmis et al., 2012). Embedded practices of educational leadership, professional development, teaching and student learning connect, with each influencing and being influenced by the others.

The impact of these developments at Queens School influenced some staff, inevitably, to leave, yet for those who stayed, their optimism prevailed. This was similar to the findings of Thomson and Hall (2011) who were interested in the cohesion of the staff team at a primary school during numerous school changes. However, my study does not explore merely from the headteacher's perspective but a range of staff roles – deputy head, teachers and TAs – and

considers how change can be manifested to provide an integrated and integrative model of how it works and can be achieved. This links to motivation, subject interest and value, as well as what staff perceive to be possible, and is supported by 'the whole organisation and systems and people, the attitude of staff. This is what is realistic development' (MF – 280–293). An example of this relates to the importance of a set of values and ethical principles to cultivate a vision, build capacity and ensure ownership of change. Also, understanding the work that must be done to convert this to action requires 'sense-making' (Thomson and Hall, 2011). Viewing policy as discourse provides an opportunity to examine responses to policy creation that are applied to a particular setting. Cushion et al. (2006) established that an understanding of how knowledge is applied to a setting is a complex, interrelated and interdependent process that is embedded within specific socio-cultural contexts. What has emerged from this study is an enhanced understanding of the complex nature of learning in terms of relationships and interrelationships. Interestingly, MF identified that 'this is mostly about people at every level' (MF – 280), thus, connecting to the ecological model; the interrelationships between the dimensions of learning (intrapersonal); the relationships between learners (interpersonal); and the relationship between learners and their contexts (intercontextual); as well as supporting the development of an agency-based concept of learning in a complex social ecology, accepting learning as a multifactorial process. The mindful agent, as the driver of a journey of change, provides a way of conceptualising the temporal connectivity of learning (Deakin-Crick et al., 2015).

It was discussed in the literature review that there is an interplay between policy constructors, policy text and the teacher (Adams, 2011), therefore linking the positioning of teachers and TAs as key to the change process in this study, where they were regarded as specialists delivering an intervention but also, as co-producers and creators, designing and transforming change. Ball (1994) claimed that education should not be limited to a government control perspective, where a process of policy development begins with legislation and ends with teachers delivering the policy message. Supovitz and Weinbaum (2008) acknowledged individual, social and environmental factors that influence policy implementation when externally designed reforms enter into school environments, stating that the role that teachers can play in co-producing policy is understated. Spillane et al. (2004) said that it is not enough to consider either

individual agency or the role of the macrostructure in shaping what leaders do. This study supports the concept of policy enactment as an ecological, dynamic and non-linear process, as part of an evolving journey. Teachers' understandings of reform initiatives influence policy, supporting the view that reform is distinctive to a school (Riveros et al., 2012). The next theme leads to the motivation and confidence to deliver PE effectively, which has already been discussed in this chapter as an influence on the implementation of the intervention.

7.9 PE confidence and motivation

Issues of confidence and motivation to deliver effective PE were discussed in Chapter Five and targeted through the training package in Chapter Six. Although I did not collect data from lesson observations regarding the direct impact of the training on staff skills or student progress, some suggestions of improvement were recorded during the informal learning walks that I carried out pre- and post-intervention. MF was able to discuss that she could already see some impact of the targeted work carried out through the FGP. As a member of the SLT, this was supported by data in Chapter Six from PEWP minutes, 'I wasn't sure before what students could do and now, at the end, I can see what they can do. I'm sure that through the ActiveAfternoons, skills developed for staff and students' (MF – 156–158).

Despite evidence that non-specialists lack confidence teaching PE, DeCorby et al. (2005) and Morgan (2008) reported that they generally valued PE. This lack of confidence often resulted in practices dominated by poorly planned and supervised games that involved little teaching and learning, which Morgan (2008) attributed to a perceived lack of ability. However, in this study, staff became more able to deliver a range of varied lessons that previously lacked variety and frequency. Repetition, though, was perceived as dull, as one student responded in the pre-intervention questionnaire, 'PE is boring, boring, boring' (S8). Regarding frequency post-intervention, TS remarked that 'we have now got the ActiveAfternoon and a swimming lesson planned' (TS – 122–125). Furthermore, there is an indication that having a motivated person in the class who is confident and enthused enough can make an impact, 'I observed a few sessions and I think it also depended on the TA, for example, a TA who is phenomenal at taking on an active role' (MF – 144–148). This led to her idea

that having such a person in every class would make a difference, 'to reflect on that, it would be good to identify one person in each class to make sure those things happen' (MF – 150–151). Staff can become entrenched in their PE practices and comfortable in their ideas and teaching styles. This links to confidence because one staff member was limited in their delivery of PE and tended to teach the same things in the same way, either due to lack of confidence, or because they believed that autistic students needed to have repetition embedded into their learning experiences. This was shown when a staff member was observed by MF, pre-intervention, as regularly using gymnastics equipment. Initially, she was impressed that only this teacher used this equipment but, over time, realised that this was the only lesson delivered, with little deviation and showing little or no progress:

> *This class would always be setting up the apparatus and doing balancing, which was fantastic, I wouldn't see another class using the same apparatus. I think they got quite routined in their class group. It wasn't particularly creative. It became safe, expected and predictable* (MF – 151–155).

As revealed previously, MF was a trained nurse and held the role of deputy headteacher with responsibility for health and wellbeing. Her drive for increasing PA for students overlapped with the FGP-PE intervention aims and her motivation for PE to be more prevalent on the timetable. This highlights how the personal motivations of an individual can impact organisational change. MF's involvement in the intervention meant that actions could be carried out across environmental levels rather than being limited to merely the microsystem, where change would probably have been short-term and ineffective. By being able to affect school-based experiences at the mesosystem, which had to occur in the exosystem at the organisational level, changes were made quicker, more effectively, and would have more chance of succeeding and be more long-lasting. The macrosystem can be seen here to impact everything else occurring at Queens School. Until this point, the interactions between systems were multi-directional but appeared to be limited to the boundaries of the exosystem. The macrosystem, consisting of NCPE suitability and Ofsted pressure affecting the improvement of PE practice, appeared to radiate inwards towards all systems through to the microsystem.

The next section supports data that suggest that this influenced the drive to improve PE practice and the overall process of implementation.

7.10 PE as an aspect of healthcare

KA indicated that PE is viewed through the provision of physical activities when she discussed the role of PE for autistic students:

> *A lot of students have pent up aggression, so it will help with that and it also helps them to feel part of a team because some of the students can work as a team; they can play sports together and against each other (KA – 131–134).*

As explained in the literature review, it was evident that exercise and PA benefit autistic students in a range of ways, as seminal research indicates (McGimsey and Favell, 1998; Celiberti et al., 1997; Rosenthal-Malek and Mitchell, 1997; Elliott et al., 1994; Levinson and Reid, 1993; Kern et al., 1984; Kern et al., 1982; Watters and Watters, 1980), and more recently, (Tan et al., 2016; Neely et al., 2015; Lang et al., 2010; Gabriels et al., 2005; Mahone et al., 2004). As far as KA was concerned, PA and the chance to be competitive were important.

Data from across sets showed that staff and students viewed PE as a way to increase PA as linked to health and wellbeing and the impact of exercise for autistic students on behaviours and sensory needs. This commitment to wellbeing through a job role is significant, 'With me being a nurse, it is important for students to be more active' (MF – 29–31). MF made the connection between more PE providing PA, and more PA leading to weight loss, in her capacity as a wellbeing nurse, 'I am involved in stats for those children who need to lose weight, and educational outcomes and that would've been a really interesting thing to have got into' (MF – 33–35). This also implied that whole school development and reflection might be important to how this study could develop in the future. Her role offered opportunities for further PA development from a healthcare background rather than a PE background; however, educational outcomes were referred to, so the connection was made:

> *I look at weight loss, behaviour, activity prescriptions. Because this has been a whole school initiative, there is some scope for me to look back and see progress. The children who attend the dietician clinic are usually there for two reasons: obesity and limited food intake due to the limited*

nutritional value of food eaten. I know all of them have been doing much better over the last few months (MF – 36–42).

There may not have been a qualified PE teacher at Queens School, but in her capacity as wellbeing nurse, MF attempted to oversee particular PA and student healthcare collaboratively, again reflecting the impact that an individual can have on actions and making them happen.

In the next section, the influence of the model chosen to affect change is discussed concerning planning.

7.11 A model for change

It was important to work collaboratively with school staff as they possessed the expertise and understanding of interactions within the learning environment (Brannick and Coghlan, 2010). In this section, I reflect on how collaboration was central to the changes that were achieved in the environment of Queens School and what hampered them. I define a complex relationship of influences on staff learning and development of practice related to government policy, school and organisational structure and staff attitudes to professional development. This ecological approach enabled me to examine and understand how the interrelated aspects impacted delivery, and interpret individuals' relationships within communities and the wider society to better understand the third research question, which is: 'What were the influences on the process of change and what were the perspectives involved?'. This allowed me to unpick the interplay between individual efforts, available resources and contextual factors in a similar way to Biesta and Tedder (2007). Here, the interconnections between agency and learning and the exacting ecological conditions are revealed.

Figure 7.2 is a mind map overview of a network analysis that connects the interrelated concepts discussed in this chapter. Tensions between ideas and aspirational developments are represented throughout. There were many barriers and opportunities for this project and successful evolution after the research period. A subsequent question may be: 'Can this project be sustained post-intervention, and if so, then how, or if not, why not?'. Multifactorial features were identified that made this project realistic and, by applying the suggested

model matched to the social environment in which it operates, a targeted strategy could be formed.

Figure 7.2: Strands drawn from PE working party interviewees.
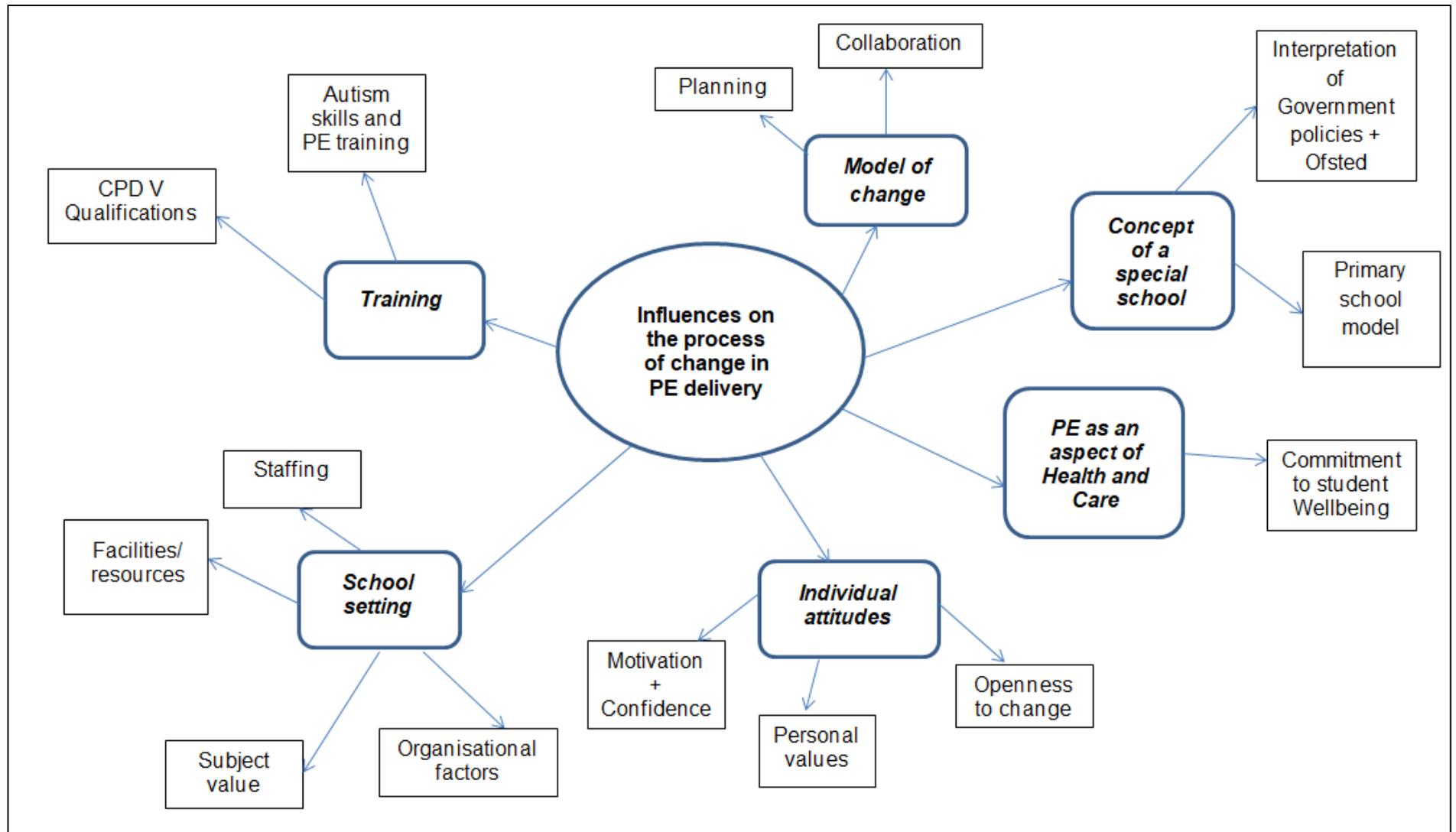
Each of these strands was identified as both having an impact on, and being due to, the FGP-PE intervention at Queens School. The change model was important because it required the right people to be involved, as well as collaborative planning to establish the action and time to be fully involved in the improvement process:

> *I remember having a PE teacher here years ago on-site, but he was so overwhelmed with everything else he didn't have time to run PE for the whole school. He never really did it in the right way (TS – 39–41).*

It was not necessarily because this staff member went about change in the wrong way but, perhaps, he did not have the skills or training, or the environment may not have been conducive to the changes he wanted to make? The volume of work seems also to have been an issue so, perhaps he was combining this PE role with another? Conceivably, the timing and involvement of different people were of importance. The role he held at that time may not have allowed him the time or resources to be able to make the changes that he recognised were needed:

> *I think that genuinely (I'm not just saying this because I am being taped) had it not been for your goal… it could have been quite easy to say, 'this isn't working, let's give up'. Your persistence has kept that momentum going and we a made a commitment to you. We have seen it through this academic year, and we all have done well. It will be different for next year, but not hugely (MF – 247–253).*

Being able to guide the process and create a direction for Queens School encouraged staff to be motivated and feel equipped to take PE forward as a valued subject:

> *Working alongside yourself, your motivation to come and support us that triggered a spotlight onto PE. And so with me being a nurse, it was important to emphasise being active, but I needed to bring on board a PE teacher in terms of the curriculum, schemes of work, planning and assessment, things I wouldn't be involved in (MF – 28–33).*

Of significance was the recognition of the need for a teacher, me as researcher-facilitator, to be involved. MF specified a PE teacher, and therefore, believed that qualifications were important. MF recognised that transdisciplinary

collaboration was necessary because of the need to connect healthcare with education internally. This person was TS, the class teacher who became PECO. The collaborative element was the combined skillset between healthcare and education, which allowed plans to be made and actions to be created. It was recognised that previously, staff did not possess the working knowledge to teach PE, which may have been due to a lack of training, but which was described by TS as 'people didn't know how to teach PE as they didn't have the knowledge or the knowledge to plan PE' (TS – 53–54).

However, some of this was attributed earlier to the choice for PE to not necessarily 'look like PE' but to exist more in the form of PA opportunities. However, this appeared to lead to staff not writing any lessons plans, mid-term plans or schemes of work, or to have a curriculum map, which was revealed in Chapter Six. MF identified that 'it was less about PE and didn't resemble a curriculum, there was no formal curriculum. There wasn't one' (MF – 25–29). Findings in this study are similar to those reported by Morgan (2008) who found that non-specialists believed in the benefits of PE but would generally prefer to teach subjects other than PE due to a perceived lack of knowledge and ability in this area. This is further explained by TS as staff previously having 'a lack of training and a lack of knowledge in how to organise and plan a good PE lesson. Now, just having an overview and targets of where we were going helps' (TS – 62–63). Interestingly, MF said that with the FGP, the practicality for teachers was that 'the planning was done for them' (MF – 138). Taking the concept of Atkinson and Black (2006) that a PE teacher with good knowledge around a variety of sports produces a better environment for students to learn, then this will be harder to achieve if the teacher is a primary-trained generalist rather than a specialist.

Staff applied the training, and the trial of the FGP-PE intervention, and took ownership. Plans for the following academic year are laid out in Section 7.12 as a further part of the narrative, and demonstrate that although they decided that external specialist staff would deliver the PE lessons, these would be coordinated by the PECO.

Having discussed how the model of change was formed and progressed, the final section of this chapter addresses the way the FGP-PE intervention became the FGP at Queens School. A copy of this is located in Appendix Ten.

7.12 Post-intervention plans

Impact regarding how PE was improved was recorded through the following statement that was included on the school's website post-intervention:

Queens School provides PE and sporting opportunities to every student within the school. In addition to the broad and balanced curriculum each student receives within PE, every student can swim at least once per week and additional sporting opportunities are timetabled for all classes.

This was taken from the Ofsted inspection shortly after. The impact of the FGP has been in the way that PE and PA were increased overall but also, in more plainly stating that hidden activities contain an overlap in providing PA that was not previously recognised. For example, in Chapter Six, it was noted that there was a great deal of playground time and that it was unclear as to whether this was structured or unstructured. The updated ActiveAfternoon timetable design for the future was created by Queens School after the intervention had been handed over to them and is supported by the following justification:

We've upped the PA profile generally, so, you'll see in the playground, students getting out tennis sets and playing tennis in their free time. We have Lifeskills coming over to a football club on a Friday. The PA profile has risen; just last week, on Wednesday, we did a Queens School Wimbledon event and all of the students took part in it. The early years children played too. It was a real competition. It was also about all the other students who were watching and cheering, some great hand shaking moments – a great atmosphere. Activity has increased and I think this sports element has been present. On the Wednesday afternoon, the aim of the ActiveAfternoon was to add planned PE and PA to the whole school. It's about competition, trying new skills and developing them (TS – 90–104).

The increase in activity variety and students' levels of engagement is evidence of the intervention giving educators the capacity to plan and provide better PE experiences, but also echoes the findings of Kell et al. (2008) that those students with higher levels of participation have fewer needs. The change in focus to want to be involved in an element of competition could be a reflection of what some of the students said they would like, which was evident in the

221

student questionnaires in Chapter Five. An example of this was statements by students in Section 5.4.2: S14 wanted to have a school football team and wear kit and S6 lamented that 'we can't play a proper match', indicating that competition was important yet, at the time, not possible. Other things that students liked included socialising with other students, as stated in Section 5.4.5 and by S16 in Section 5.5, who suggested that they could do PE with another school. These responses could also be attributed to the change in the student cohort, not only because they wanted different things but because they were better able to voice what these were alongside being asked in the first place.

The use of the FGP-PE profiles was shown to be effective in providing guidance and objectives for PE lesson planning and in creating a holistic approach, 'Student EHCPs and their targets are part of their FGP-PE profiles now, so everyone is aware of their sensory and physical needs' (KA – 122–122). This showed how the FGP-PE profiles had started to make links to other parts of the curriculum and student learning outcomes, 'The FGP has made PE more relevant. It has improved PE. You can see progress across the sessions' (KA – 122). The impact of the FGP at Queens School was further supported by KA, 'I think the PE lessons should stay on the timetable because it gives a designated time to be doing something constructive' (KA – 163–165). Additionally, MF observed positive changes, 'The PE profiles have massively increased PE understanding' (MF – 213). The aim was for PE profiles to create more meaningful student learning experiences and connect with what this means individually. Focusing on how students will be able to access activities meant that removing barriers was highlighted. This consolidated staff learning and understanding of the reasons why PE was developed. In the same way, Maher (2018) recommended that PE teachers and TAs have access to specific and current guidance as well as informed learning targets.

The process of change highlighted that change also represented positive and wide-reaching implications for student involvement beyond the immediate school setting:

> *I want students to have opportunities from the ActiveAfternoon sessions to access some of the events around the county, or at least go and experience some element of competition as well as working with other*

schools; participation outside of school, to the community. For students to think 'We can all enjoy this!' (TS – 156–161).

TS made the connection that for students to be engaged in PA beyond PE lessons, this has to start in the school environment, therefore linking to the ecological framework employed in this study and the finding that supports the view of Martins et al. (2017) that PE teachers' roles must promote comprehensive school PA that advances beyond PE, embracing community layers.

KA suggested that to sustain the FGP at Queens School was to get 'more of a team together' (KA – 171–172). The inference is that for a project of this nature to improve a subject, and to keep the momentum, there needs to be collaboration. Furthermore, KA said that she 'liked seeing how this project worked, having someone coming in to work with me, to establish the PE and then handing it over to see how we get on with it' (KA – 175–177). Again, there is a mention of collaboration but it seemed also of value that someone external could support the project, which would then be sustained by the school, sharing key features with Faucette et al. (2002) in which opportunities to collaborate and problem-solve among themselves, and with facilitators, were welcomed.

Initially, the schemes of work had been designed and written collaboratively between TS and the researcher-facilitator, beginning with activities that were chosen by staff in staff meetings, as presented in Chapter Six. These activities were also those taught in the ActiveAfternoon sessions. Subsequent schemes of work were written by TS in her capacity as PECO. The transition from researcher-facilitator guidance to Queens School ownership was described:

> *The format for FGP-PE has evolved so that Queens School can teach it in the way that they find works for them. There will be three activity groups that rotate for each term at off-site venues: climbing at a local activity centre, actual swimming lessons and trampolining at a local sports centre. Trained staff will lead. FGP-PE profiles will be provided to these external members of staff for information regarding student learning in a PE context. It will help them to understand the students and teach them better* (PEWP minutes – 10/7/18).

Table 7.2: New activity selection post-intervention for 2018–2019.

	Group 1	Group 2	Group 3
Autumn term	Rock climbing centre	Trampolining	Swimming lessons
Spring term	Swimming lessons	Rock climbing centre	Trampolining
Summer term	Trampolining	Swimming lessons	Rock climbing centre

As presented in Table 7.2, groups are organised in three termly groups. This is according to friendship groups and ability and was initially chosen from the preferences stated by students regarding their interests. This allows innovation for fun and dynamic opportunities that, potentially, create a pathway to introducing other experiences into the mix of what could be available. This next evolution of the intervention does not form part of this study but represents, in part, the impact of the FGP and the future aspirations of the school in their commitment to raising the profile of PE.

Through participation in the FGP-PE intervention, the participants were able to enhance their teaching practices. When this was achieved within the participant group, it was possible to achieve a shift within the structural system. This was not the product of a single influence but was, instead, a consolidation of the influences of working with others, learning tasks that promoted PE, programme ethos that encouraged new social practices and pedagogic practice. Each contributory influence was connected, and no influence acted in isolation.

7.13 Conclusion

Findings post-intervention revealed the influences on staff perceptions of their engagement in this action research study as opportunities for collaborative learning activities with colleagues. What emerged as important was the extent to which wider environmental systems, such as pressures of government policy and Ofsted, organisational working environments and choices made by school leaders to professional development and individual staff dispositions, were interrelated. This is central to the conceptual framework of viewing child development through the ecological system in terms of availability and accessibility of universal services for increasing student entitlement.

Influences on the overall process of improvement were bi-directional and many strands were interlinked, and not easy to unravel, because of indirect influences operating on person–environment interaction. Recognising institutional policies and practices provided staff, and me, with a better understanding of environmental barriers to PE improvement in this school, situated in a multi-layered context. An ecological perspective highlighted the complexity of researching PE outcomes. This development was the result of the relationships between people and their environments that allowed continuous interaction and variation in a non-linear way. The ecological model emphasised the interactions, relationships and values explored in this study, leading to a strengths-based approach to autism PE, encouraged by a recognition of the abilities of individuals and the immediate and wider environment of school and communities. Asking students for their preferences, and giving them a voice, was essential to achieving this. Promoting this more in schools could have an impact on the discourse surrounding autism in wider society, in turn, enabling students to develop their identity.

Findings emerging in this chapter demonstrate that the staff interviewed valued the opportunity to engage in a project that increased their learning and allowed them to engage in a project in which students' lives could be enhanced. The staff appreciated the guided element of the model for learning in their school, and opportunities for collaboration were respected. This chapter supports the opportunity to study in context and the significance of elements of the process, person, context and time. The apparent influence of staff engagement in action research was seen to be reliant on multi-faceted dynamic elements, which should be considered when planning for subject development and wider learning opportunities.

Chapter Eight

8.1 Introduction

This project involved designing an autism-specific PE approach and evaluating this through collaboration. With the participation of stakeholders, it drew upon a socio-cultural understanding of the barriers and opportunities presented by a change in PE practice. The methodological approaches were selected to address the complexity of experiences and perspectives during the intervention at Queens School and, as such, this study was located in a constructivist worldview. If qualitative research is 'an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem' (Creswell, 2014, p. 32), then, coupled with the view of Merriam and Tisdell (2016) that qualitative research aims to reveal the meaning of an occurrence for people who are involved in it, this was an appropriate choice for this study.

The research journey involved identifying what to do and how to make this possible. Therefore, my aims were to:

- identify how teachers could work collaboratively to raise the profile of PE in an autism school
- consider how teachers and TAs understand PE and how this is aligned to an understanding of autism pedagogy
- address autism-specific issues in PE in an autism special school.

Each of these aims was met in the following ways. To address the first aim, the collaboration that took place through the PEWP was described and the outcomes of the work were presented. For the second aim to be met, I found that definitions of PE, and how they were interpreted by teachers and TAs, led to a deficits-based approach to teaching and learning. The third aim was met by the action research cycle and the tasks implemented at each stage. Use of the socio-ecological model as a lens allowed for the complexity of the learning process to emerge. This meant that I was able to capture a snapshot of the innumerable influences shaping participants' experiences. In revealing the intricacy of autism teaching and learning at Queens School, this research demonstrates that occurrences cannot be understood separately from the embedded context in which they exist. Through the evidence presented, I have

revealed the richness of Queens School's unique learning journey. I sought to stimulate change debate rather than criticise practices. Thus, a dialogue was provoked, the underpinning axiology of PE practices was challenged, and action was taken that embraced the diversity and particulars of the learning development process.

The findings indicate that developing this intervention was a journey in which inclusion could be achieved if features such as appropriate support, resources and training were advanced or changed entirely. PE was conceptualised as a subject area that is significantly different from others because it takes place in different types of environment. Understanding PE and how it could be presented was both a barrier and an opportunity; a barrier because there are numerous explanations of PE and little guidance regarding how to implement it in a special school; an opportunity because if it was unclear, then this afforded prospects of creating a place for it in a specific setting to suit needs. To achieve this, a model of PE teaching for autistic students was proposed through action research as a mechanism of change.

In attempting to discover a pattern that captured something significant or interesting about the data, an authentic language of perspectives regarding presence, participation and achievement through collaboration was identified. The conceptual framework provided guidance and a means to understand and interpret findings, highlighting the importance of using original and varied methods of engaging with others and drawing attention to the relationship between people and the environment.

Chapter Eight is organised in the following way:

8.2 Research questions and their relevance – achievements of this research and original contributions to knowledge

    8.2.1 Research Question One – Stakeholder perspectives and current PE provision for autistic students

        8.2.1.1 The value of PE

        8.2.1.2 Who teaches PE?

    8.2.2. Research Question Two – Improving PE for autistic students

        8.2.2.1 Collaboration

        8.2.2.2 PE ITT and CPD

An interpretive philosophical position was adopted, assuming the underlying epistemology that gathering the perceptions of stakeholders in the change process would help form an understanding of how action research was applied at Queens School. Throughout this research, I assumed that teaching was socially, culturally and politically constructed; complex and changing; and that multiple constructions were specific and influenced by the context. This ontological and epistemological stance supported my use of a qualitative, interpretive approach, which uses a researcher's first-hand knowledge of the social context to interpret how participants create meaning.

8.2 Research questions and their relevance – achievements of this research and original contributions to knowledge

I have discussed the notable findings of this study and related them to the literature review and the original research questions, which are now presented.

The research journey involved identifying what to do and why, and how to make this possible at Queens School.

Table 8.1: The link between research questions, aims and methods.

Research question 1	Research question 2	Research question 3
What were the perspectives of teachers, TAs and students regarding current PE practice, and do they think it is fit for purpose?	*How can PE improve?*	*What were the influences on the process of change and what were the perspectives of those involved?*
What did I intend to discover?		
Understanding the perceptions of the staff and the students about current PE provision in the school and whether it addressed needs. Also explored the factors pre-intervention that contributed to staff and student views.	How was the action research process designed during the intervention to improve practice?	Exploring the factors which influenced the progress of the intervention, what contributed to the staff views and what did they think?
Pre-Intervention: *Data collection one*	***During the intervention:*** *Data collection two*	***Post-Intervention:*** *Data collection three*
Teacher questionnaire TA questionnaire Student questionnaire	YST PE audit (pre and post-intervention) Timetable audit (pre and post-intervention) Training schedule FGP-PE profiles PE planning documentation PE policy PEWP minutes	Learning walk notes PEWP interviews PEWP minutes
Overall research aims	▪ Identify how staff can work collaboratively to raise the profile of PE in an autism school.	
	▪ Consider how teachers and TAs understand PE and how this is aligned to an understanding of autism pedagogy.	
	▪ Design a model to address autism-specific issues in PE in an autism special school.	

The research questions identified in Table 8.1 drove my research and provided the research design for subsequent data collections to gather the necessary information as linked to the overall research aims. The key threads were views about PE provision, how it could be improved and factors realising those improvements.

This research was guided by my understanding that teaching for social justice is complex, fluid and situated, and also, by my interest in the ways educators might change their PE practices. Definitions and understandings conflicted with some practices. For example, teaching and supporting autistic students in PE

tended to mean providing activities that would improve skills and difficulties caused by the triad of impairments. This deficits approach, whilst driven by good intentions, served only to alienate students further because they did not like the activities and were largely unable to engage in them. This was evident by their reported lack of participation and activity refusal that was the starting point for this study. As discussed in Sections 1.5 and 2.4, autistic children are at higher risk of obesity and lack of exercise, as well as experiencing barriers to accessing PA that include inappropriate curriculum content, poorly chosen equipment and resources, inaccessible facilities and inadequate staff training. When I first approached Queens School staff to become involved in the FeelGood programme intervention, I asked the question 'Do your students engage and participate in PE?'. Staff, pre-intervention, agreed that PE practice was inadequate. A collaborative initiative emerged to identify understandings of PE practice and how an appropriate pedagogical process could be created that might be delivered by class teachers and TAs. The barriers and opportunities presented by this process were described, and experiences articulated, through a conceptualisation of a model for change. The aim was to identify how teachers and TAs plan, deliver and promote PE with an understanding of the needs of autistic students.

As identified throughout Chapter Two, there is relatively little literature about how PE might best be taught to autistic students in a special school. Although, the existing literature identifies that PE educators must be more receptive and responsive to the diverse needs of autistic students, little guidance is available that clearly describes how this can be achieved in PE. This research identified this gap in the literature and described a sustainable way of addressing it. Providing autistic students with the opportunity to describe their thoughts, feelings and preferences regarding PE and physical activities, instead of relying merely on parent or teaching staff reporting, was an essential element of this study. Possibilities and opportunities were recommended for what could be included in timetabled PE lessons, how lessons could be designed, who could provide it and how it could be delivered.

8.2.1 Research Question One – stakeholder perspectives and current PE provision for autistic students

The question around effective PE provision for this cohort had already been raised during my tentative enquiries to Queens School. The SLT stated that current PE provision was inadequate and expressed an interest in collaborating to address this. Across the data sets, especially through the questionnaires, the staff at Queens School expressed how they recognised the need for a trained PE teacher yet did not wish to take responsibility.

Once it was established that current PE provision was lacking, PE was increased on the timetable through dedicated, planned lessons. This created a spotlight on the need for quality PE lessons. Staff were aware that enhancement of teaching practices was important and doing so during these lessons within the school structure would fulfil a duty of entitlement to students. Increasing timetabled PE was successful, as was raising the value of PE across the school through the use of PE profiles, which resulted in the development of a more targeted, individualised approach.

Starting with the view that the NCPE was not adequate for autistic students, one of the aims of this study was to generate a conceptual framework for understanding how teachers and TAs understood PE and how this aligned with autism pedagogy. This was achieved through the multilayering of the socio-cultural perspectives, which, together, delivered an understanding of learning on multiple levels. Specifically, this research enabled exploration of the interrelationships between the micro and meso levels of the school environment and generated new and reliable knowledge. This research contributed to the advocation of the ecological model in that, initially, it was assumed that students were at the centre of the nested systems, but the data analysis revealed that the staff were located at the centre. Staff were consequently empowered to be better educators, not only in PE, but as all-round practitioners, with a pathway to developing policy that better served students. Multiple and simultaneous alterations were the most effective way to initiate change at the macrosystem level and produce a shift in axiology for PE practice.

Collectively, the environmental levels allowed Bronfenbrenner's model to be operationalised; the scope of which meant that it functioned as an analytical

tool, yet the integration of perspectives enabled it to be used as an interventionist framework to inform policy and practice.

The interpretation of evidence along the research journey employing this framework provides original insight into how PE practice could be enhanced for autistic students. This study declared a responsibility to include students who had a voice but, because of their autism, were not often heard. Students were asked what their PE and PA preferences were through the questionnaire designed by a TA. Although only a very small number of responses were collected by staff, this was an original contribution to the literature, rarely reported in autism PE contexts in a special school.

My stance is that autistic students require a different type of PE programme and the diversity of autistic student cohorts influences activities selected by educators. For example, for the previous cohort, walking or playing in the swimming pool was commonplace. The new student cohort, whilst still struggling to access competitive games, did, however, report wanting to learn how to swim, to run faster and to try climbing. The key was that students were asked. It was not known whether the previous cohort had ever been asked or simply could not communicate their preferences verbally and showed their displeasure by not participating, thus indicating that PE provision, pre-intervention, was not fit for purpose. The new student cohort was offered opportunities that enabled difficulties to be addressed within the school environment and in the wider community. Striking a balance between practising skills they could not perform and those that they preferred was essential.

8.2.1.1 The value of PE

Although generally positive, the place of PE in students learning remained unclear at Queens School because PE was seen as beneficial to providing PA rather than as a subject in its own right. Staff tended to view PE through how it was useful for social and communication skills, team building, fitness acquisition and health and wellbeing. However, although promoted through the FGP ActiveAfternoon, PE was still not assessed or reported to parents. Furthermore, although activities for PE lessons came to be selected through addressing student preferences, PE evolved into an outsourced session provided by specialist instructors rather than delivered by in-house teachers. Weston (2011) saw the beginning of reliance on external provision, finding that, in some

circumstances, the planning and teaching of PE were not within the direct accountability of the class teacher, leading, potentially, to a continued lack of secure reporting, and bolstering the continued status of PE as a subject not worth assessing. Griggs (2010) claimed that outsourcing leads to an increase in the number of adults other than teachers working in primary PE. In terms of autism teaching, this is not necessarily beneficial and a matter for consideration.

It has been suggested that a school timetable designed to raise academic standards creates pressure for those trying to timetable PE into the tight physical boundaries and spaces (Goouch, 2008). It is hoped that this study has provided a more complete concept of educator agency for informing PE practice and how to make PE more prominent in a balanced way that works for a local school setting. The conclusions that might be drawn from the findings include pressures that determine the policy process and limit the extent to which teachers and TAs as policy constructors can make a genuine contribution to shaping the vision for valued PE. The research provides an understanding of the policy enactment process and highlights a case in which policy constructors' freedom to interpret the PE curriculum within the context of influence was restricted, partially by government funding and an NCPE focus on competitive sports and games. The drive for improved numeracy and literacy was a priority that left little time on the timetable to be dedicated to PE.

Using a modified version of Bronfenbrenner's ecological model, I explored the chronosystem and macrosystem factors within the realms of PE. This permitted me to ask questions at multiple levels and identify the interactions between them by asking all stakeholders for their perspectives. Through this lens, characteristics of PE practice, and changes, were identified to answer Research Question One. Regarding the macrosystem, social and cultural values dictated the focus of the current PE practice, resulting in the shift from no or few class teacher-led PE lessons to regular subject-coordinated PE lessons. Through acknowledgment of the chronosystem, it was concluded that PE provision required revision over time, aligning with the action research principles of 'cycles of reflection' that continue to evolve now that the intervention has finished.

8.2.1.2 Who teaches PE?

The variety of ways in which PE can be presented and the narrow definition of games and sport were debated in the literature review (Kirk, 2019; Green, 2008; Penney and Evans, 2005). Yet, the current route still seems to be leading teachers in just such a skills and performance direction. Using specialist coaches places emphasis on the subject, or activity, rather than the teaching process or pedagogy that a classroom teacher would have knowledge and training in.

The poor allocation of course content to PE in the primary ITT context does not allow adequate time for primary trainees to explore the subject in detail or to reflect on practice whilst in-practice. Inadequate PE provision means qualified teachers do not gain practice in PE teaching or experience in considering alternative pedagogies, leading to a lack of confidence, competence and originality in planning, which was the case pre-intervention, resonating with the findings of Harris (2018); Morgan et al. (2018); Jones and Green (2015) and Smith (2015). However, of more significance to this research is the concern about who teaches PE in special schools. I have identified a gap in knowledge that includes autism specialist teachers and TAs. Little is acknowledged about the influence of situated learning experiences on prospective PE teachers' confidence and competence in a special school setting, which Maher and Fitzgerald (2018) attributed to an apathy, existing in England and internationally, when it comes to researching special school PE. In preparing aspiring teachers to become inclusive educators, I found themes that impact on placement role, confidence, competence and knowing students' needs and capabilities that conceptualise confidence and perceptions of its development in agreement with Maher et al. (2019).

My findings signpost that teachers bring to their PE practice personal experiences of participation, values and professional beliefs, all of which influence their teaching (Aldous and Brown, 2010; Green, 2008). Not only do these factors determine attitude towards PE but are reflected in PE teaching confidence. The range of contributing factors towards PE is complex and this study found similar results to Pickup (2012a) regarding personal attributes and attitudes towards PE, which included personal motivation and passion. This study found that many class teachers consider it acceptable for others to teach

PE. However, the use of external specialists does not take into account learner development and serves to further restrict the possibilities for skill acquisition. This finding reflects the concerns of Griggs (2016; 2010) and Blair and Capel (2011) that primary teachers appear willing to concede delivery of curriculum PE to visiting coaches. Queens School educators in this study ultimately decided that external instructors would deliver PE lessons off-site. Teachers and TAs demonstrated creativity, became more dynamic in their choice of direction with PE and were empowered to take the FGP at Queens School further and develop it as their own. Nevertheless, PE lessons would still not be taught by a teacher. Additionally, the intended use of external instructors in an external setting raises issues around autism and compartmentalised learning that affects progress and achievement as well as transition times and travel considerations.

8.2.2 Research Question Two – improving PE for autistic students

The field of PE is expansive, with many competing values and understandings. As I have stated in the literature review, if young people are to achieve their potential in PE and cultivate the motivation and capacity to continue to be physically active, they need to be taught by well-qualified, specialist teachers who can provide high-quality lessons that engage, challenge and inspire. The literature cites insufficient financial resources for creating such barrier-free environments in schools and a lack of availability of learning programmes that can provide successful professional development for educators. As established in Chapter One and the literature review, autistic students are not a homogeneous group – their needs vary considerably. Therefore, simple solutions are unlikely to work consistently. The reason why autism interventions are rarely adopted and maintained in community settings is often because the intervention fails to match the needs and capacities of the setting (Dingfelder and Mandell, 2011) and this study's findings, although not necessarily directly replicable, are relevant to the advancement of autism PE research and practice. This study was concerned with enhancing opportunities in PE lessons through regular structured activities. The literature, presented and discussed in Chapter Two, tended to focus on PA as beneficial in addressing the triad of impairments, usually in small groups, sometimes with only one child and, often, in one-off,

non-educational settings rather than in school-based PE lessons. Improving outcomes for autistic students and increasing knowledge about good PE practice so that professionals can adjust their policies and practices was achieved through the collaborative venture at Queens School. The literature review explored themes relating to the research questions and unearthed factors involved in understanding perspectives and influences on processes of practice change through collective learning. Findings suggested that PE expertise is shaped by professional training, collaboration and a curriculum that can be adapted for autistic students; yet pre-service training and provision of, and access to, CPD is generally lacking. Autistic students are often supported by non-PE-qualified TAs. However, there is a lack of training to support effectiveness and collaboration between PE teachers and TAs that also encompasses SENCO involvement (Maher, 2018; 2017; 2016). This study aimed to describe what it means to develop PE practice for autistic students through training of all educators.

Throughout this study, themes relating to PE and autism have been presented. The link between these fields was made and an overview of the impact that autism has on learning was discussed within the features of this particular environment. This study builds upon the argument for a different approach to PE teaching for autistic students, given the broad variations in these learners' needs and characteristics. The relevance of the NCPE has been questioned by Morley et al. since 2005 because of the hyper-focus of the competitive team game, traditional view of PE, which presents a barrier to inclusive practice. Further to this, this study offers insight into the perspectives of teachers and TAs in an autism special school taking part in action research. Students were involved through a school-based survey in an attempt to gain insight into their understanding of PE and their likes and dislikes. Attention was paid to addressing their responses to create a form of PE that they would be more likely to enjoy and engage with. Thus, I call for offering student choice through a strengths-based model.

Furthermore, in seeking an understanding of quality practice in special school PE, evidence signifies that the subject often receives limited coverage in primary teacher training. The inadequate preparation and development of primary teachers as teachers of PE was discussed in Section 2.8, contributing

to the recurring dilemma as to whether it should be taught by class teachers or by visiting specialists. As indicated previously, Queens School attracted primary trained teachers because classes were structured along the primary model of class-based subject teaching, based on their model of a special school. If primary school PE is already perceived as lacking, then further concerns around special school PE are raised.

8.2.2.1 Collaboration

Tripp et al. (2007) suggested how critical it is to work in collaboration with practitioners to provide different contexts, resources and opportunities for learning to take place. When these aspects were developed together in this study, this led to improved practice. The PEWP helped educators to enact policy in two interactive ways: through the interpersonal relationships formed between me, SLT, teachers and TAs, and through the teacher–student relationship. The established social and cultural context of the school provided a familiar structure for staff to exercise agency, and this transferred into an enhanced environment that enabled them to enact the new policy. The social nature of schools, and the shared physical environments in which they work, position staff in an already safe context to use their collective agency to enact policy.

This research extended the literature by combining concepts of PE policy enactment and educator agency by viewing them as interconnected. It was this process that allowed them to make sense of the FGP and shape it into the FGP at Queens School. This signposted that schools are not static organisations but complex, dynamic, social environments where staff connect with and understand new policy and practice by exercising their agency. Agency was necessary for policy enactment, and the conditions of policy enactment enabled agency.

This collective experience of the PEWP was enhanced by combined goals, collaborative planning and shared accountability. This aligned with the findings of Armour and Yelling (2007) that PE teachers who engaged in collaborative learning place value on learning informally, yet strategically, with, and from, each other. Staff required dialogue and discussion to build knowledge and confidence and reduce some of the feelings of risk associated with changing practice. They valued being in a working party alongside the school's leadership

team but also placed importance on guidance from the researcher-facilitator. The educators required facilitative leadership, support and direction to empower their decision-making. When teachers are not able to contribute to discourse within the context of influence and text production, the result is a form of PE that is decided not by teachers, but for teachers (Penney and Chandler, 2000). The FGP intervention would be less likely to impact on teachers' practice without opportunities for active participation and influence (Vahasantanen, 2015). The impact of this on my study was that I was able to consider professional agency at an organisational and community level. This included time and capacity to embrace new information and educational practices, to negotiate their professional identities, to decide their response to the change, and to consider their engagement approaches regarding the changes. By engaging staff in the FGP intervention, they were able to actively participate and influence the intervention to become their own. This has the potential to increase educators' ownership of changes, supporting them to take collective responsibility for changes.

8.2.2.2 PE ITT and CPD

Recommendations focused on the potential for amendment of those structures seen to be influential to ITT PE at both primary and secondary level school-based experiences. The status of PE, expectations and local practice, and the influence of others to better support more primary trainees to become teachers of PE echoes the findings of Pickup (2012b).

Whipp et al. (2011) revealed modest-to-large size effects from improvements in teachers' beliefs about their ability to provide students with a range of PE-based requirements after training. They noted that generalist teachers reported improvements in their skills, knowledge and confidence as a result of working alongside PE specialists, and experienced enhanced confidence and skills in their ability to effectively instruct PE.

Findings from Braga et al. (2017) reinforce the necessity for research-informed PE CPD and highlight its part in creating a sense of teacher empowerment and igniting systemic change within PE. Likewise, my own research has implications for improvement initiatives that involve educators in the enactment of policy reform in special schools. These findings raise awareness of the structures that enable and constrain educator agency during educational change and could

inform the development of programmes in ITT towards a more comprehensive preparation of teachers to apply their agency in times of change in whole-school development. This does not lie solely with ITT, because the agency cannot simply be learnt and applied. ITT has a prominent role to play in creating reflective practitioners, encouraging collaborative practice and in emphasising the importance of dialogue. The findings suggest that these features need to be sustained in schools, during CPD by school networks. The research advocates school leadership as a way of guiding and supporting, as well as creating structures that enable teachers to redesign policy within their setting.

The lack of inclusive training among PE teachers in the first instance possibly limits the opportunity for research on the impact of inclusive practices on the attitudes of PE teachers. As a result, there is a relatively small number of studies on the impact of inclusive PE practices on the attitudes of PE teachers. This study contributes knowledge to this poorly represented area. The findings contribute to the development of PE access for autistic students by suggesting a model of PE CPD training in a special school.

8.2.3 Research Question Three – educator agency and policy-making discourse

The findings from this study uncovered factors that enabled and constrained school staff to apply action to practice improvement, revealing processes beneath the surface of curriculum change, and developing an understanding of the ways to support educators in their current practice and guide their future actions. For those wishing to engage in realistic forms of pedagogy as a way of facilitating potential and existing educators to have the knowledge, skills and experience to develop a more inclusive culture in PE, especially at the special school level, a model was presented.

One way of analysing how teachers engage with reforms is through teacher agency, as this provides insight into how teachers relate to policy (Tao and Gao, 2017). This study identified that teachers and TAs were enabled to act and respond to the intervention in a way that was their own. They were able to take the FGP and shape it into a format that worked for them, in their environment, with their students. This allowed the intervention to become more generalisable. Being able to critically reflect on this process was essential and was

demonstrated throughout the collaboration and evidenced through the PEWP minutes.

This study reflects the notion of Priestley et al. (2015) that teacher agency offers a framework for considering what it means for teachers to use their agency to support a new policy and develop a critical stance. Throughout the intervention, teachers and TAs discussed and developed ideas and made evolving changes to their PE delivery. This included placing PE on the class timetables prominently, deciding to plan a PE lesson for all classes at the same time so that abilities could be better matched, considering what day the PE lesson would be delivered, then responding to feedback when this did not work well and purchasing new equipment to provide new activities. Sannino (2010) stated that educators can oppose change completely yet, in my study, this did not happen, even though past projects had been previously opposed or had not come to fruition, so staff were, initially, cautious. Perhaps the lack of opposition was due to the collaborative opportunities on offer and the options for engagement in creating a vision for development within the organisation.

The intervention was designed to empower educators so that they could participate actively in planning and implementation processes to gain sustainable integration.

Using the ecological model as a lens allowed me to consider the interdependence of agency on environmental features and the interplay between individuals and cultural and structural systems in Queens School. This research recognised human activity and environmental aspects of reality as interwoven. A socio-cultural perspective of agency explains how teachers and TAs in this study could be viewed as agents who were embedded in their contextual conditions and capable of transformation, as supported by Hökkä et al. (2017a; 2017b), Pantic (2017), Eteläpelto et al. (2015a; 2015b), Edwards (2007) and Lasky (2005). Agency could be seen in this study as not just a personal attribute to be applied in professional work but part of an ongoing process that involves experiences from the past, engagement with the present and plans for the future (Emirbayer and Mische, 1998). Staff engaged with the training for the intervention and then progressed it to become the FGP at Queens School. This fact supports a stance over time that indicates the quality of the engagement of actors with temporal–relational contexts for action

(Priestley et al., 2015). This was especially true because previous projects had not been sustained over time. The focus for Queens School staff shifted from what they had the capacity to do, to what they did within the resources of their environment. Therefore, capacity, as fixed, was rejected and the dynamic, context-embedded agency was endorsed by those involved.

This study aligns with Biesta and Tedder's (2006) concept of agency formation as ecological, suggesting that the achievement of agency resulted from an interaction of individual and collective efforts, available resources and contextual factors. The research of Priestley et al. (2015) built on that of Emirbayer and Mische (1998) and Biesta and Tedder (2006) applying the ecological approach to teachers' agency to be achieved in, and through, concrete contexts for action. The choice to use action research supported this because actions for change were generated and acted on throughout the intervention. The success of this collaboration was that SLT intended to use the model of improvement for developing other subjects.

It is argued in this study that teachers and TAs engaged in sense-making practices in which their experiences were interpreted in context, affecting how they responded to policy change. Policy as discourse encompassed policy texts, institutional structures and practices. A dialogical, socially constructed relationship was supported by providing stakeholders with a voice. In this case, educators received professional development and students gained access to PE designed for them because of the staff training. This positioned teachers and TAs as central to the change process as co-producers and creators who design and transform. This underscored policy enactment as a dynamic, non-linear process, not accomplished at any one point in time but part of a progressing journey, which aligns well with the ecological model used in this study. Thus, viewing policy as discourse provided me with an opportunity to examine 'the interplay between policy creation and response' (Adams, 2011, p. 59) that occurred at Queens School, emphasising how actions were selected through the interplay between policy constructors, policy text and the staff. The PECO and A-PECO roles were established and maintained. The need for a PE teaching role was recognised, although the desire to keep their current structure was understood by SLT to be what made their school distinctive. However,

there is no research to support that schools for children with special needs require class teachers.

Attention has been focused on how competently policies are realised in practice (Ball et al., 2012), but there has been less focus on how special schools deal with educational reform, i.e., how educators work to interpret policy texts, reconceptualise a subject and consequently create teaching and learning on the ground. This study has contributed to improvement initiatives that involved teachers and TAs in the design of subject development at a special school. The SLT at Queens School realised that they could be creative in providing opportunities for securing student presence, participation and achievement in PE. The element in this study that took this a step further was in asking the students about their experiences of PE through the questionnaire administered by Queens School staff. This information was used to create PE activities which allowed a 'way in' and accomplished a more inclusive environment. FGP-PE profiles also provided a spotlight onto student strengths. The achievement of these documents was that they were employed in a novel manner by Queens School because they were provided to the activity instructors who would be leading the external PE sessions post-intervention.

The implementation process describes teachers being provided with an externally recommended policy and subsequently integrating it into their philosophy. By contrast, enactment in this study involved teachers and TAs in the process of constructing and reconstructing their environment around the new policy, and this facilitated their learning. Priestley et al. (2013) suggested that 'agency is not present if there are no options for action or if the teacher simply follows routinised patterns of habitual behaviour with no considerations of alternatives' (p. 141). This partially explains why collaboration is essential to individual schools, as was the case for Queens School. Educators recreated their curriculum development in ways that fitted with their understanding of the policy in their school environment. A successfully raised awareness and more positive profile of PE was formed through posters, a photo diary in reception, photos in parent newsletters and LEAP week events focused on sporting activities. Confidence in holding whole school events became commonplace. This portrays the school as a dynamic, complex environment where educators make sense of the new policy by exercising their voice and agency within their politically and culturally shaped educational setting.

Even though authors called for PE reform historically (Kirk, 2010; Penney and Chandler, 2000; Kirk, 1990), change initiatives and their degree of implementation in PE vary and are often unproductive, reporting implementation failure or superficial change (Curtner-Smith, 1999). Governments need to invest more in educators' professional identity because, as can be seen through the narrative of the FGP intervention, it is the educators' commitment to the transformation of policy that shapes the success of initiatives, a finding also reported by Humes (2013). In this way, involving teachers in this process is less about the observance to policy and more about teachers acting to bring policy intentions into being (MacLean et al., 2015).

An indicator of accomplishment and ownership for this continued commitment to policy transformation can be evidenced through the following Ofsted statement post-intervention:

> *Activities include regular rock climbing, horse riding, off-site swimming and trampolining. These develop pupils' self-esteem and raise their self-confidence. The 'Pacers', a daily running club, is a whole-school activity that brings students, staff and governors together as a community. This activity is successful with pupils and supports their mental health and wellbeing and helps reduce anxiety. (Short inspection of Queens School, 2019).*

An ecological dynamics framework provided a unique philosophical alignment, which addressed challenges in understanding PE for autistic students. This conceptualisation has been used before in autism and PE research, yet this study is a valid extension of what has been researched previously. The challenge for any intervention is to address government expectations while inspiring individual local ownership at an institutional level. It is intended that this research will inform and influence future changes so that a model can reflect a process that is democratic, dynamic and inclusive.

8.3 Limitations of this research

8.3.1 Sampling strategy

In qualitative research, it is considered apt to collect thorough data from a small sample, rather than an incomplete breadth of data from a large-scale sample (Patton, 2002). While this is a recognised feature of qualitative research that

provides in-depth, valued material about an explicit population, future studies need to extend research into teachers', TAs' and students' PE perspectives of PE practice in other special schools, or indeed in other types of schools, by reviewing other cohorts. The danger of qualitative research is that it is not generalisable, yet the fact that information can be generated as a starting point for further investigation is the reason why it is important and authentic. Investigating the effects of more than one PE intervention in one school would ensure that the findings were more generalisable.

There were limitations on the methodology and methods used in this research because this was a localised study, taking place in a small school within one academic year. The views of one set of stakeholders reflected experiences related to a particular intervention, limiting the potential for inference in other interventions in other contexts. Yet, although the successful embedding of PE interventions may look different in different contexts, such an intervention provides reflexivity and flexible enactment, ensuring an appropriate and authentic process. The sample was chosen to represent the needs of staff and students in a special autism school. This, of course, did not represent special school educators as a population, or indeed PE teachers, autism specialists or students but was justified in answering the research questions and addressing my aims.

8.3.2 Research tools

Several research approaches could have been employed to report on the origins and progress of the FGP-PE intervention, with each, potentially, revealing different knowledge and perspectives. For example, an evaluative approach would have generated quantitative data that would be measurable and comparable when conducting impact reviews. This approach, however, would have produced statistics rather than perspectives and experiences, which would not have addressed the research questions concerned with explaining how PE could be improved or describing the influences on this process. The methodology and methods used in this study generated dependable data that addressed the original drive for the fieldwork in this study, which was to describe a model for the process of change in PE practice.

A questionnaire, as a research tool, enables the researcher to present and analyse data using specific responses that are based on the same set of

questions. The questionnaires were written to seek information on pre-intervention PE practice from the experiences of teachers, TAs and students. The teacher and TA questionnaires were written, administered and collected by me, and the student questionnaires were written, administered and collected by Queens School staff. A limitation of this was that, where I was able to create the questions for the teacher and TA, knowing what I wanted to study and what narrative I wanted to write regarding lived experiences, I was unable to do this for the students. This was not to say that the student questionnaires were not well written, but they did not have the same emphasis or style. The data, however, was informative, authentic and, at times, unexpected, highlighting an idea that I had not considered before about whether the perspectives of staff and students concurred. Queens School's plans to set up a student council were seen as a way of getting the students more involved and an opportunity, again, for the school to take responsibility for providing their students with a voice, that was advantageous to my research.

Another limitation may have been in the way the student questionnaires were conducted. I had no control over the time allocation or conditions under which they were completed. I was obliged to rely on someone else collecting them and conveying them to me. This may have had an impact on the small number of completed questionnaires returned. Nevertheless, a great advantage was that staff knew what communication methods to use for each student and how to support them to answer the questions. Staff were also able to produce two different formats to cater for their status as either conversational or social partners, which I would not have been able to do with my lack of knowledge about those specific students and without access to the software required to write the Communication in Print version.

As I wanted to answer my research questions, which were about understanding how people were thinking, a questionnaire was a good way to collect perspectives and generate a consistent data set. The function of the questionnaires was to collect perspectives about school issues relating to current PE practice. Consequently, some of the questions were open-ended, enabling participants to make unrestricted comments and detailed descriptions. Some questions required a short answer or asked participants to select responses from a given list. The anonymity of the questionnaire allowed for

245

more authentic and open answers as respondents were less likely to be concerned about giving the 'right' answer or restricting their comments because they were worried about disclosing sensitive information. Questionnaires are self-reporting tools with boundaries that can mean that people only tell the researcher what they want them to know or what they think the researcher wants to hear. Consequently, they are not completely trustworthy or reliable, but they were the best way to collect perspectives of PE practice pre-intervention and gather enough information to design the subsequent training sessions and establish appropriate action points for PE improvement.

As with questionnaires, interviews are only as reliable as the people providing the evidence, however, both methods were suitable for my purposes. The drive for selecting semi-structured interviews was to complement the data collected through questionnaires and further understand the barriers and opportunities presented along the way. I aimed to provide deeper meanings and understandings of the staff's experiences as they engaged in action research, and the subsequent impact on their ideas of how PE could be improved at Queens School. The semi-structured interviews were recorded onto my mobile phone and typed into a Microsoft Word document. Transcribing recorded data into a written format may be a concern, as important aspects of the spoken word can be lost in transcription (Marshall and Rossman, 2011). Consequently, the dependability of the data is reduced due to conflicting interpretations. According to Silverman (2017), this can occur through not identifying important pauses and overlaps. Also, basic punctuation errors can alter the implication of a response (Marshall and Rossman, 2011). To minimise these hazards, the recordings were played and compared against the transcripts several times.

According to McIntosh and Morse (2015), the main purpose of a semi-structured interview is to discover the participants' perspectives concerning their experience relating to the research topic. However, there might have been some reservation to the responses, depending on my own relationship with each interviewee. Participants may have been influenced by my researcher-facilitator role and could have given a certain answer in response to that role, such as a response they might have thought would enhance my perspective on a particular issue or one that, in their opinion, might provoke a certain response from me. They may have had a vested interest in responding in a particular

way, which covered the truth of the situation. The interactive conversation is framed as inherently biased, which presents a set of complications, the distortion of which can be mitigated through maximisation of the flow of information. Holstein and Gubrium (2004) provided a useful counteractive technique, which is for the interviewer to ask the questions in such a manner as to produce reportable knowledge. This involves creating a conduit that must be two-way for it to be constructive. Nevertheless, although the information from the interviews is open to interpretation and possibly lacks some integrity, it remains valid and robust. Interviews provided authenticity because they expressed a direct response from each participant through a relationship that had been developed and nurtured over the research timeline. Trustworthiness from questionnaires and interviews also came from the confirmation of findings across the combined data collections – none of the data collection methods stood alone. This process enabled the original data to be consolidated and expanded on so that each layer of findings could enhance the others, allowing for a far-reaching investigation despite the small scale of the study itself. I used a range of methods, and the appeal of this was that an enhanced picture could be constructed of the model for improvement.

8.3.3 Parental interaction

This study did not engage with parents, which might have yielded data with a more complete picture of PE, PA preferences and PA outside of the school environment. Also, this could have addressed a greater range of interactions across the micro and macrosystems, aiding interpretation of the situation. However, because the student cohort had changed at Queens School, channels of communication were not fully established with new parents, and staff were not used to dealing with daily students. Previously, home contact consisted of weekly newsletters rather than face-to-face discussions, so, being able to organise a parent group was not feasible at the time.

8.3.4 Staffing

Staff placements were transient, yet it was unclear precisely why. High staff turnover can bring unwanted and erratic changes in curriculum delivery, causing problems with continuity. It also disrupts interactions around improving instructional practice (McLaughlin and Talbert, 2006; Kochanek, 2005). Queens

School underwent many leadership changes during the project timeline. High levels of employee turnover are tied to how well organisations function; thus, a lack of coherence and continuity has a negative impact on organisational performance. School organisational conditions and working conditions, in particular, are known to affect turnover (Ladd, 2011; Loeb et al., 2010). Smithers and Robinson (2004) found that turnover was higher in schools with a greater proportion of students with SEND. Having sufficient numbers of teachers with the right expertise is essential for schools to deliver the curriculum they want to offer (Worth and De Lazzari, 2017). A high rate of teachers leaving constrains policymakers as they try to incentivise schools to make curriculum changes. Disruptions to learning and staffing issues are common features of a school with high turnover, but of relevance to this study was the impact on the school environment. It was difficult to create a school climate conducive to the progress of the intervention because institutional knowledge about students and the curriculum was lost every time a teacher, TA or member of the SLT left Queens School. For example, data connecting the enactment of the FGP with staff improvement in PE practice and student participation and progress could not be evidenced because the SLT member responsible for the software left during the course of the intervention. His skills and expertise in offering PE as an assessed subject were lost because he was the only teacher who had received training. The effect this had on research design was that there was no evidence demonstrating the impact the FGP on students at that time. In addition, staff questionnaires could not be followed up post-intervention because so many people had moved on. Only one original PEWP member remained employed at the end of the academic year and they were signed off on long-term leave. Not one original SLT member remained at Queens School post-intervention. Additionally, there was a major change in the cohort of students on role during the research timeline, although not in the same academic year of the intervention, yet the ripples of this change were huge and impacted on the study overall because of students leaving, staff being relocated and new students and staff joining. Important changes were made to improve student outcomes and provide more efficacious services within the context of this charity-run school and how it would operate in the long-term and perhaps explains partially why there had been an increase in staff and SLT turnover.

8.4 Further contributions of this work to new knowledge

8.4.1 Working in a special school

The research questions communicated a consistent message to staff who needed to understand the aims of the research and become part of the action research process. This study is a contribution to the knowledge base surrounding action research as a realistic and workable process capable of guiding change in practice at an environmental level. Unique characteristics of staff at Queens School included being skilled in autism interventions, understanding how autism affects individuals and being able to teach and support students across a daily timetable of subjects. Achieving job satisfaction gained from working alongside the students appeared central to this. Staff seemed motivated to work with autistic students, having already accepted their learning styles. Not only was the interaction with students important but to be able to see growth in a child's life appeared essential to job satisfaction – great value was placed on this. All staff expressed the importance of teaching learners effectively and accepted that autism behaviours were part of the natural setting; so much so, that it was barely mentioned in questionnaires or interviews. They all valued their jobs and enjoyed working with the students, gaining much satisfaction from seeing them progress. The need to be able to 'make a difference' appeared intrinsically linked to feeling equipped and successful in their job role, which was presented in Data Collection One in Chapter Five. Figure 8.1 shows the flow between enabling aspects and the aim to seek empowerment and equip students to become independent learners. There is an overlap between these themes as one cannot be achieved in the absence of the other.

Figure 8.1: The flow between themes leading to student empowerment
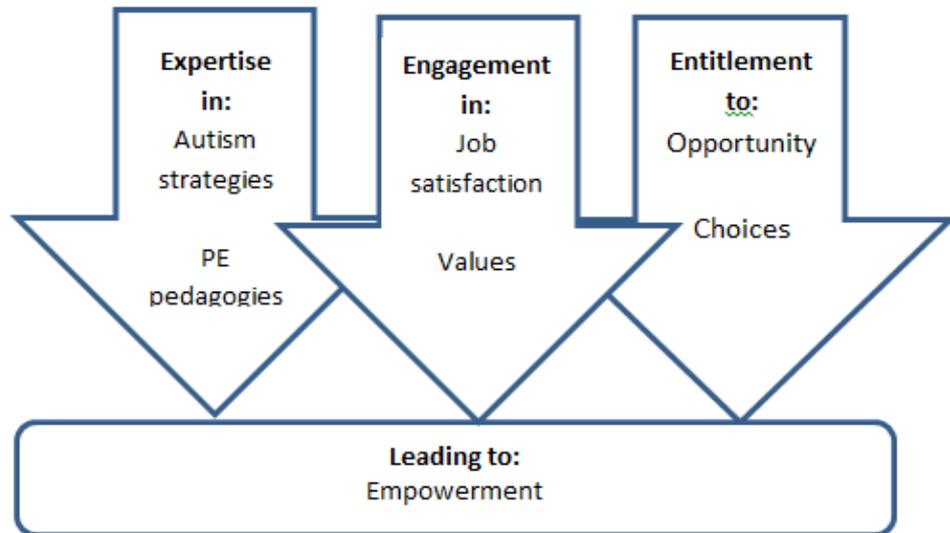
These themes were collated from the data analysis of teacher and TA questionnaires related directly to what they enjoyed about their jobs and how this impacted on daily life experiences in school. This study was originally concerned with student entitlement and empowerment, yet perhaps the connection was also about staff entitlement to professional development that would enhance their learning and enable them to support the students better through their increased ability and confidence.

Mărgăriţoiu (2015) analysed the explanations of teachers' commitment in special schools, finding that it is connected to their humanity and loyalty, which is positively correlated with the wellbeing and achievement of children with disabilities. Other reasons alluded to in this study was the positive emotional attachment to autistic students and responsibility to gain professional training to best support them in reaching their potential. This research gives a broad overview of the issues around the change in PE practice made through curriculum subject development. A strength of this study is the availability of a wide range of qualitative data sources from all of the key stakeholders in the intervention, which enabled me to increase my understanding of how the intervention was received and, more importantly, how it could continue to be improved.

Understanding datasets meant interpreting how they related to one another as guidance for the change process. These findings addressed the research questions and indicated that a special school team can create a unique way to construct a supportive learning environment through being innovative with

resources and facilities, engaging with training and actively collaborating. This included changing policy, systems and structures, and empowering teachers to creatively deliver, and TAs to meaningfully support, PE. Influences were underlined as dynamic, multi-directional person–environment transactions. Tensions emerged between factors such as Ofsted expectations, budget allocations, autism understanding, subject understanding, training provision, time pressures for planning and collaboration and personal qualities of enthusiasm and passion.

8.4.2 Strengths-based models

Themes raised throughout the data tended to fall into similar categories, which were explained and analysed further in Chapters Five, Six and Seven. Generally, emerging perspectives were that PE practices had been selected by Queens School staff to address the triad of impairments. However, tensions arose because there was a contrast between perspectives of staff and students about what was involved in developing inclusive PE practice, highlighting that staff and students did not hold the same perspectives regarding choice of activities included on the timetable. Not only was this an interesting finding, but an area for further research, because there may be examples of PE research in which a deficits model has been used to good effect. However, more research needs to conclude whether using a deficits or strengths-based model in PE is more beneficial on an individual basis.

The documentation and evidence represented the next steps for driving forward the focus on PE and also, what the issues were surrounding the project when it was completed. This addressed the thesis title*: to develop PE access for autistic students and then allowed me to describe the journey to improve PE practice in an autism special school.* The aim to examine what staff perceived as the barriers and opportunities involved in collaborative planning was answered across each data set. Understanding how a school team translated autism PE training to suit their needs was represented through this documentation. Although it may be challenging to generalise from this study on the exact model used to enable autistic students to be more effectively included in PE, their comments, nonetheless, reveal that provoking their views is a worthwhile practice.

8.5 Directions for further research

For further enquiry within the Queens School context, I would be especially interested in following up research on the use of the FG-PE profiles in the ActiveAfternoon PE lessons. Initially, focus could have been on how the FGP-PE profiles were updated and incorporated into IEPs and EHCPs, with feedback from the staff, who wrote the first versions and then updated them, as necessary. Secondly, I would want to investigate how this was applied to the off-site activities led by trained instructors. Engaging the external instructors in further research would be of interest regarding the use of the FGP-PE profiles and how this worked in an educational, yet not school-based, activity, and also, how instructors used them. Feedback from instructors regarding the FGP-PE profiles would aid in understanding how information could be disseminated and how it could be understood by non-autism specialists and non-teaching persons, and how they could contribute to the enhancement of teaching and learning for autistic students. Continued monitoring of this model and reporting back over a longer timescale through regular return visits to Queens School would enrich this study.

Regarding trackable progression, I would also like to have been able to identify strategies for teaching and supporting in a targeted and personal way through the use of the FGP-PE profiles. This could involve linking presence, participation and achievement as a means to assess whether PE inclusion has been achieved for a specific student, employing this as a kind of checklist. There would also be options to include PE as a subject entered into Queens School's student data system so that progress and achievement were recorded and linked into the formal schemes of work structures. This was not possible in this study. Additionally, I would like to have explored any impact on student presence, participation, progress and achievement that may be connected to the use of the FGP-PE profiles. If the intention was to increase PE and improve practice, then it would be beneficial to have any type of quantitative evidence to demonstrate measurable impact on the students that would support qualitative data.

Themes for further research include developing training strategies and investigating how training can support class and subject teachers to better teach PE to autistic students. This starts in ITT for both primary and secondary

trained teachers and requires primary class teachers to learn more about teaching PE and secondary trained PE teachers to learn more about PE for autistic students. An additional opportunity would be to have sustained access to CPD for both sets of educators in different types of schools and monitor how this is achieved and what the impact is. Special schools tend to incorporate further education because their age range typically offers education to students up the age of 19 years. As a result, I believe further education colleges could be included in this because many autistic students from autism bases and mainstream schools transition to sixth-form colleges and may wish to attend PE courses, or activities such as clubs. There may be further research opportunities concerning how ITT and CPD training could support these students.

Determining how best to use TAs in PE development was an additional area for probing because it is inconclusive as to the best approach or TA deployment in any school and especially so for TAs in special and autism special schools. Options may be as a subject resource – TAs trained in autism PE supporting students to access the PE lessons, or even delivering PE instead of a class teacher.

Further research is required to evidence more situations where PE policy has been developed by staff. Again, this may include a range of PE-based settings. One might ask 'Do teachers understand that they can drive curricula, and do they know how?'. Similarly, more research into collaboration and contribution to PE practice is necessary for the empowerment of teachers and TAs to be involved in designing an intervention for improving PE practice that meets the needs of their school environment, possibly also reflecting on other subject refinements. This includes the application of practice to other subjects and adopting workable solutions for subject development in other areas.

PA has been shown to offer self-management strategies to autistic students but, do regular PE lessons have any effect on behaviours? This has implications for schools that want to improve behaviour through behaviour support plans BSPs using access to PE as a way for students to recognise physical activities to be firstly, therapeutic and secondly, to recognise which activities they prefer. This would build lifelong skills, address autism needs and empower students to improve understanding of what they want and when.

8.6 Directions for further practice

Although this research is autism-specific and set within an autism context, it has implications beyond the immediate research environment. It applies, not only to autism schools, but also, to mainstream schools with autism resource bases and even within mainstream education. For future studies outside of Queens School, opportunities exist to link with other PE practitioners in similar situations in different schools. A collaborative network would allow the development and sharing of practice, especially in special schools, to provide a platform for further practice enhancement. As discussed in the literature review, NCPE focuses on team games and competitive sports, which alienate many learners and reduce the likelihood of lifelong participation in physical activities. Developing opportunities in schools to offer activities that are more likely to engage learners, and to match their preferences, has relevance to non-autistic as well as autistic students.

FGP-PE profiles were used for students within Queens School. It would be interesting to observe how they will be used by the external instructors in the off-site ActiveAfternoon sessions which started after the actual intervention had finished at Queens School. Additionally, it would be interesting to observe how these could be used in mainstream settings, in PE lessons, as a collaboration between PE teachers, TAs and SENCOs.

Consideration of whether the FGP could be useful for students diagnosed with similar and overlapping neurodiverse conditions other than autism, such as dyslexia, dyspraxia, Tourette's and social anxiety. Identifying differences required in personal practices, any possible amendments to learning activities or adaptation processes would be informative.

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Appendices

Appendix One

Overall narrative describing contextual changes with Queens School:

Description of the school setting

The main site accommodates Key Stages 1, 2 and 3 in a school building that was purpose-built with autistic children in mind. Years 10 and 11 and the sixth-form provision is based in a large house. All the students have EHCPs with autism as the main diagnosis in addition to severe, profound, complex and moderate learning difficulties. Queens School provides education for up to 70 autistic children and young people. As one of the UK's first schools for autistic children, Queens School has over 40 years' experience of providing specialist education. Students benefit from an expert support team and an array of specially tailored resources and facilities, including a therapy pool, sensory rooms and a secure outdoor play area.

The school is part of the Triad Trust, a charity that runs a range of support, respite and residential services. When this study started this included weekly day student provision; accommodation for weekly students who returned home at weekends; 38-week students who return home in the school holidays and 52-week students funded all year round. Students were drawn from locations across the United Kingdom. There were a very small number of pupils under the age of 11 when the research began. There were no children in the early years department although the school did have capacity for children in this age group. The Triad Trust is now a regional charity providing specialist services for local students affected by autism and associated difficulties.

Organisational and school changes

A major restructuring of school provision during the fieldwork lead to pivotal changes in the student cohort meaning students had fewer support needs and challenging behaviours and did not require residential accommodation or 1:1 staffing. The setting was deemed by Ofsted as no longer fit for purpose. Students with needs which were better met in a 24-hour waking curriculum setting were transitioned to alternative residential accommodation. This led to

many care staff redundancies and some moving over to the education department as teaching assistants. It was a very emotional time for the school. Another change was that the number of students in the early years department was increased. When this research began there was an acting Head at Queens School who was also overall Director of Education for the Triad Trust.

There a large staff turnover during the time that the fieldwork was carried out from initial contact to post-intervention. This settled down to a more manageable level during the research. However, no members of the PEWP were left at Queens School post-intervention. A new Chief Executive Officer was also employed during this timeframe.

Subsequent changes at the end of the research period meant that Laurie king left the school for a Deputy Head post in another special school locally. Marion Fowler remained as Health and Wellbeing Manager and Tammy Smith became Acting Headteacher however was then on a leave of absence. A new Headteacher was appointed to Queens School however this did not occur and another Headteacher fulfilled the role with Marion Fowler standing down as Health and Wellbeing Manager and being replaced by a new Deputy Headteacher.

Timescale of research
Project established: 2012
Introduction and building relationships: 2013-2014
Pre- intervention: 2016-2017
During intervention: 2017-2018
Post-intervention: 2018-2019

Pre-intervention

Queens School was a residential school for autistic children and young people aged 9-19 years.

Headteacher- David Cooke

Assistant Headteachers- Laurie King and Tammy Smith

Care Manager- Marion Fowler

Nine PEWP members

During the intervention

Queens School became a day school for autistic children and young people aged 5-19 years.

New Charity Trust CEO

Joint Headteachers- Laurie King and Tammy Smith

Health and Wellbeing Manager- Deputy Headteacher (non-teaching) - Marion Fowler

Five PEWP members

Post-intervention

Acting Headteacher- Tammy Smith

Health and Wellbeing Manager- Deputy Headteacher (non-teaching) - Marion Fowler

Three PEWP members

Organisation of key dates along the study journey: Timeline of the action research process

Table showing the research and fieldwork timeline

Dates	Notes
September 2012	Collation of suitable schools in the locality. Initial contact and enquiry- Gain entrée.
15th October 2012	Preliminary visit to school. Meet with the Director of Education.
15th January 2013	Introduction to research and study procedure. Identify potential staff participants.
16th September 2013	Pilot survey through questionnaire to test questionnaire suitability.
November 2014	Initial request for PEWP to join. Participants to drive the project within the school.
25th April 2015	PEWP identified to bridge gap between researcher and SLT.
4th May 2016	Re-establish contact with school.
9th November 2016	New staff team and SLT team.
3rd March 2017	Core PEWP meeting.
22nd March 2017	PE documentation collation -class timetables, curriculum map.
4th April 2017	Student PE profile design and trial.
Pre-intervention	
8th May 2017	Survey by teacher and TA questionnaire. Baseline feedback. Student questionnaires designed by Queens School. Training needs identified.
24th May 2017	PEWP meeting. PE timetable. Re-start the study September 2017.
21st June 2017	PEWP schemes of work session. PEWP to link with school assessment phase descriptors.
24th July 2017	PE FGP Active-Afternoon club overview.
During the-intervention	
27th September 2017	FGP-PE launch Baseline YST-PE audit
24th January 2018	PEWP –Schemes of work session, assessment and recording. MTP and lesson plans workshop.
5th February 2018	Schemes of work session, FGP-PE profiles update. Linking all aspects together to make sense for the school. Feedback and planning session. New PE timetable.
Post-intervention	
July 2018	PEWP interviews Feedback and planning session.

Appendix Two

Ethical approval letter

UEL
University of
East London

22nd November 2013

Dear Clare

Project Title:	An evaluation of the development of an autism -friendly Physical Education curriculum for non-PE specialist teachers: A case study of a residential school for children with autism
Researcher(s):	Clare Stokley
Principal Investigator:	Carrie Weston

I am writing to confirm that the application for the aforementioned proposed research study received ethical approval following the meeting of University Research Ethics Committee (UREC) on **Wednesday 13th November 2013.**

Should any significant adverse events or considerable changes occur in connection with this research project that may consequently alter relevant ethical considerations, this must be reported immediately to UREC. Subsequent to such changes an Ethical Amendment Form should be completed and submitted to UREC.

Approved Research Site

I am pleased to confirm that the approval of the proposed research applies to the following research site.

Research Site	Principal Investigator / Local Collaborator
UEL Fieldwork	Carrie Weston

Approved Documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
UREC Application Form	1.2	21st November 2013
Participant Information Sheet	1.1	21st November 2013
Consent Form	1.0	8th September 2013
Practical Training Session Consent Form	1.0	8th September 2013
Personal Reflective Journal	1.0	8th September 2013
Survey - TA	1.0	8th September 2013
Survey - Teacher	1.0	8th September 2013
Interview Structure	1.0	8th September 2013
Risk Assessment Form	1.0	8th September 2013

Approval is given on the understanding that the UEL Code of Good Practice in Research is adhered to.

With the Committee's best wishes for the success of this project.

Yours sincerely,

Joanne Wood
University Research Ethics Committee (UREC)
Quality Assurance and Enhancement
Telephone: 0208-223-2678
Email: researchethics@uel.ac.uk

Change of title document

Ethics application

Project details

S1.1 Title of research project
A study into the benefits and considerations of Rebound Therapy techniques for individuals with autistic spectrum disorders and special educational needs.

S1.2 UEL Researchers
Ms Clare Stockley

S1.3 Supervisor(s)
Prof Jean Murray

Dr Shrehan Lynch

Dr Prithvi Perepa

S1.5 Original date of approval from RRDE, CREB, SREC, or NHS
13 Nov 2013

S1.6 Reference number of approved research project
N/A

S1.7 Start date of project for which ethical approval is being sought
05 Sept 2013

S1.8 Anticipated end date of project for which amended ethical approval is being sought
01 Sept 2016

S1.9 If this project is part of a wider research project please provide the RRDE, CREB, SREC, or NHS research ethics approval number.
No

S1.10 If this project is part of a wider research study, please state the start and end dates of the wider study.

No

S1.11 Is the amendment required for a NHS research project?
No

S1.12 If yes, is the amendment to the NHS research project minor or major?

Details of amendment

S2.1 Please indicate the reason for the amendment to your project.
Change of project title

Supporting documents

S2.2 Please provide details of the amendment(s) required for your research project and the implications for the project.
New title-

Leaping the hurdles: Using an ecological approach to develop physical education access for autistic students; an action research study.

S2.3 If the amendment involves a change to the extension of ethical approval please provide the period of time requested.

Changes in the study team

S3.1 Is there a change to University staff member(s) on the research team?
No

S3.2 If yes, please provide details of the University staff member(s).

S3.3 Is there a change to student(s) on the research team?
No

S3.4 If yes, please provide details of the student(s).

S3.5 Is there a change to members of the team outside the University?
No

S3.6 If yes, please provide details of the team.

Ethical issues relating to the proposed amendments

S4.1 Are there any specific ethical issues relating to the proposed amendment.
No

S4.2 If yes, please provide details of the ethical issues.

Appendix Three

Teacher and teaching assistant consent form

<u>**Consent to participate in a PhD research study involving the use of human participants**</u>

Title: 'An evaluation of the development of an autism-friendly Physical Education curriculum in a special school for children and young people with autism: A Living Theory.'

I have the read the participant information sheet relating to the above programme of self-funded research in which I have been asked to participate and have been given a copy to keep. The nature and purposes of the research have been explained to me, and I have had the opportunity to discuss the details and ask questions about this information. I understand what it being proposed and the procedures in which I will be involved have been explained to me.

I know that my involvement in this study, and particular data from this research, will remain strictly confidential. Only the researcher involved in the study will have access to the data that has been obtained from the questionnaires and interviews. It has been explained to me what will happen once the investigational programme has been completed and the data is used in the research project.

I freely consent to participate in the study which has been fully explained to me. Having given this consent I understand that I have the right to withdraw from the programme at any time without disadvantage to myself and without being obliged to give any reason.

Participant's Name (BLOCK CAPITALS):

_____

Participant's Signature:

_____

Date: _____

Clare Stockley

Teacher questionnaire

The FeelGood PE Programme

Teacher questionnaire

By Clare Stockley

University of East London
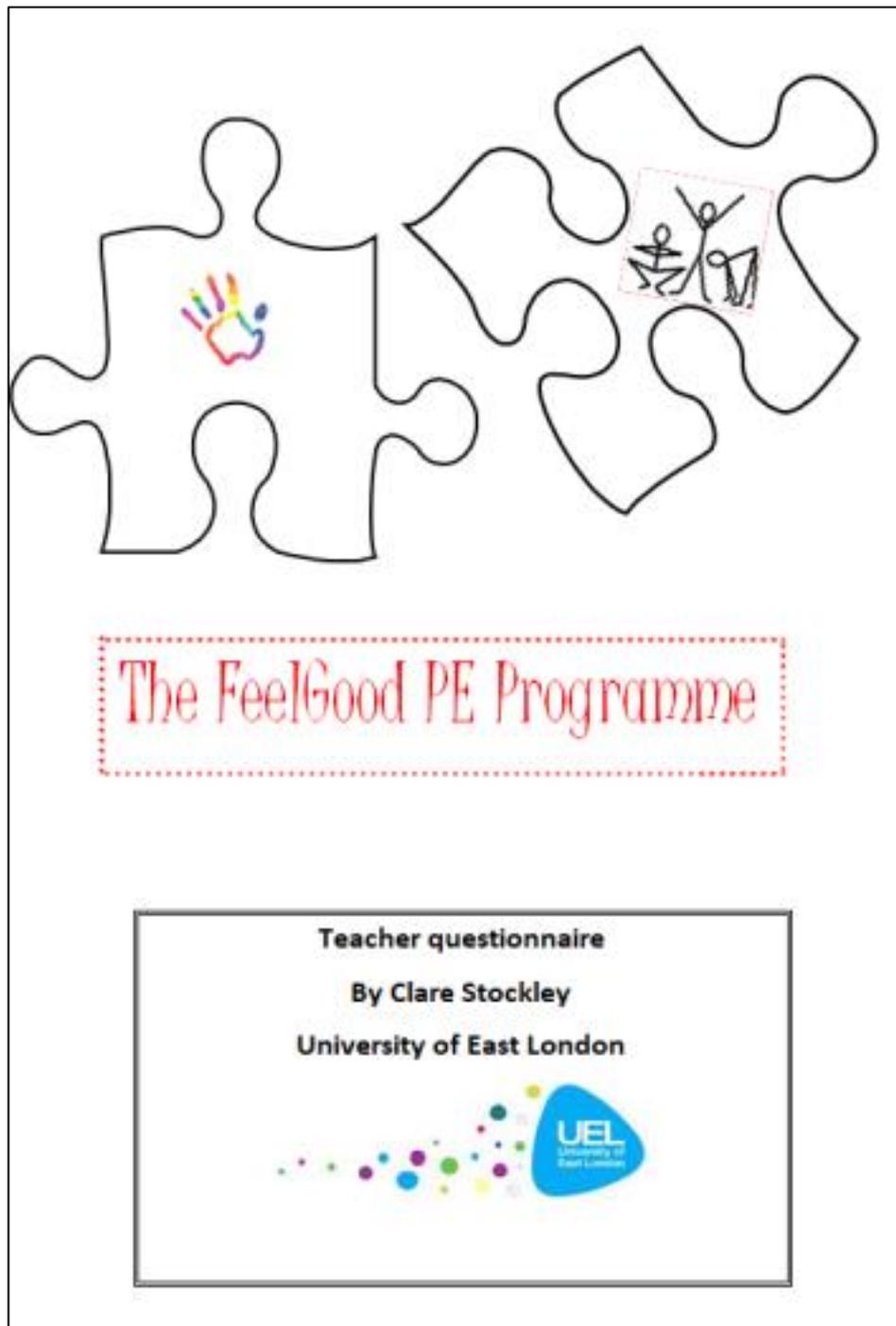
CURRICULUM

1. Do you feel that the national curriculum meets the needs of students with autism?

Not aware of what PE NC is?
once a week at least?

2. Which general activities do you believe are most beneficial for students with autism?

Release of energy
Involves minimum Concentration

3. What opportunities do you think PE can offer students with autism?

As above
Self regulate

4. What PE-based activities/sports would you like to see on offer during PE lessons?

Cycling   Rounders
Go Carts   tag
Football   Swimming lessons

5. What do you think would improve PE at your school? Skilled
teachers with enthusiasm

6. As a teacher what would you want to know about a PE curriculum designed for children with autism?

targets & way of monitoring / measuring outcomes.

TEACHING

7. What needs to be in place for PE at your school to be more accessible to a student with autism to enable you to teach your students more effectively?

Skilled enthusiastic staff. ie - Qualified Swimming teacher.

8. How important do you think is it that all children should enjoy PE? *(Please circle)*

(vital)   very important   important   fairly important   not important

9. Please reflect on your teaching role, how well do you think your skills and knowledge in PE compare to your skills and knowledge in other curriculum areas?

(Please tick only *ONE* box)

I am most confident when teaching PE ☐
I am more confident teaching PE than many other curriculum areas ☐
I am just as confident teaching PE as any other curriculum area ☐
I am less confident teaching PE than most other curriculum areas ☐
I am not very confident teaching PE ☑

10. In relation to your previous answer why is this?
(Please circle each statement that applies to you)

I like PE   I don't like PE
The curriculum is relevant   The curriculum isn't relevant
Good schemes of work   Minimal planning to plan from
Good equipment   Not enough equipment

Other: _____

Not considered of any importance Not measured.

11. Do you enjoy teaching PE lessons?

a lot   quite a lot   don't mind   not much   (not at all)

12. What do you understand by the term formal PE training? _____

Qualified or BTEC Sport
minimum
Coaching qualification

13. What do you understand by the term formal autism training? trained
in set enviroment
_____

14. Do you think formal PE or autism training is important to the delivery of PE lessons?

Yes & Yes
_____
_____

PLANNING

15. When planning your PE lessons what influences the activities you teach?

Knowledge of autism   ☑
Knowledge of PE   ☑
Individual students in your class   ☑
School-based facilities   ☐
Range of activity resources and equipment ☑
Access to the community   ☑
Other: _____
_____
_____

16. Do you teach the following areas of activity from the PE national curriculum?

Please tick the box that applies most when you are planning your PE lessons

Area of activity	always	mostly	often	sometimes	never
Swimming	✓				
Dance				✓	
Games		✓			
Athletics				✓	
Gymnastics					✓
Outdoor and Adventurous Activities		✓			

+ access off site @ another school (~~Blackpool~~)

17. What other skills do you teach through PE? _____

Yoga

_____

Mindfulness

_____

_____

18. Purpose of study- The table below lists the aims across all key stages of the PE national curriculum.

Please tick the box that applies most when you are planning your PE lessons

Aims To ensure that all pupils:	Always	Mostly	Often	Sometimes	Never
Develop competence to excel in a broad range of physical activities		✓			
Are physically active for sustained periods of time		✓			
Engage in competitive sports and activities		✓	✓		
Lead healthy, active lives.	✓				

331

only teach KS4.

19. **Purpose of study**- The table below lists subject content across all key stages of the PE national curriculum.

Please tick the box that applies most when you are planning your PE lessons

Subject content	Always	Mostly	Often	Sometimes	Never
Key Stage 2					
Pupils should continue to apply and develop a broader range of skills, learning how to use them in different ways and to link them to make actions and sequences of movement.					
They should enjoy communicating, collaborating and competing with each other.					
They should develop an understanding of how to improve in different physical activities and sports and learn how to evaluate and recognise their own success.					
Key stage 3					
Pupils should build on and embed the physical development and skills learned in key stages 1 and 2, become more competent, confident and expert in their techniques, and apply them across different sports and physical activities.					
They should understand what makes a performance effective and how to apply these principles to their own and others' work.					
They should develop the confidence and interest to get involved in exercise, sports and activities out of school and in later life, and understand and apply the long-term health benefits of physical activity.					
Key stage 4					
Pupils should tackle complex and demanding physical activities.		✓			
They should get involved in a range of activities that develops personal fitness and promotes an active, healthy lifestyle.		✓			

20. **On a scale of 1 – 10, how important do you think PE training is to the teaching of PE?**
(10 would be very important, 1 would be not at all important) **Please circle**

10   9   (8)   7   6   5   4   3   2   1

21. **Your skills-Are you qualified to teach/coach a sport?** *(Please complete all that apply)*

For example: Yes <u>trampolining</u>   I do teach this/ **I don't teach this**   I don't want to teach this

Yes- _____ I do teach this/I don't teach this   I don't want to teach this

No- but I would like to be qualified in- _____

No and I do not wish to be qualified in a sport [✓]

22. Role and responsibilities currently held:

Teacher KS4.

23. Your qualification(s) relevant to your role: *Teacher specific; autism training; age range*

Autism trained
KS4/college experience

24. Age range you currently work with: 14 — 16

25. How long have you worked at this school? 4 yrs

26. How long have you worked in the field of autism/SEND? 10 yrs

Name: ▓▓▓▓▓▓▓▓▓▓   **Gender:** Male (Female)

Your age range *(Please circle)*:

18-20   20-29   30- 39   40-49   (50-59)   60+

Please describe what you enjoy about your job:

The students, the challenge, making a difference to young peoples lives seeing progress both in academic but mainly well-being

Any comments you would like to make about this topic or survey

PE could be taught by skilled enthusiastic TAs.
14-16 yr old boys want to play

Thank you very much for your time and assistance. *Clare Stockley*

football 24/7 they need male role models.

333

Teaching assistant questionnaire

The FeelGood PE Programme

Teaching Assistant questionnaire

By Clare Stockley

University of East London
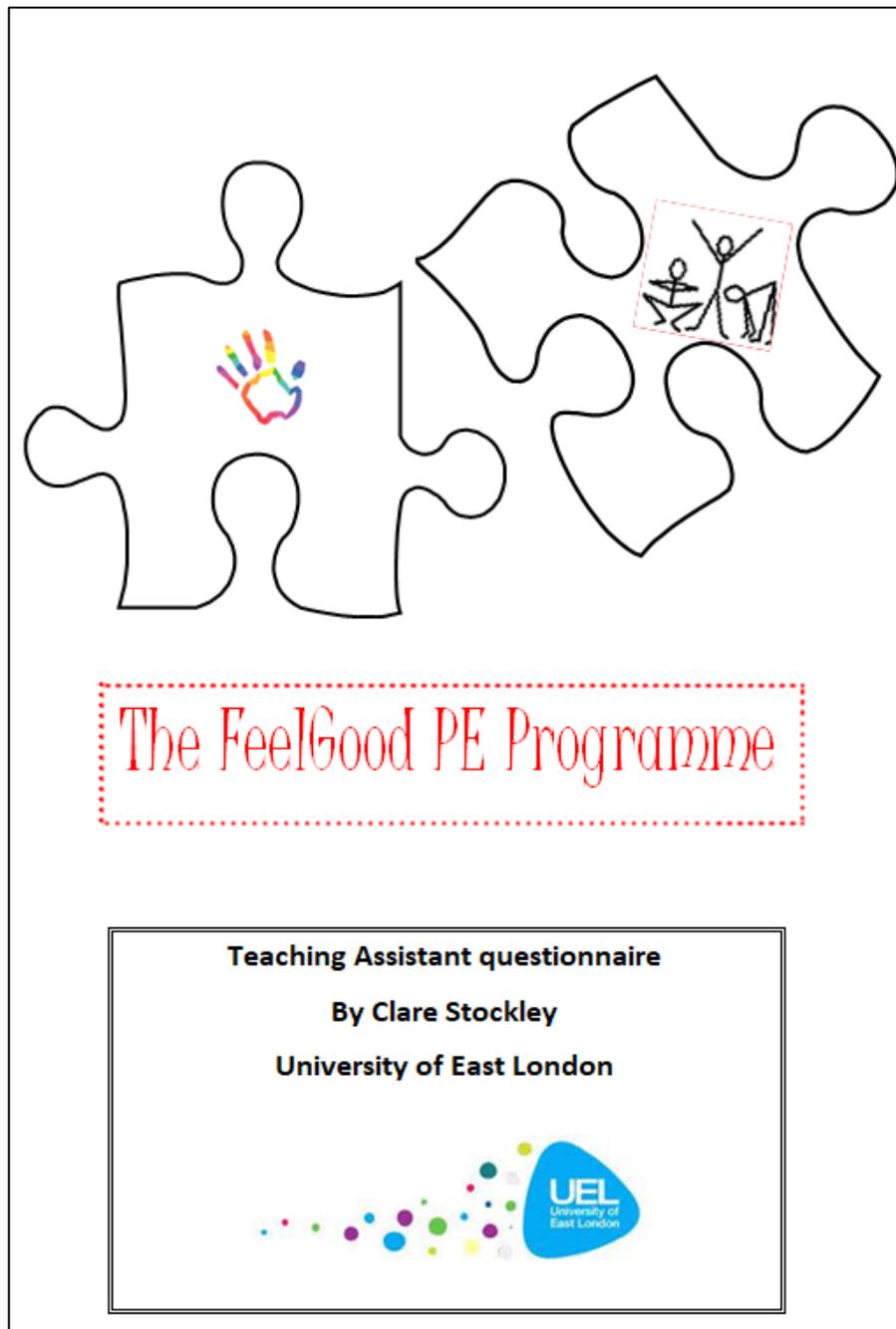
CURRICULUM

1. Which general activities do you believe are most beneficial for students with autism?

physical activities, sensory activities

2. What opportunities do you think PE can offer students with autism?

turntaking, social skills, self discipline

3. What PE-based activities/sports would you like to see on offer during PE lessons?

football, tennis, gymnastics, yoga, basketball

4. As a TA what would you want to know about a PE curriculum designed for children with autism?

some information explaining why it's done in a certain way.

5. What do you think would improve PE at your school? More structure, clear purpose, integration between classes.

6. What needs to be in place for PE to be more accessible to a student with autism to enable you to support your students more effectively?

resources, teacher training, continuity

7. How important do you think is it that all children should enjoy PE? *(Please circle)*

vital   (very important)   important   fairly important   not important

8. Please reflect on your supporting role, how well do you think your skills and knowledge in PE compare to your skills and knowledge in other curriculum areas?

(Please tick only ONE box)

I am most confident when supporting PE ☐
I am more confident supporting PE than many other curriculum areas ☐
I am just as confident supporting PE as any other curriculum area ☑
I am less confident supporting PE than most other curriculum areas ☐
I am not very confident supporting PE ☐

9. In relation to your previous answer why is this?
(Please circle each statement that applies to you)

I like PE   I don't like PE
The curriculum is relevant   The curriculum isn't relevant
Good schemes of work   Minimal planning to support from
Good equipment   Not enough equipment

Other: _____

_____

_____

10. On a scale of 1 – 10, how important do you think PE training is to the teaching of PE?
(10 would be very important, 1 would be not at all important) **Please circle**

10   9   (8)   7   6   5   4   3   2   1

11. How much do you enjoy supporting PE lessons?
a lot   (quite a lot)   don't mind   not much   not at all

12. Your skills-Are you qualified to teach/coach a sport? *(Please complete all that apply)*

For example: Yes trampolining (I do teach this/**I don't teach this** I don't want to teach this)

Yes- gymnastics_____ (I do teach this/I don't teach this I don't want to teach this

No- but I would like to be qualified in- _____

No and I do not wish to be qualified in a sport ☐

13. What do you understand by the term formal PE training? _____

someone has been taught how to approach the subject of teaching others pe.

14. What do you understand by the term formal autism training? _____

training on how to interact with individuals with autism.

15. Do you think formal PE or autism training is important to the delivery of PE lessons?

Autism training definitely. As long as the leading adult has been trained in PE that should be sufficient.

ABOUT YOU

16. Role and responsibilities currently held:

TA

17. Your qualification(s) relevant to your role: *TA specific; autism training; age range*

introductory training on autism

18. Age range you currently work with: 4 - 19

337

19. How long have you worked at this school? _8 months_

20. How long have you worked in the field of autism/SEND? _8 month_

Name: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓   Gender: Male (Female)

Your age range (Please circle):
18-20   (20-29)   30-39   40-49   50-59   60+

Please describe what you enjoy about your job: _____

working in a varied environment, working
with people, making a difference

_____

_____

_____

_____

Any comments you would like to make about this topic or survey

I'd be interested in getting involved
with and helping out with the
implementation of the programme.

Thank you very much for your time and assistance.   Clare Stockley

Student questionnaire text version

PE Student survey

Name: ▓▓▓▓▓▓▓▓▓▓▓▓   Male/Female   Age: ▓▓▓

Class: ▓▓▓▓▓▓▓▓

1. **Do you enjoy your PE lessons?** *(Please circle one)*

   Always   Sometimes   Never

2. **Why?** they have to be interesting and fun.

3. **What is the best thing about PE?** ~~running~~ when we can run around.

4. **What is the worst thing about PE?** When it's too complicated to understand

5. **Do you know why we have PE lessons at school?** for exercise and to have fun.

6. **Which PE lessons do you enjoy the most?** *List up to 3 and say why. (Leave blank if you don't have any).*

   Activity: running   Reason: because it makes me laugh

   Activity: Jumping   Reason: it makes me happy.

   Activity: dancing   Reason: i like watching everyone dance around me.

7. **Which PE lessons do you enjoy the least?** *List up to 3 and say why. (Leave blank if you don't have any).*

   Activity: Catching   Reason: it fustrates me when i cant catch

   Activity: kicking   Reason:

   Activity: Reason:

8. What PE activities would you like to do in school? _More running_

9. Could PE in school be improved? _More fun_

a trampoline

10. Do you do any sports outside of school? (Yes)/No
Please state which: _____

i goes swimming with parents

10a) If you do any sports outside of school please circle your main reason/s

Keep fit and healthy (Play with friends/family) Improve my skills Try something new

Other: _____

Do you have anything to say about school PE?

Scribed – I like interesting fun games
and to really engaged. I do not
like it at all when there are too
many people around and too
many instructions, and noise.
There is not any equipment.
Mostly it is boring, boring, boring.

Thank you for your help

Student questionnaire communication in print version

School PE Survey

We would like to know what you think about your PE lessons.

Please answer these questions

Someone will help you

Name: ▬▬▬▬▬ Age: ▬▬

Class: ▬▬▬▬▬ (Male) Female

1- Do you enjoy PE lessons?
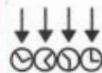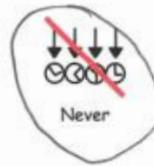
Always Sometimes Never

2-Why? it is a bit loud

3- What is the best thing about PE?

traing hole body

4- What is the worst thing about PE?

Boring
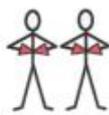
5- Do you know why we have PE lessons at

school?

it s P E haaltny

6- What PE lessons do you enjoy the most?

Activity: Football

Why? ~~hockey~~ like scoring goals

Activity: Hocky

Why? like hitting paock

Activity: Gymnastics

Why? like climbing over things

344
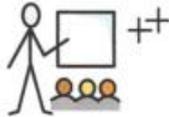
7- What PE lessons do enjoy the least?

Activity: Sports Day

Why? to many people too loud

Activity: Running

Why? It a bit Boring

Activity: tennis

Why? It a bit Boring

8- What PE activities would you like to do in school?

_____ swimmil lesson to get

better

9- Could PE improved in school? _____ Do more better

_____ and sun things like

trampoline
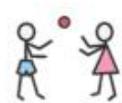
10a- Do you play sports out of school?

Yes   No   If yes what?

Swimming
walking

_____

346

10b- Why do you play these sports?
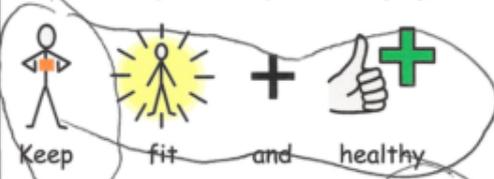
Keep fit and healthy

Play with friends family

Improve my skills
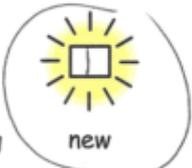
Try something new
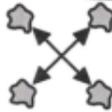
* Is there anything else you would like to say

about PE? _____ no Thank you _____

_____

Thank you

Appendix Four

Youth Sport Trust audit pre-intervention

Sport Trust audit post-intervention

Impact audit: Post-intervention
29/7/18

BECOME OUTSTANDING

Youth Sport Trust
sport changes lives

This self-review tool will help you assess your school's provision and outcomes in PE and school sport. It will also help you identify your school's priorities.

It's easy to use — answer the questions by selecting your level of provision as emerging, established or embedded.

To find our how Youth Sport Trust Membership can help you address those priorities contact our team (01509 226600) and they will put you in touch with our local representative.

Our Membership also offers professional development opportunities for your staff, including training, events and conferences, school visits from our trained experts and athlete mentors and access to resources.

Whatever your level of provision — emerging, established or embedded — you'll benefit from being part of a national network where you can learn from, and share practice with, the best schools in the country.

Youth Sport Trust Membership also offers access to a nationally accredited Quality Mark which expands on these questions and celebrates your school's success.

Sign up to our Membership to enhance your school's provision.

www.youthsporttrust.org/full-primary

Questions	Emerging	✓	Established	✓	Embedded	✓
1. Does your school have a vision for PE and school sport?	There is a limited (or no) vision which identifies the potential for a whole school approach to, or recognises the value of, PE and school sport.		There is a vision statement, adopted across the school and included in public documents available to parents.		There is a clear vision statement included in the school's aims that recognises the value and impact of high quality PE and school sport which pupils and parents understand and have contributed to.	
2. Does your PE and sport provision contribute to overall school improvement?	PE and sport are recognised for the impact they have on a positive school ethos and there is some attempt to use major sporting events or the positive values of sport in whole school strategies.		PE and sport are celebrated across the life of the school. The context of sport is regularly used in other curriculum lessons and as a whole school theme.		PE and sport is a central part of the school development plan. The context of sport is used across the curriculum and the skills and positive values of sport are integrated into the school ethos. PE and sport are used to engage the wider community and foster positive relationships with other schools.	
3. Do you have strong leadership and management of PE and school sport?	The headteacher understands the importance of PE and school sport and there is an identified PE co-ordinator.		The PE co-ordinator is a skilled professional who has developed core provision and is supporting all staff. The headteacher values PE and school sport and it is integral to school development.		There is a detailed PE development plan with short and long term targets that enable all pupils (including target groups) to progress and achieve. The PE co-ordinator is highly skilled, able to motivate staff and has the support of the headteacher, staff, governors, pupils and parents. Staff regularly participate in CPD relevant to high quality PE.	
4. Do you provide a broad, rich and engaging PE curriculum?	The PE curriculum covers the minimum National Curriculum expectations in a safe, yet limited, range of environments. It focuses mainly on developing pupils' physical skills. Pupils receive less than two hours timetabled PE each week.		The PE curriculum is broad and balanced, going beyond the National Curriculum expectations. It is fun and delivered safely in a range of environments, which develops all physical skills and some leadership and coaching skills of pupils. All pupils receive two hours of timetabled PE.		The PE curriculum is diverse, providing pupils with the confidence to try new activities as well as enhancing their existing skills in a diverse range of environments. There are opportunities for pupils to develop their leadership, coaching and officiating skills. All pupils receive two hours or more of timetabled high quality PE.	
5. How good is the teaching and learning of PE in your school?	The confidence and competence of staff varies. A limited number of lessons are good or outstanding. Most pupils make some progress but assessment lacks rigour. Limited reporting of progress to parents or carers.		Most staff are confident and competent to use a range of teaching and learning styles in PE. Most lessons are good or outstanding. The majority of pupils make good progress, which is fully reported to parents or carers, and there is a robust assessment process.		All staff are confident and competent to deliver high quality PE and the quality of all lessons is good or outstanding. Teaching and learning styles are matched to lesson content and to encouraging all pupils to participate. All pupils make good progress which is clearly reported to parents or carers. Assessment involves pupils fully and identifies and celebrates their achievements.	
6. Are you providing high quality outcomes for young people through PE and school sport?	Most pupils are engaged in PE and can demonstrate their level of understanding and skill. The majority of behaviour is good and pupils are starting to make healthy lifestyle choices.		All pupils are engaged in PE and can demonstrate their level of understanding and skill. Behaviour is good across all PE lessons and pupils co-operate in collaborative and competitive situations. All pupils are starting to make healthy lifestyle choices.		All pupils are engaged, motivated, demonstrate a high level of understanding and skill. Make good use of high quality PE lessons. Behaviour is excellent across all PE lessons and pupils make decisions that challenge and inspire them even further. All pupils consistently make healthy lifestyle choices.	
7. Are you providing a rich, varied and inclusive school sport offer as an extension of the curriculum?	Most pupils are able to access a basic range of opportunities to take part in school sport through clubs and competitions. Through these opportunities pupils learn about training and competing, although leadership development is not catered for. Provision for, and the inclusion of, young disabled pupils is inadequate.		The school sport offer includes activities that cater for and appeal to all pupils. The programme enables pupils to utilise a range of skills and establish participation habits through regular clubs and competitions both within and between schools. Pupils enjoy participation and leadership and increase the likelihood that they will continue to take part.		All pupils are able to access a broad offer of school sport activities (as participants, leaders or organisers). An extensive range of sports is available, including opportunities for young disabled people, through a programme that both responds to demand and introduces sports activities that the pupils may not otherwise experience. Numerous young people represent the school and are part of community clubs that the school has links with. Pupils' achievements are celebrated and shared with parents or carers.	
8. Are all pupils provided with a range of opportunities to be physically active and do they understand how physical activity can help them to adopt a healthy and active lifestyle?	Staff in the school have a knowledge and understanding of the key behaviours of a healthy and active lifestyle. There is a programme of extra-curricular and informal opportunities that promote physical activity, but the breadth of the provision is limited and the offer is universal.		The school is committed to supporting every child to be physically active. Staff can identify target groups of pupils that are deemed less-active and barriers to their participation are being addressed. Positive attitudes towards healthy and active lifestyles are encouraged among all pupils.		The school has a clear physical activity policy which incorporates PE and school sport but also offers informal physical activity such as break-time activity, active travel and supervised play. Strategies are in place so that pupils are consulted about the activities offered. Positive attitudes towards healthy and active lifestyles are encouraged among pupils and staff, and is extended to parents or carers.	
9. Does your school know how to effectively utilise the new PE and school sport funding?	Consideration has been given and a basic plan of how to use the funding is being established.		It is clear how the planned budget will improve provision and outcomes in PE, physical activity and school sport.		Budgets are monitored regularly, enabling the school to see which elements of spend have the greatest and most sustainable impact.	

Appendix Five

Example of a class timetable pre- intervention

CLASS 7		Timetable 2016-2017			
	Monday	Tuesday	Wednesday	Thursday	Friday
9:10- 9:30	Arrival in school/Schedules Toilet	Arrival in school/Schedules Toilet	Arrival in school/Schedules Toilet	Arrival in school/Schedules Toilet	Arrival in school/Schedules Toilet
9:30- 9:45	Interaction time	Interaction time	Interaction time	Interaction time	Interaction time
9:45-9:50	Registration/Calendar		Registration/Calendar	Registration/Calendar	Registration/Calendar
9.50- 10.20	**Story time** Literacy (reading)	**Educational Visit** (shopping for cooking)	**Science/ICT/Maths** (Lights and shapes)	**Story time** Literacy (screen)	**PSHE** PB- appropriate touch AC- puberty
10:20- 10:45	**Snack/breaks**		**Snack/breaks**	**Snack/breaks**	**Snack/breaks**
10:45- 11:15	**DLS** cleaning routines- indoors		**Writing Educational Visit Diary** Literacy	**Swimming**	**Independent Work** (literacy)
11:15- 11:30	**Independent Work** (literacy)		**Independent Work** (literacy)		**Music/Science/Maths (11:30)** **CODA** (sounds and patterns)
11:30- 12:00	**Reward time/choosing** (staff to complete home books/ IEP)				
12.00- 12.30	**Lunch**				
12.30- 1.00	**Play**				
1.00-1.15	**!!!!TOILET!!!!! and Personal care**				
1:15-1:30	**Sensory play**				
1:30- 2:00	**Independent Work** (numeracy)	**Independent Work** (numeracy)	**Independent Work** (numeracy) **Communication**	**Independent Work** (numeracy)	**Record Of Achievement** **ROA**
2:00- 2:30	**D&T** 3 D constructions	**Sensory cooking** (planning healthy meal)	**Swimming**	**PSHE**	**Assembly**
2:30- 3:00	**Reward time/choosing/drink** (staff to complete home books/ IEP)				
3:00-3:10	**Quiet music/Plenary/ Transition to the hall**				

Example of a class timetable post-intervention

CLASS 7	Timetable 2017-2018				
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
9:10- 9:30	Arrival in school/Schedules Toilet Interaction time	Arrival in school/Schedules Toilet	Arrival in school/Schedules Toilet Interaction time	Arrival in school/Schedules Toilet Interaction time	Arrival in school/Schedules Toilet Interaction time
9:30- 9:45	Exercise/Sensory Regulation	Registration Transition to the bus	Exercise/Sensory Regulation	Exercise/Sensory Regulation	Exercise/Sensory Regulation
9:45-9:50	Registration/Calendar	**Educational Visit** (shopping for cooking)	Registration/Calendar	Registration/Calendar	Registration/Calendar
9.50-10.20	**Story time** Literacy (reading)		**Science/ICT/Maths** (Lights and shapes)	**Story time** Literacy (screen)	**PSHE** PB- appropriate touch AC- puberty
10:20-10:45	**Snack/breaks**		**Snack/breaks**	**Snack/breaks**	**Snack/breaks**
10:50- 11:20	**DLS** cleaning routines- indoors		**Writing Educational Visit Diary** Literacy	**Swimming**	**Independent Work** (literacy)
11:20- 11:45	**Independent Work** (literacy)		**Independent Work** (literacy)		**Music/Science/Maths (11:30) CODA** (sounds and patterns)
11:45-12:00	**Reward time/choosing** (staff to complete home books/ IEP)				
12.00-12.30	**Lunch**				
12.30-1.00	**Play**				
1.00-1.15	!!!!!TOILET!!!!! and Personal care				
1:15-1:30	**Sherborne** (Linked to individual PE profiles)		**Active Afternoon**	**Sherborne** (Linked to individual PE profiles)	
1:30- 2:00	**Independent Work** (numeracy)	**Independent Work** (numeracy)		**Independent Work** (numeracy)	**Record Of Achievement ROA**
2:00- 2:30	**D&T** 3 D constructions	**Sensory cooking** (planning healthy meal)		**PSHE**	**Assembly**
2:30- 3:00	**Reward time/choosing/drink** (staff to complete home books/ IEP)				
3:00-3:10	Quiet music/Plenary/ Transition to the hall				

Appendix Six

Examples of Minutes taken PE working party meetings

Core PE Working Party Minutes

Date: 16/12/17   **Time:** 3:30pm

Attendees: ███████████████████████████████

Also- Primary Sport Education team volunteers- ███████████████████

Agenda:

█████ and ████ the new PE trained volunteers- time to plan sessions together. Initially they will teach the athletics group together however when ████ leaves they will also teach the cricket group. They will provide equipment.

FGP-PE profiles to be used for to provide information regarding students in these groups. This will be the first use of the FGP-PE profiles to external professionals and ████ said it was good that they could be trialled in activities within the school first.

Action	By whom	Deadline
I will follow plans up regarding whether staff decide to keep PE going. How they adapt the FGP to suit their needs and who will deliver it will be interesting.	CS	Post-intervention autumn term.

Any other business:

████████ is leaving to become Deputy Head at ██████████. ██████████ will take full Headship duties.

████████ is retiring date to be decided upon new class teacher appointment. She will continue to assist ██████ with planning until then.

Progress/Review:

As a senior teacher ██████ gets a whole day for planning every week. In addition to being PECO she will also get one day a month for PE planning which will with ██ until she leaves. Clare to continue to support.

Core PE Working Party Minutes

Date: 21/2/18   **Time:** 11:30pm

Attendees: █████████████████████████████████

Agenda:

1-Feedback from ████ regarding AA-FGP afternoon timetable issues

2- PEWP update

3- Classroom Monitor- Add PE

4- PE minutes for recording internally

5- Activity observation informal walkabout

6-Horse riding- ½ termly rotation for those KS2 students whose parents pay.

7- Student survey- Final collection

Action	By whom	Deadline
1- AA has nearly broken down due to staffing issues; people leaving and staff deciding they aren't going to deliver the clubs if they aren't directly running one. ████ and ████ are very disappointed in staff attitudes. They have been 'threatened' with going back to doing their own planning. Teachers meeting will be used to address the viewpoint that SLT is not impressed with some teachers using the time as extra PPA and getting a TA to run the club. The Primary Sport Education team also cancelled today and next week's attendance meaning that their clubs cannot run. Another new timetable has been drawn up to reflect staff issues. ████ to email this. Requested examples of timetables from before FGP-AA was planned and after. ████ to email these. 2- Only ████ and ████ are left from the original group. ████ and ████ are leaving at Easter. ████ to take on PECO role. Need to interview ████ before she leaves. ████ has joined and wants to lead swimming. 3- Asked if ████ can add PE so that I can work on the SoW /PE profiles and assessment. No point using B-Squared as they will have to changed later. Teachers will not need to access this only me. ████ will get me a log-in. 4- Requested photocopies of meetings where PE has been discussed. 5- Contextual learning walk for 3 clubs- badminton; SDM; tennis. See additional notes. 6- Horse riding happens on Wednesdays too and has affected attendance to FGP-AA. Staff are reluctant to change the day. ████ is annoyed about how inflexible some staff are being she believes both can be timetabled. 7- ████ wanted this to be part of the Student Council and will send the survey out to staff to complete during literacy lessons.	▮	

Progress /Review:

████ has now opened at the new site. ████ aim to tap into their facilities in return for use of their swimming pool.

The ████ field has been rollered in preparation for the playing field developments. No change to the playground.

████ - small special school that would like to link-up for competitions.

████ said resources and equipment aren't being used properly.

Storage cupboard duty has been taken over by ████.

Core PE Working Party Minutes

Date: 28/5/18   Time: 10:00 am

Attendees: Clare Stockley; ███████████
Members not in attendance: ███████

Agenda:
Final YST audit
Feedback and discussion

Action	By whom	Deadline
YST audit -final of this cycle	CS conducted the initial audit which was supported by ██	By next PEWP meeting
Targets checked against YST audit Progress made recorded	CS/██	29/6/18
Re-set targets for following year when hand-over fully to school	CS/██	29/6/18
Emerging level of success for PE		

Any other business: N/A

Progress /Review:

██ really pleased with results and will use format for Ofsted.

Main sticking point will be the PE coordinator role as it was recognised by PEWP and SLT as being central to further developments being made and sustained.

354

Appendix Seven

Equipment audit pre-intervention

███████ *School baseline equipment, resource and storage audit*

Carried out by: Clare Stockley

Date: 11/9/17

Main PE cupboard in hall	Main school facilities
Large hoops 2	Swimming pool therapy pool
Quoits 10	4 mini buses
Rugby balls 6	Climbing frame KS1+2 only
Uni-hoc sticks 13	Hill field on-site area
Pucks 1	
Large cones 5	
Disc cones 36	
Tennis racquets 13	
Tennis balls 32	
Tennis net 1	
Badminton racquets	
Shuttlecocks 15	**Facilities school has access to**
Badminton net 1	Chapel Gate sports field
Beanbags 19 assorted colours	Moors valley country park (educational trips for walking)
Skittle set 1 (1 pin missing)	
Pot stilts 41	
Frisbees 7	**Playground**
Kwik cricket set 1	2x netted trampettes broken
Large parachute 2	10 bikes assorted sizes
Trampettes 2	Tables with built-in board games
Balance beam 1	Basketball hoops
Climbing table 2	Gazebo 1
Basketballs 8	Wellies 4 pairs assorted sizes
Footballs 15	Helmets and protective pads
Archery set 1 (missing arrows)	Rollerblades 1 pair
Golf clubs 2	
Golf balls lightweight 10	
Croquet sticks 3	**Purchased resource packs**
Croquet balls 3	SDM CD-ROM missing
Netballs 2	
Volleyball 1	
Velcro catch mitts 6	
Velcro balls 8	
Foam boomerang 1	
Spinning plates 4	
Spinning stick	
Skipping ropes 2	
Blindfolds 4	
Hand pumps 3	

Appendix Eight

The semi-structured interview schedule

Structure and guideline of semi-structured interview

Headings	Subject Matter Covered
1) Researcher's introduction	▪ The nature of the research and the purpose of the interview ▪ Confirm permission to record the interview and declaration of confidentiality
2) PE teaching experience and views	▪ Thoughts and feelings about quality and quantity of autism training ▪ Thoughts and feelings about quality and quantity of PE training ▪ General views on teaching PE
3) Meeting student's needs in PE	▪ What are the perceived needs of the children? ▪ What is done in planning and teaching to include all children in PE lessons? How effective is this? ▪ Do you feel that any children are not included in PE?
4) Views on teaching national curriculum PE to children with autism	▪ What is the role of sport in autism PE? ▪ What is the role of physical activity in autism PE? ▪ How does this compare to other areas of the curriculum?
5) Views on the concept of the FeelGood programme	▪ General discussion
6) Views on the overall experience of implementing the FeelGood programme	▪ General discussion
7) Why did you want to become involved in this project?	▪ General discussion
8) How has this process evolved?	▪ What have the difficulties been? ▪ What has worked well?
9) How can the FeelGood programme be sustained?	▪ What else needs to be done?
10) Any other issues	▪ Clarify any necessary points from interview ▪ Further comments

Semi-structured interview transcript

Transcript

Clare
▮▮▮

Could you introduce yourself please?
I'm ▮▮▮▮▮▮ I'm the Health and Wellbeing Manager here at ▮▮▮▮▮▮ and part of the Leadership team. So as part of my role we've working together for over twelve weeks to develop the profile and hopefully get the kids into a healthy lifestyle. For me, as a registered nurse to I wanted to up the profile of fitness and get the kids healthier to increase their life expectancy and health in general.

So you've just started to explain your interest in the health and well-being as well as the PE side of things, what are your general views of the teaching of PE?
Ok so I think the cohort of students we had, post-18 months ago, pre-18 months ago we had young people who were in our residential services and because they were in our residential services a majority of those students were out of county placements; and because they were out of county placements it meant that they were extremely complex young people. And because of their extreme complexities and their limited communication, in terms of personal skills we were teaching very much within the P-levels and actually PE was not necessarily featured in the curriculum, it was timetabled in but I would describe it as more tokenistic movement without necessarily including learning objectives.

That's really interesting the impact that the change in cohort has had has been from a PE perspective that teaching moved from it looked sort of like PE to now it is PE?
Yes, absolutely and with the goals and the learning objectives. And also it was making sure that they went on educational visits for example and do lots of walking in the ▮▮▮▮▮
They were still active but it was referred to as an outing whereas with the new cohort, PE has become a feature within the timetable.

As a subject in its own right rather than taught through other activities, like cross-curricular almost?

Yes absolutely although PE can be scheduled in it was less about PE and didn't resemble a curriculum, there was no formal curriculum. In fact there wasn't one.

And what was the result of that?
Working with the new cohort and working alongside yourself, your motivation to come and support us then triggered that spotlight I guess onto PE. And so what happened is, with obviously me being a nurse it is important to be active and looking at that in terms of being active, but it was important that I brought on-board a teacher because that's their bread and butter in terms of the curriculum, schemes of work, planning and assessment things I wouldn't necessarily be involved in. I would be involved in like stats and those children who need to lose weight, I would be interested in those kinds of stats and educational outcomes.

And that would've been a really interesting thing to have really got into...
To have had a look at weight-loss, behaviour; PE prescriptions. And because this has been a whole school initiative there is some scope for me to look back and see. I already know from the dietician who was here this morning. The children who are the dietician clinic are usually on the dietician clinic for two reasons for two reasons: one is obesity and two is limited food intake due to the limited nutritional value of food eaten. I already know that students on the dietician clinic because of weight management because I know all of them of them have been doing much better over the last few months. I can probably get the stats actually.

And you've mentioned a couple of times that the cohort has changed so the perceived needs of the children as in do you think they need to be more active, not just because most kids do, but these particular kids do?
Yes and again I think that there are several layers on that. One is that children need to be active as everyone knows, but the other part is that a lot of our students have come from mainstream placements so they would be used to having a session a couple of times a week where they would be expected to be physical and active, so it's important that we replicate the, not mainstream but the same opportunities are provided. I think also the learning styles of our pupils are different so as you know we refer to our young people in terms of the way they learn so 'conversational partners' being your more high-functioning children who can communicate using conversation, our 'language partners' will communicate their needs perhaps using picture exchange communication and our 'social partners are sensory learners. Because we now have more conversational partners' students also came to us saying they wanted to do PE and that's where we've also linked in with the Inclusion team to offer different pathways. We have three children who now go to join PE in other schools so it's shifted.

In response to their voice?
Yes in response to their voice as well as us recognising that it's something that needed improving.

Do you think these different pathways are important because you are a special school?
Yes. Of course there is a mainstream PE national curriculum, where do you fit into that?
I would say that now we stand somewhere in-between. I think over this next year that national curriculum will get taught more as we become better at defining what our timetables should be because we've adapted to their needs. So for example we've now got

RE on the curriculum as a standalone subject rather than being taught through and celebrating something with the catering team it's now a standalone item on the timetable.

That's makes a big difference and with the PE side of things it is that recognition of yes there access to the national curriculum where it's appropriate and something that is still individual?
It's all individualised. Yes we will use that as the framework and then slot out what is irrelevant to people.

Do you feel that the FeelGood programme is providing that somewhere in between, that uniqueness?
Absolutely, it bridges the gap between the unstructured tokenistic sessions to the national curriculum. That's how I'd describe it, bridging the gap.

Within that really, and possibly the same for other subjects, how effective do you think inclusion is?
I think that for the students who expressed PE as an interest, I think they really enjoy PE and I think they've have developed much than the skills that they've been working on. One of our young people in class six has been training with ▆▆▆▆ and has been selected to be on their cricket team and is actually representing our school. That is part of his inclusion. It's not just skills teaching it the opportunities they've explored and found in terms of being part of a team, representing something and being proud. Decision-making and building relationships because actually if they have more inclusion opportunity, it's what it brings with it not just physical activity skills.

Is there a difference between physical activity and school sports?
Yes I think what we've managed to do is that we've upped the physical activity profile generally so you'll see in the playground people getting out tennis sets and playing tennis in their free time. We have Lifeskills coming over running a football club on a Friday on club day. The physical activity profile has been raised. The sports element, just last week on Wednesday, we did a ▆▆▆▆ Wimbledon event and all of the students took part in it so there was a whole school sports event. You've got the ▆▆▆▆▆▆ early years children who were playing in the knockouts then we had semi-finals and finals. The same young person who has been playing cricket was the star of the show. It was a real competition not for the sake of it and not just for the students who perhaps have those skills, such as the skills to play tennis well, it was also about all the other students who were watching and cheering on, some great hand-shaking moments; a great atmosphere. Activity has increased and I think this sports element has also really been present. On the Wednesday afternoon the aim of those Wednesdays the ActiveAfternoon was to complement the PE and to add planned PE and physical activity to the whole school. It's about competition; it's about trying new skills and developing them the course of a half-term. The Wednesdays from this half-term, because we had the five activities before, were about getting ready for sports day and the various events. Tomorrow we are going to be doing a World Cup day so that's going to be a whole school event. The poster is up in the staffroom. Bearing in mind this is the first time we have held a PE sports day so it's still in its infancy but developing. We've had competitive races which is something we haven't done before and I genuinely think that's because the profile of PE has been raised.

So the whole thing for you has been how to look at doing PE differently?
Yes. Obviously there have been challenges there have been things that haven't worked but then in itself this is the whole point it's the process of trying to set something up like this. It's not necessarily that things have gone I don't think it's just that it has to be done differently. We have had obstacles but we have overcome them. We had a swimming teacher (a TA) who happened to have the qualification so then did swimming sessions on the ActiveAfternoon, but what we've since done we've recruited another person so again looking forward to September (2018) we're going to be making sure she is available on those days to actually support the swimming lesson. Again with the different clubs these have evolved and moved on and then you have got to replace them but we have a handful of TAs that have been phenomenal. This has run throughout the whole thing. We also have the volunteers who helped us for a term. They had all the relevant qualifications and helped us do the basics. It's been good in terms of some people's attitudes and determination to make things well but then there is obviously the other side of that is 'apparent'.

Could you explain a bit more about that?
Yes I think what we tried to was try and make sure that this was really proactive, positive thing. We haven't cancelled any of the Wednesday ActiveAfternoons so they have happened every single week and even when we've had loads of staff off sick we've put on the Joe Wicks fitness dvd and when it's been snowing or thundering we take the students to their classrooms and follow a programme. We had to think on our feet in those situations but I think what has then happened is because perhaps of pressures that teachers are under of assessment and planning and observations and accreditation and scrutinies and all of those of those different things that they have to do I think that saying they had to do the ActiveAfternoons every Wednesday, what it created, understandably, was is that this block of time was seen as "well that time is taken care of" and then they can focus on the rest of the week. Then what happens is that when you want some feedback it's not necessarily been there because they've taken that opportunity to say "well those bits have been done for us". They've had to plan for the PE sessions as well. Because the planning was done for them for the ActiveAfternoons they could put that planning to the side.

With the PE lessons that were separate were there many teachers that were doing what you then call additional PE? So swimming, the ActiveAfternoon and PE as well?
What we had was about half of the teachers doing an additional activity and added this into clubs. We have assembly every other Friday and when it's not assembly we have clubs so we have another active opportunity there as well so teachers did still have PE on their timetables and I observed a few of those sessions and I think it very much depended on the TA for example, a TA who is phenomenal at doing their sports (█ in class 3) taking on a co-ordinator role.

It depends on access to those people?
Yes. If we could reflect on that it would be good to identify one person in each class to make sure those things happen. █ in class 2 would set-up apparatus but what you would often found is that you would see class 2 always setting up the apparatus and doing balancing and those sorts of things, which was fantastic then I wouldn't see another class using the same apparatus. I think they got quite routined in their class-group, they did do it

but it wasn't particularly creative. It becomes safe and expected and predictable perhaps. I'm not confident enough to say that at the start they could do this and what they can do at the end. I'm confident in the ActiveAfternoons with let's say tennis, ███ would start off the session at week one and by the end show the skills that developed

I think that's another gap is the assessment?
Yes.

Moving forwards with ideas on the schemes of work there is an assessment criteria on there which can quite easily transferred?
Yes and I think the barrier we have experienced is our assessment tool. We now use Classroom Monitor and we can upload our own criteria onto Classroom Monitor but actually what we then found was that the leadership team extracted the data it was a challenge. It's not as simple as we at first anticipated so we are in a weighing-up situation whether that tool is the right tool, and until we've got a really sound assessment platform to add all of the criteria into it we are still considering the options. We lost our Headteacher who was our Classroom Monitor expert so we lost the ability to add this and upload that. We're still trying to find a way through it. I think that has been a barrier, the actual assessment tool. Although we do have the assessment criteria on the PE schemes of work transferring that over hasn't worked. One assessment is done one way and another done another way.

Listening to you explaining that, using the information provided by the PE profiles does give you some data?
Yes but as a school we don't collect PE data. Yet. But I think we are going to its aspirational.

With the FeelGood programme then it's the PE profiles that link the FeelGood programme to the curriculum is that something you will still use?
Yes we've used the PE profiles already and now externally from ███████. Again moving forward in terms of the planning from reflection about how perhaps, the teachers (understandably) have parked that idea of ActiveAfternoons to one side, we are going to gradually move away from the ActiveAfternoon next academic year. Because we have increased in the size of our capacity and also because of things like the horse riding there are limitations such as weight and so on, and actually as great as it would be for the entire school to go horse riding it's just physically not do-able with the resources. In terms of the rites of passage our primary department will do horse riding, because that's that therapeutic and balance and in terms of other skills they can develop. It is the balance basically and coordination. Then as they move through the school into the secondary department are going to do trampolining and that's with an instructor with a clear assessment criteria, students can get a recognised qualification award. By the time our children get to secondary they will have developed those foundation skills that they will need for trampolining. Our ████████ students (I went yesterday) we are going to block for them rock climbing and high-ropes and things at ████████ down on ████████████████. So they can do a programme down there as well, so again what you've got there is all of those three different activities those different groups and departments of students, you'll behaving trained staff delivering which took away my problem if that makes sense, of running five different events (badminton, tennis, football, athletics, swimming). It gives that opportunity. ████████ sports centre are doing our swimming so if an instructor is off sick

they will find another one, our staff just need to get there. The trampolining is also run ▉▉▉▉▉ so they will all have their autism training and we will do partnership work with them. At the ▉▉▉▉ they are all trained rock climbers. The rock climbing isn't just about rock climbing, skills they've got caves in there and stuff so for their sensory needs students can go and experience that. It is as an absolutely amazing place, and then you've got the high-ropes in terms of the confidence and co-ordination it covers so much.

Being off-site as well gives them a lot more practice in being out and about.
Yes or ▉▉▉▉ students can use the café there for example; they can go and get their drinks or whatever it might be. So moving forward we are going to set that up so all students get an additional activity. On their timetables they will also have a swimming session so obviously in their groups they will rotate throughout the year. The primary department for example, will all have the opportunity to go for a term. For the primary department when it's not their turn to go horse riding the class teachers will have to fill that activity.

So there is an actual activity off-site and swimming that the TA will deliver so actually it's more?
Yes the active profiles have massively increased.

As you say it's looking at it and circumnavigating the issues.
Yes.

When you said the PE profiles have been used externally?
Ok for example the trampolining, class 8 have trialled the trampolining for us. What we wanted to make was to engage the students, wear them effectively get them active and give them those skills. This half-tem on a Thursday morning have gone and tried that out for us and the feedback has been fantastic so therefore we've bock-booked them now for the whole year, the next academic year. When I've been in meetings regarding logistics; when we can arrive when we can get changed, making sure everyone has their DBS checks, all of those different things as part of that is the Autism Awareness training. To describe out young people we've given them the PE profiles so therefore the instructor can actually a have glance and that will show areas they need to work on. They've been really useful. And it will be the same for ▉▉▉▉▉. I had a meeting with ▉▉▉▉▉ yesterday so I'll give them the PE profiles so that their instructors can identify skills to work on.

This whole process is evolving as you've just explained do you think the FeelGood programme will be sustained in that way?
I think so and I think that the FeelGood programme has done that absolutely. Our curriculum maps language and social skills groups the movement elements and elements of the FeelGood programme were used to create the curriculum maps. I'm not sure how it will all come together for out conversational partners who are mainly ex-mainstream students. It will not be something that is idly sat on the side.

That sums it up for me, when I first designed the FeelGood programme it was for another school and you can't take one thing and place it somewhere else and what you have said highlight that.
Yes and especially because the school has changed so much.

Originally the schools were quite similar with the residential set-up and now they are not.
Yes that's right and you must see the change
Yes completely.
You must completely see the difference and we've all had to learn and adapt, we're not quite there yet we're all in that cycle of change.
It's a lot of change.
Yes it is a lot of change in a short time.

Anything else that you feel you'd like to comment on?
I think that in a genuine way (I'm not just saying this because I am being taped) had it not been for your goal, for you to publish your work, your persistence has kept that momentum going. It could have been quite easy to say "this isn't working let's give up". I've spoken to teachers in teachers meetings and they weren't necessarily minuted which is why I know that's not great for your research, but I have said we have a made a commitment to Clare who has made a commitment to us to see this through this academic year and we all have done. And it will be different for next year but not hugely.

But that's fine because it's the FeelGood programme at ███████ as opposed to the FeelGood programme at another school?
Yes, so summing that up the momentum from yourself and from ██████ and the meetings and the team of TAs has kept it going and even at times when it's been quite frustrating because the logistics and staff attitudes, so I think if it hadn't have been for that and we did make a commitment and why we've done what has been done, it has been achieved.

The whole thing for me has been looking at the barriers and opportunities. As an external person involved with this now for several years (when ██r was on-board) I might see it differently so what would you say have been three challenges?
Staffing in terms of logistics and facilities. When I first started (with the PEWP) we had an awesome team of eight or nine people and then for whatever reason whatever else, people left the school. Trying to replace that skill-set highlights for me skills that people have so for example, for our tennis person we were so short-staffed that we couldn't release her and that impacts. If they go off sick you want people to able to step-up and carry on and that's been a slight barrier.

The attitude of the staff if the person running the activity?
Yes, the organisational logistical part, the thinking. Another barrier is out school site to run all of these activities. You've got the dining hall which isn't the biggest hall; you've got the playground which is ok but not set-up to have events; we had the amazing idea of changing all the fields which was really exciting and I felt was going to be really productive but then we've had a new CEO as well who has changed the ██████ priorities. She hasn't said that PE isn't a priority but that's something we need to pick up put a business plan in again. The entire team I working on this with originally were so motivated, they were so behind the vision for PE.

This is mostly about people?

Yes at every level and when you have a new CEO the whole organisation then shifts and the focus is different. We've had a new CEO for not even a year yet so big projects like a sports facility have been put on hold. The whole organisation and systems and people, the attitude of staff and what is realistic development. And then to balance it off with the positives.

What are the positives?
The positives have absolutely been that great push of physical activity in the school; you can see it and feel it. The competition elements that are growing we have tried them before but they are bigger and better than before. The inclusion opportunities for our young people at mainstream schools representing the school, it's pretty impressive. Tick that box that was a goal and we've achieved it. But I also think that we're keen to keep that momentum going that's why I've made the trampolining and rock-climbing happen and the horse riding. The new leadership team we're going to continue to make these things happen but also we're going make sure that teacher s are actually responsible for their own timetable. ▮ (the new Head) for the future is an ex-Head of several schools and before she was a Head she was PE department lead so she knows her stuff and I think she'll be keen to help us really embed that. Before this I had no experience until this project but it has been a very positive shift in culture but there's so many other factors isn't there; the schools changed, so from a residential school with quite complex children to a day school for children with additional needs but not necessarily such severe autism.

Anything else at all?
No just thank you, we finally got there. The off-site stuff obviously there is more of an expense to it which hasn't been approved yet. There is a cost element but then there's the sustainability of having experts delivering learning and delivering learning opportunities. Rock-climbing for 90-minutes is going to really test them physically but it's so much more than that co-ordination and all that kind of stuff. But it's also an opportunity to go rock-climbing when they wouldn't necessarily get that opportunity because of all of those social and economic factors. Some parents might not feel confident in taking their children out in the community; and that would be at the weekend and it's busy its sensory overload so I've secured the entire place just for us so there's no-one else going to be at that session at all. It's going to be an incredible opportunity and the same with the trampoline they were really keen to get their Autism Awareness training into practice as well and also that local offer because it's all about working in partnership with different people but ultimately we are all just interested in the same thing which is getting kids physical and active and that for me I'd be interested in that development and that sense of achievement. It's just evolved those off-site things, there's a cost element but then that's the price of health!

Appendix Nine

PE co-ordinator job description

Queens School
PECO job description

This is a challenging and important post and the successful candidate must be able to support in the development and implementation of PE policy across the school alongside the PE Wellbeing team.

1. Strategic Duties
- To lead the development of appropriate resources, schemes of learning, assessment and teaching and learning strategies
- To manage the effective deployment of staff and physical resources.
- To implement school policies and procedures.
- To develop policy and oversee its implementation, facilitating initiatives to develop PE, including the school's involvement in national initiatives in PE.
- To work with colleagues to formulate aims, objectives and strategic plans which have coherence and relevance to the needs of pupils and to the aims, objectives and strategic plans of the school.
- To ensure the planning activities are inclusive and reflect the diverse needs of the pupils within PE.
- Produce an Action Plan (including a time line) that integrates all the strategies to improve teaching and pupil achievement in PE and to ensure its implementation to time and to budget.

2. Staff Development
- Model good practice in this area.
- Act as a consultant to staff in PE, advising on planning, resources, teaching strategies, assessment and record keeping.
- Plan, arrange and run staff meetings, with support where necessary, as arranged with the Leadership Team.
- Take an active interest in professional development, keeping up to date with current developments in PE.
- To contribute to school procedures for lesson observation, and assist with the monitoring and audit of PE throughout the school.

3. Curriculum
- To lead curriculum development for the whole school.
- To keep up to date with national developments, teaching practices and methodology.
- To work with advisors, Governors and parents in the interest of developing teaching and learning in PE.
- To ensure that the developments in PE are in line with national developments.

- To represent the views and interest of PE.

4. Resources
- To manage the available resources efficiently within the school's limits, guidelines and procedures, including the requisitioning, organising and maintaining of equipment and stock, keeping appropriate records.
- To take a leading role and be responsible for the management of a budget including producing written reports to Head teacher and the Governors.

Example of a training session: Sherborne Developmental Movement

'Leaping the hurdles': barriers and opportunities when implementing a new PE curriculum for autistic children

Clare Stockley

FeelGood programme

The foundation for the FeelGood programme

The national curriculum has been used as a starting point for the PE intervention at Queens school. Whilst it is recognised that the national curriculum is broad and balanced it needs also to be especially functional and relevant to the needs of the students at the school. Consequently, adaptations have been made in line with the national curriculum that are linked to the recommended areas of activity and the programme of study but with a focus on the following strands that could run parallel to knowledge, skills and understanding.

Movement

- The improvement of the ability to move confidently with increasing control and co-ordination.

Concept of Self.

- Focuses on the development of student's awareness of themselves and others, and their relationship to the space around them.

Observational skills.

- Includes the development of fine and gross motor skills when handling apparatus and equipment with increasing control and safety. Skills are not necessarily just learned or used in a sporting context but lend themselves to everyday experiences that have meaning.

Health and Fitness.

- Students learn the benefits of an active life through enjoyment of sporting activities, and positive recognition of how their bodies feel during/after exercise.

FeelGood programme

The FeelGood programme aims to help students to

Feel

- Flexible
- Empowered
- Easy-going
- Loud
- Great
- Organised
- Orientated
- Dynamic

and to enable students to have

- Fun
- Enjoyment
- Endurance
- Laughter
- Growth
- Ownership
- Options
- Direction

> PE is a compulsory part of the curriculum for **all pupils** at every Key Stage, from age four to 16.
>
> It is up to schools to determine how much time is devoted to PE in the curriculum but departmental guidance recommends that they should provide pupils with a **minimum of two hours** curricular PE per week.

FeelGood programme

Intervention.

- Can be thought of as the therapeutic use of exercise as a self-help technique for managing behaviours. By linking the positive effects of taking part in sport and leisure activities students learn to be aware of how to calm, focus and feel good about themselves through exercise.

Sensory intervention.

- Sensory sessions are designed to provide various experiences to help students produce a more adaptive response to sensory challenge and cope better with their sensory issues and sensitivities.

Options.

- This is used at the end of most KS 2-4 PE lessons as a choosing session to develop hobbies and long-term leisure skills. At 16+ it is an inbuilt structured activity that allows an element of choice to the lesson content.

Play.

- The correct usage of equipment in terms of procedure, followed by encouragement of appropriate creative investigation of ways in which resources can be manipulated.

Physical Development at Queens school.

The 'FeelGood Programme' is the Physical Education curriculum that has been adopted as an autism-friendly physical development approach across the age range of 7-19 years.

The FeelGood programme can be described as:

"a curriculum that has been designed to address the need of improvement and promote the strengths of autistic children. Opportunities are provided to develop spatial and bodily awareness, enhance mobility, and to build self-esteem and cooperation as well as to promote a healthy lifestyle through activities that are fundamental in daily life. The curriculum is fun, varied and relevant"..

The curriculum strives to engage students in activities that:

- connect the whole body for a whole-body learning experience
- develop core-strength, control, stamina, flexibility and posture necessary to promote effective movements for daily life
- encourage risk and desire to build on choices for future leisure activities
- encourage co-operation in order to build relationships with others
- develop self-esteem through the understanding personal capabilities
- that serve as a medium through which creative and developmental communication, emotions and feelings can be expressed
- promote sensory, therapeutic and behaviour intervention strategies for individual students through dynamic movement programmes

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Sherborne Developmental Movement

A method of working in which the movement is securely based in normal developmental movement experiences. It was developed by Veronica Sherborne as an inclusive approach to teaching and working with movement and one that is well grounded in Laban's Movement Theory.

Movement experiences are fundamental to the development of all human beings and are particularly important to people with special needs. The input or 'feeding in' of movement experiences has to be concentrated and more continuous if people who are challenged in special ways are to realise their potential.

Sherborne Developmental Movement is an approach to teaching and working with movement that is both accessible, especially by people with minimal movement experience, and yet relevant at a very sophisticated level, particularly to people with a background in PE or dance.

Sherborne Developmental Movement

Awareness of Self

- This is gained through movement experiences that help the person concentrate so that they become aware of what is happening to their body, listening via touch and by feeling of inner physical sensations rather than by our usual way of looking and thinking. This helps lessen self-criticism and allows people to grow in terms of self-esteem and confidence both a physical and emotional level.

Awareness of Others

- The next step is to begin to learn to move around and interact with others in ways that encourage the further development of trust and the building of positive relationships. These movement experiences enable the person to be appropriately supported while being encouraged to explore their unique creativity through shared movement activities.

Sherborne Developmental Movement

Sherborne Developmental Movement

Sherborne Developmental Movement

Practical session

move with me

Sherborne Developmental Movement

Benefits of using Sherborne Developmental Movement

- Develop good self esteem, form positive relationships
- Improve emotional and physical literacy
- Extend and improve communication and creative expression
- Build learning power, challenge thinking and increase problem solving
- Create pathways for inclusion; enable differentiated, productive engagement leading to positive achievements
- Support professional development, team building, extend leadership and management expertise

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Sherborne Developmental Movement

Example of a training session: PE and TEACCH

Slide 1

'Leaping the hurdles': barriers and opportunities when implementing a new PE curriculum for autistic children

Clare Stockley

Slide 2 — Five basic TEACCH principles

Physical structure
The actual layout of a person's environment, such as a classroom, home, or school home. Physical boundaries are clearly defined and include activities like work, play, snack, music, and transitioning.

Scheduling
A planner is set up indicating what the person is supposed to do and when. The person's day, week, and possibly month, are clearly shown to the person through words, photographs, drawings, or medium that is easiest to understand.

Work system
This details what is expected during an activity, how much is to be accomplished, and what happens after the activity is finished. The goal is to teach the person to work independently. The work system is organised in such a way that the person has little difficulty working out what to do.
For example, the activity or task should be performed from top to bottom and from left to right.

Slide 3 — FeelGood programme

The feelgood programme aims to help students to feel:
Flexible
Empowered
Easy-going
Loved
Great
Organised
Directed
Dynamic

and to enable students to have:
Fun
Enjoyment
Endurance
Laughter
Growth
Ownership
Options
Direction

PE is a compulsory part of the curriculum for **all pupils** at every Key Stage, from age four to 16.

It is up to schools to determine how much time is devoted to PE in the curriculum but departmental guidance recommends that they should provide pupils with a **minimum of two hours** curricular PE per week.

Slide 4 — Five basic TEACCH principles

Routine
According to the TEACCH method, the most functional skill for autistic individuals is a routine which involves checking one's schedule and following the practiced work system. This routine can then be used throughout the person's lifetime and in multiple situations.

Visual structure
Visual structure refers to visually-based cues regarding organisation, clarification, and instructions to assist the person in understanding what is expected of him/her.
For example, a visual structure may involve using coloured containers to assist the person in sorting coloured materials into various groups or displaying an example of a stamped envelope when the person is asked to place stamps on envelopes.

Slide 5 — TEACCH as a learning tool

Structured teaching via the TEACCH method was developed by Professor Eric Schopler and colleagues at the University of North Carolina. The TEACCH method is not actually a therapy but rather a therapeutic tool to help autistic children understand their surroundings; used across a variety of environments.

Autistic individuals often have difficulty with receptive and expressive language, sequential memory, and handling changes in their environment. The TEACCH method provides the individual with structure and organisation.

Slide 6 — PE and TEACCH
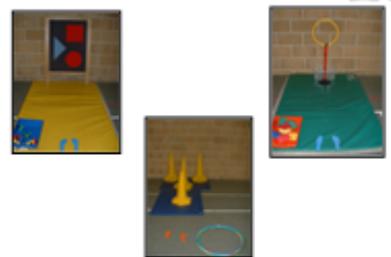
PE and TEACCH

- These work stations are set-up so that students can follow instructions with minimal support and prompting.

- Visual cues may include feet to mark where to stand and positioning of equipment in a set place i.e. the beanbags in a tray next to the standing space.

PE and TEACCH

Visual prompts and preparation
- Bring classroom strategies to the sportshall
- Schedule for getting changed
- Portable Now and Next strip
- Use symbols for additional information

PE and TEACCH

Equipment that aids instructions without the need for additional words and explanations:
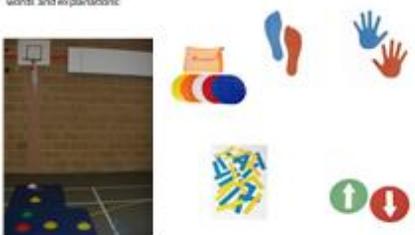
PE and TEACCH

Student – friendly PE targets

PE and TEACCH

PE and TEACCH

Practical session

move with me

Design resources to support a PE lesson from the pack.
Set-up a TEACCH-based PE lesson to deliver a PE lesson form the pack.

369

Appendix Ten

The FeelGood programme at Queens School

FeelGood
At
Queens School

The FeelGood
Physical
Development
Programme
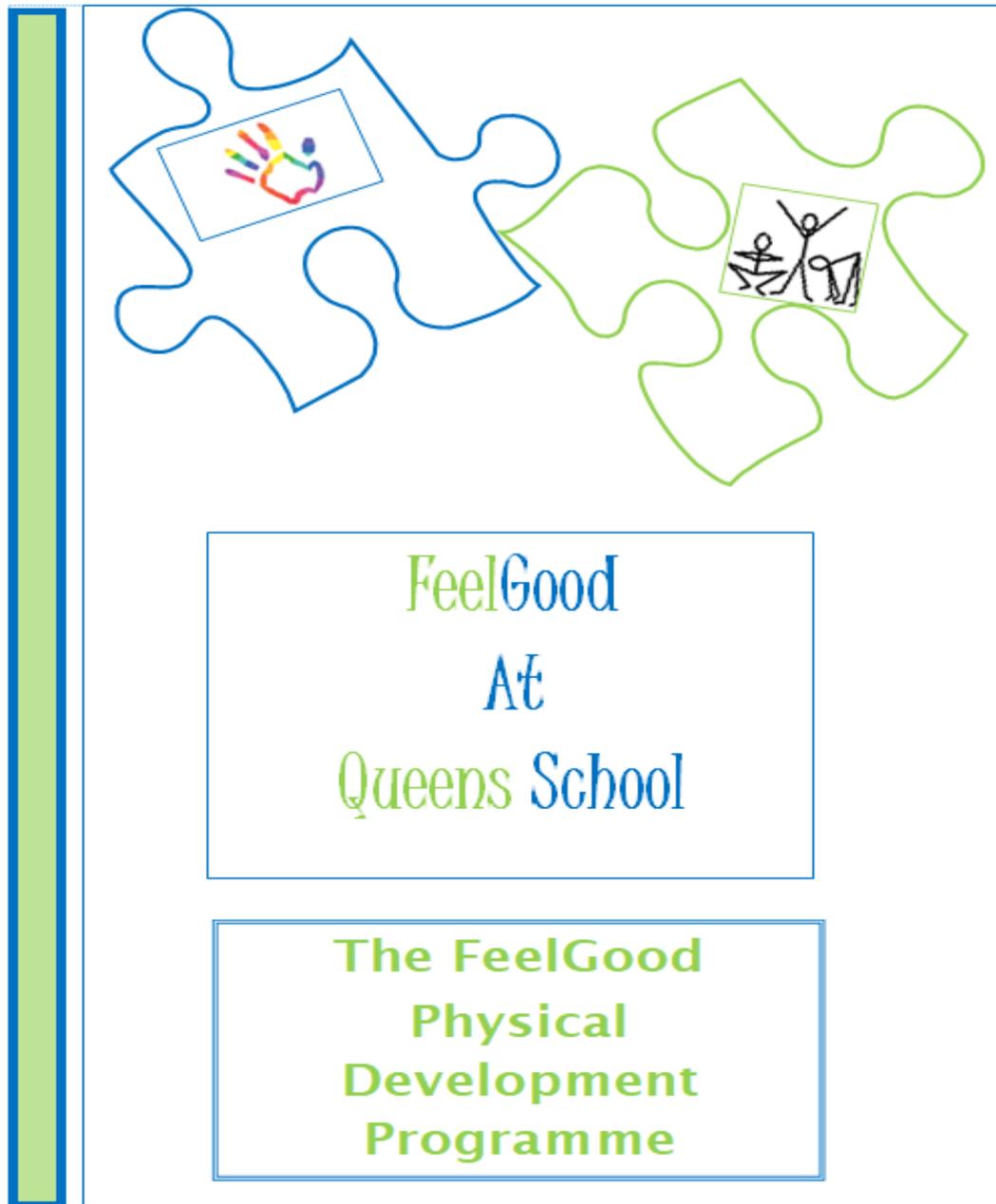
The FeelGood Physical Development Programme.

Queens school

Queens school is a day special school for children and young adults, aged 4-19 years. Students are statemented with autistic spectrum disorders (ASDs) and often have additional and complex difficulties.
The aim of the school is to provide an extended and differentiated waking curriculum to meet the special educational needs of the students.

National curriculum Physical Education
General requirements for Physical Education at KS 2-4.
Physical Education (PE) in the national curriculum involves students in the continuous process of planning, performing, and evaluating during physical activity. This applies to all areas of activity on the PE national curriculum: Games, Athletics, Dance, Gymnastics, Swimming, and Outdoor and Adventurous activities.

The FeelGood programme offers an alternative to the NCPE whilst also providing links to achievable aspects for individual students.

Queens school and PE.
In order to help the students achieve their highest potential in PE, appropriate provision is made for those who need tasks to be adapted into a more an accessible curriculum. This is possible through the following structures:

Facilities– Main hall (dining area); playground; small on-site pool

Community opportunities– None

Staffing– Class-based teachers supported by TAs

The FeelGood Physical Development Programme.

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Queens school

Physical development at Queens school.

The 'FeelGood Programme' is the Physical Education curriculum that has been devised as an autism-friendly physical development approach across the age range of 4-19 years at Queens School.

Physical activity has a unique part to play in the lives of students with autism and can be presented as both a physical and a sensory experience.
The FeelGood programme can be described as:

"a curriculum that has been designed to address the triad of impairments and promote the strengths of individuals with autism. Opportunities are provided to develop spatial and bodily awareness; enhance mobility, and to build self-esteem and cooperation as well as to promote a healthy lifestyle through activities that are functional in daily life. The curriculum is fun, varied and relevant".

This curriculum strives to engage students in activities that:
- connect the whole body for a whole body learning experience
- develop core strength, control, stamina, flexibility and posture necessary to promote effective movements for daily life
- encourage likes and dislikes to build on choices for future leisure activities
- encourage co-operation in order to build relationships with others
- develop self-esteem through the understanding personal capabilities
- that serve as a medium through which creative and developmental communication, emotions and feelings can be expressed
- promote sensory, therapeutic and behaviour intervention strategies for individual students through dynamic movement programmes

The FeelGood programme aims to facilitate students to feel:
Flexible
Empowered
Easygoing
Level
Great
Organised
Oriented
Dynamic
and to enable students to have:
Fun
Enjoyment
Endurance
Laughter
Growth
Ownership
Options
Direction

372

The FeelGood Physical Development Programme.

Queens school

The foundation for the FeelGood programme
The national curriculum has been used as a starting point for this PE curriculum at Queens school. Whilst it is recognised that the national curriculum is broad and balanced it needs also to be especially functional and relevant to the needs of the students at this school. Consequently, adaptations have been made in line with the national curriculum that are linked to the recommended areas of activity and the programme of study but with a focus on the following strands that could run parallel to knowledge, skills and understanding:

Movement:
This is the improvement of the ability to move confidently with increasing control and co-ordination.

Concept of Self:
This focuses on the development of student's awareness of themselves and others, and their relationship to the space around them.

Operational Skills:
This includes the development of fine and gross motor skills when handling apparatus and equipment with increasing control and safety. Skills are not necessarily just learned or used in a sporting context but lend themselves to everyday experiences that have meaning.

Health and Fitness:
Students learn the benefits of an active life through enjoyment of sporting activities, and positive recognition of how their bodies feel during/after exercise.

Intervention:
This can be termed as the therapeutic use of exercise as a self-help technique for managing behaviours. By linking the positive effects of taking part in sport and leisure activities students learn to be aware of how to calm, focus and feel good about themselves through exercise.

Sensory Integration:
Sensory sessions are designed to provide various experiences to help students elicit a more adaptive response to sensory challenges and cope better with their sensory issues and sensitivities.

Options:
This is used at the end of most KS 2-4 PE lessons as a choosing session to develop hobbies and long-term leisure skills. At 16+ it is an inbuilt structured activity that allows an element of choice to the lesson content.

Play:
The correct usage of equipment in terms of procedure, followed by encouragement of appropriate creative investigation of ways in which resources can be manipulated.

The FeelGood Physical Development Programme.

Queens school

Programmes of study

Through the general use of the national curriculum areas of activity
students will be able to follow strands throughout the 'FeelGood programme'. These
strands form a 'spectrum' of sport and leisure.
Opportunities increasing each student's comprehension of their own physical
development and abilities. Each student is given the opportunity to take part in a wide
range of relevant physical experiences that can be used to develop a sense of purpose.

Schemes of work and medium term planning support the FeelGood programme and
reflect the individual nature of this ASD-friendly PE curriculum.

Movement

Students will learn to:
♦ tolerate positioning using movement aids and equipment and physical support from
   staff
♦ establish basic movement patterns
♦ increase their range and control of self initiated movements
♦ develop spontaneous controlled movement and the ability to control and shape their
   movements
♦ balance on various body parts
♦ develop their ability to move confidently and imaginatively with increased
   coordination, control and balance incorporating the use of apparatus
♦ access the wider community to develop confidence in negotiating obstacles, or
   experiencing different surfaces such as beach walks or going to the playground
♦ build on confidence in/on other media, such as water or trampoline, to travel using
   whole and different body parts and whilst moving change speed and direction

Self-Awareness

Students will learn to:
♦ be aware of their own body and gain a sense of personal space
♦ be aware of their own body in relation to others
♦ show awareness of body parts and where and how they move
♦ experience moving in different directions and at different levels
♦ develop an awareness of movement qualities; energy, flow, space, speed and time

374

The FeelGood Physical Development Programme.

Queens school

Programmes of study continued......

Operational skills

The student will learn to:
- control and co-ordinate limbs
- use a variety of grasps/grips as well as establish hand dominance
- integrate the use of hands with other senses
- use and co-ordinate both hands
- transfer objects between hands
- develop visual perception skills involved in tracking
- develop co-ordination across the mid-line
- operate a range of apparatus
- have more control over fine motor skills
- participate in simple games that involve throwing, catching and bouncing balls

Healthy living

Student will learn to:
- maintain appropriate posture and movement
- appreciate that involvement in physical activity helps to maintain a healthy lifestyle
- follow simple rules and safety procedures
- avoid potential dangers and to recognise pain and its location
- move around the environment with care and consideration to personal safety and that of others
- take responsibility for own needs, e.g. take jumper off when hot
- use physical activity and fitness training as part of a daily or weekly routine
- dress/undress as independently as possible for exercise

Intervention

Student will learn to:
- recognise the effects of exercise as a positive feeling
- accept help in using exercise as a behaviour management strategy
- work towards choosing what exercises are beneficial when starting to feel anxious
- learn how and when to use exercise as self-management strategy
- use exercise to calm, focus or stimulate as appropriate

The FeelGood Physical Development Programme.

Queens school

Programmes of study continued......

Sensory Integration

Physical activities promote sensory integration and provide practical challenges and settings for students with sensory disorders. In order to maximise a students' learning the FeelGood programme has been designed to incorporate tasks that:
- can be generalised into daily functioning such as pushing, pulling and carrying
- develop positive self-esteem as the student learns how to perform successfully and independently
- connect the mind with the body which is then ready for learning
- stimulate and focus in fun non-demanding way

Options

Students will have opportunities to:
- Establish their likes and dislikes
- Choose games and tasks that they want to take part in
- Choose equipment to play with and who they would like to use it with
- Influence lesson content
- Establish long-term leisure skills
- Learn how to occupy their time more independently
- Use leisure skills in the community

Play

Students will have opportunities to:
- Explore PE equipment in the right setting
- Learn appropriate use of equipment prior to expectations of using it in action
- Be creative with equipment
- Use games workshops to share experiences of creativity with others in a non-intimidating environment
- Play alongside others in a non-threatening environment

The FeelGood Physical Development Programme.

Queens school

Areas of activity

Students are encouraged to choose and explore activities that are fun,   appropriate to their needs, interests and skills and also that are accessible.
The FeelGood programme provides a holistic whole-body learning
approach to facilitate the programme of study. The following learning experiences are examples of activities taught in PE lessons and the national curriculum areas of activity that they relate to:

Games
♦ Traditional games adapted by structure and modified by equipment
♦ Cooperative games i.e. parachute, cooperaband, stamp and catch, stretch band, glow-in-the-dark throw and catch, giant connect 4, floating pyramid, water whizz ball, noodles
♦ Games skills work stations
♦ Water and sand play
♦ Local playground

Gymnastics
♦ Sherborne developmental movement; Brain gym; Yoga
♦ Rebound therapy/trampoline
♦ Early years gymnastics
♦ Obstacle courses
♦ Twister mat

Dance
♦ Sherborne developmental movement; Brain gym; Yoga
♦ Early years dance and movement
♦ Cheerleading
♦ Themed and cross-curricular topics i.e. 'Under the Ocean'

Swimming
♦ Early years swimming programme with emphasis on rules, safety and leisure
♦ Water as a therapy
♦ AQA and ASA swimming awards for fun, distance and water skills

OAA
♦ Indoor climbing wall
♦ Outdoor mini assault course
♦ Residential trips
♦ On-site orienteering activities

Athletics
♦ Sports day
♦ Early years athletics programme-running, jumping, throwing
♦ Health Related Fitness
♦ Indoor athletics

The FeelGood Physical Development Programme.

<u>Queens school</u>

Additional areas of activity

<u>Fitness</u>
♦ Circuit training-Gym equipment; Weights; Exercise routines
♦ Aerobic training- Cycling; Jogging; Aerobics, Step aerobics
♦ Core stability– Bench/Beam walking, balance maze, wobble board, balance cushion, twist-fit, Speed bounce, Agility ladder, etc.

<u>Relaxation</u>
♦ Yoga
♦ Deep pressure-Mat rolling, bouncing, etc.
♦ Massage
♦ Breathing and stretching
♦ Relaxation basket– yuckee medicine ball, hand gripper, etc.

<u>Sensory</u>
♦ Structured play with relevant sensory/therapeutic PE-based equipment/toys
♦ Tactile beanbags, spider ball, planet ball, Hoberman sphere, spiral quoits, etc.

<u>Options</u>
♦ Student free choices-roller skating, scooter, cycling etc.
♦ Students are encouraged to develop positive routines as part of a healthy and enriched life beyond that of Queens school.

Opportunities for physical activities outside the PE setting and links with other functional activities:

Heavy work activities– Proprioceptive Input- Whole body actions involving pushing, pulling, lifting, playing and generally moving around; use of hands for squeezing, pinching and manipulating

Gross Motor activities– Sandwich/squashing activities; Walking, running, playing in sand; climbing/hanging on things; Jumping and bouncing; carrying objects; Pushing or pulling objects

Fine Motor activities– Resistive surfaces; resistive toys;

Upper extremity activities– Stretching up and down, forward, sideways; Working on different levels

<u>Links with other school staff:</u>
Occupational therapist
Music therapist
Sensory/Play therapist