ANTHROZOOLOGY IN EARLY CHILDHOOD EDUCATION: A MULTIPHASE MIXED METHODS STUDY OF ANIMAL-RELATED EDUCATION IN EARLY CHILDHOOD

Diahann Gallard

A thesis submitted in partial fulfilment of the requirements of Liverpool John Moores University for the degree of Doctor of Philosophy

February 2015

Contents

ABSTRACT

This study is about the features of educational experience in early childhood linked to animals, with a particular emphasis on the role and perspectives of early education practitioners (EEPs) in England. It includes a consideration of the influences of the earlier scholars and philosophers and a shift in pedagogy and methods for young children's education; about animals, with animals and 'as nature'. The study 'maps' the status of animal-related education in early childhood and it notes a decline in animal-assisted learning which has occurred as an outcome of particular political activities, legislation, and other factors. The research is both exploratory and confirmatory and utilised a mixed methods bricolage as a methodology, method and philosophy. There are three phases of research; an evaluation of the status of animal-assisted and animal-related learning in early childhood education, an inquiry into the attitudes and perspectives of early education practitioners and the development and piloting of a framework to support early education practitioners for animal-related education. The action-oriented final phase includes the piloting of an 'Animal Aware School' scheme and a number of dissemination activities and these are evaluated. An outcome of the research is the identification of the association between animal-related education and the global agenda for a Sustainable Future (SF) and the emergence of the notion of 'noticing animals'. The findings of this thesis make an original contribution to knowledge in the field in three ways; 1) There has been a collection of new data – predominantly the perspectives of early education practitioners about animal-related education in early childhood – and a first systematic review of relevant texts and discourse, 2) This is a first inquiry at the intersection of the anthrozoology, early childhood education and psychology fields of study about animal-related education in early childhood, and 3) There has been the creation of a new term 'Early Childhood Educational Anthrozoology' which has not been in usage before and will help with future discourse.

Key terms: *early childhood; early education; anthrozoology; early education practitioners; animal-related learning; animal-assisted learning; animal-related education; sustainability; early childhood educational anthrozoology.*

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

AA	ANIMAL-ASSISTED
AAL	ANIMAL-ASSISTED LEARNING
ARL	ANIMAL-RELATED LEARNING
APER	ANIMALS IN PRIMARY EDUCATION REFRAMED
ARE	ANIMAL-RELATED EDUCATION
DEFRA	DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS
DfE	DEPARTMENT FOR EDUCATION
ECE	EARLY CHILDHOOD EDUCATION
ECEA	EARLY CHILDHOOD EDUCATIONAL ANTHROZOOLOGY
EE	EARLY EDUCATION
EEP	EARLY EDUCATION PRACTITIONER
EYFS	EARLY YEARS FOUNDATION STAGE
KS1	KEY STAGE ONE
LOA	LINE OF ARGUMENT
NC	NATIONAL CURRICULUM
OFSTED	OFFICE FOR STANDARDS IN EDUCATION
PSHE	PERSONAL, SOCIAL AND HEALTH EDUCATION
QTS	QUALIFIED TEACHER STATUS
SF	SUSTAINABLE FUTURE
TEL	TECHNOLOGY ENHANCED LEARNING
UK	UNITED KINGDOM
UNESCO	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION.

ACKNOWLEGEMENTS

I would like to acknowledge my family, friends and work colleagues for their practical and emotional support during the research and write-up of this thesis.

To Fiona Stewart – I appreciate your attention to detail and your honesty, and my work is better for it.

Thank you to Jackie Fealey, the librarian for Education Studies at IM Marsh, for her time and invaluable advice on the tricky nuances of referencing.

I would like to thank Angie Daly for her companionship and wise words during the seemingly never ending process of writing. Our conversations together about research, education, and all things academic, helped tremendously.

Thank you to my Director of Studies and supervisors for enabling me to reach the submission point. To Dr Claire Hennessy (DoS) - for her patience, diplomacy and thoughtful guidance. To Dr David McIlroy (supervisor) - for his insightful comments and moral support at just the right time. To Dr Elizabeth Smears (supervisor) - for her role in reigniting my determination to complete the process at the difficult midpoint during a tough, challenging time.

I will also share here my appreciation for the peaceful space to think and write at Gladstone's Library in Hawarden, North Wales.

CHAPTER ONE

Introduction

1.1 Anthrozoology: A personal interest

I have always been interested in the topic of animals. I can remember as a young child being able to pay sustained attention to anything that had to do with animals, more so than any other topic. I was always seeking out opportunities to observe animals first-hand and to ask adults questions about animals. It was a particular delight if an adult asked me to feed an animal or attend to an animal's basic needs. When not physically around animals, I would read books about animals and watch animal-related programmes on the television. But, my fascination with animals was always more about observing other people as they interacted with animals—their different responses, reactions, attitudes and approaches towards animals. Through my observations and experiences, I have also come to appreciate that animals act and respond in various ways depending on the human they are with. Indeed, there is a lot that can be learned by studying the interactions between people and animals. It is only in the last few years that I have become aware that there is a subject area called anthrozoology, which focuses entirely on studying such interactions.

My interest in anthrozoology increased further following the birth of my children. I have been fascinated observing how my young daughters relate to animals and how they make sense of their own interactions with animals. Like me, my children are captivated by animals and enjoy interacting with and talking about animals. Within the context of our family, my children have been privileged to have many opportunities for first-hand experiences with animals. My children have been taught how to care for the family pets and they have been supported through their grief when an animal has died. I have deliberated about whether their interest in and way of being with animals is the result of a life with animals (first-hand experiences facilitated by an interested adult) or whether it is innate (inherited from me). Or, perhaps it is purely a co-incidental by-product of their experiences.

The idea for this inquiry stems from reading about the ideas of E.O. Wilson (1984) who proposed that all human beings have a predisposition to attune to animals (and other living things) that we inherit as part of our evolutionary heritage. This is an idea I subscribe to. It arises from my reflections originating from my own engagement with animals and with educational and child psychology theories that relate to early learning, development and behaviour, and reinforced by my experiences and observations.

This thesis could have been about my personal interest in anthrozoology as a personal narrative enquiry detailing my experiences with animals from childhood through to adulthood and parenthood. I would have enjoyed this indulgence because my experiences have, on a whole, been positive. Instead, I have opted to explore the practical realities of the evolutionary tie between animals and humans as it relates to my professional interest - early childhood education. Early childhood education is the subject area that I teach in my current job as a university lecturer. My passion for continuing to learn about the nature of the early childhood educational experience equals my fascination with anthrozoology. It makes sense then that I should bring these themes together and, in effect, create a highly specific area in which to develop an expertise. I also bring my experiences and perspectives from a previous job as an early years and primary class teacher in England. Also of significance to this study is my ongoing involvement with young children and other education professionals in early education settings which have provided me with a much broader, practical view of the research area; I can see beyond what is 'theoretical' as an academic in order to make links to the practical aspects of what I am investigating. In a sense, this has also made the research more 'real' for me.

Through this research, by completing multiple research activities and dissemination of the findings, I have created a new, alternative space at the intersection of anthrozoology, early childhood education, and traditional teaching territories, in which I am able think quite broadly and converse with others about the issues of children and childhood, what it is that children might

'need' from animals (or their 'rights' with regard to nature-related learning), and the issues and ethics associated with supporting early learning that involves animals. This research draws heavily on three fields of study: education, psychology and anthrozoology but with a predominant focus on *early childhood*. In particular, it considers the early years of formalised education and whether early education practitioners pay attention to the role played by animals in a child's formative years.

1.2 About the research

In the early stages of the research, the aims of this thesis were:
1. To evaluate the status of animal-related learning and experiences in early childhood education
2. To explore the attitudes and perceptions of early childhood educators with regard to animal-assisted/related learning.

Later in its development, this thesis became centred on the nature of early childhood educational anthrozoology, in effect, whether this topic is 'essential' or 'trivial' within the context of the current early childhood education system. In this thesis I present what I have discovered about this topic in order to, ideally, ignite a debate among various groups of people (including those who are 'interested', 'disinterested' and 'indifferent') across disciplines, particularly since there is not yet a mutual space that can enable and sustain academic discourse on the subject.

My research focus is complex and original, linking together a number of factors. I have collected data from practitioners and also children in early education settings. I have interviewed representatives from animal organisations who have an 'education remit' for educating young children about animals. I have disseminated my earlier findings in academic educational and anthrozoological forums and taken account of the different perspectives offered to me. I have also made use of my personal narrative. The inquiry was conducted in parts separately but I later came to realise that my understanding only became meaningful to me once I began considering the topic as a whole,

developing a 'systems perspective' that takes into account the flows, feedback loops, delays and interplay between the various physical and social ripple effects that are a result of decisions made in education and in wider society and from this I have developed a basic 'systems literacy' (Meadows, 2008). Using a systems approach and asking questions such as 'What causes that?' or 'What impact does that have?' has truly led me "down an endless trail of discovery and understanding"(AtKisson, 2013: 8) towards a better understanding of how young children are learning about animals and the ways in which early childhood educators are enabling this. I may not have discovered complete answers to my research questions, but it is time for me to share what I have learned thus far.

This thesis make an original contribution to knowledge in the field in three ways:
1. There has been a collection of new data – predominantly the perspectives of early education practitioners about animal-related education in early childhood – and a first systematic review of relevant texts and discourse
2. This is a first inquiry at the intersection of the anthrozoology, early childhood education and psychology fields of study about animal-related education in early childhood
3. There has been the creation of a new term 'Early Childhood Educational Anthrozoology' which has not been in usage before and will help with future discourses.

The findings of the inquiry make a contribution to knowledge in four domains (theory, policy, practice and research). The **theoretical** ideas arising from the research are about; the emphasis animal-related education is given in early childhood, how experience with animals can have a function for child development and animal protection, and how digital experiences are not sufficient for the development of positive attitudes and connectedness to natural things. The ideas arising in the research that can **inform policy** relate to; the knowledge held by early educators about animals and anthrozoology, the training needs of practitioners, the ethics and personal values of practitioners,

how ARL is framed currently in early education and how informed choices for animal-related learning arise from knowledge about animals and anthrozoology. The ideas arising from this inquiry that **can inform practice** are that; tackling philosophical issues can have wider reach to home and community, common ground between animal-facing and child-facing organisation needs to be found to develop anthrozoology in ECE, there needs to be a meeting place to address diverse values to move towards a consensus of approach, and that empowerment and targeted support are important to enable practitioners to engage with the theory and practice of anthrozoology and animal-related education. The core **research** idea that has emerged is about the link up of anthrozoology in ECE to the global agenda for a sustainable future.

The use of bricolage in this inquiry is also an important contribution to research development as it has formed an original biography about animal-related teaching and learning in early childhood education settings

1.3 Situating myself in the research

Through recognising that my research into animal-related learning is *value-laden,* because of its relationship to my personal past experiences, I made the conscious choice to begin this thesis by reflecting on those experiences. As Hammersley and Atkinson (2007: 14) emphasised, I am 'inescapably part of the social world that I am researching". I acknowledge that my interest in the relationship between children and animals is strong, and I support the idea that children should learn more about animals through first-hand experiences. Indeed, I believe that one of the early childhood educator's core roles should be to enable and facilitate early learning about, and with, animals, nature and the world. It is important that I should acknowledge and disclose my values at this point in order to "understand my part in, or influence on, the research" (Cohen, Manion and Morrison, 2011: 225). I will continue to make my values known throughout the thesis. In doing so, I demonstrate that I understand the importance of looking beyond my own perceptions to find out more about what other people think—to "see the world through the lenses of the [other] participants" (Preissle, 2006: 691).

Disclosing and emphasising my values at this early point is essential. However, subjectivity is not excluded from this inquiry and it is an outcome of my pragmatism. I recognise that this will conflict with philosophies that strongly align to an objective truth, but it should not prevent the reader from engaging with the concepts and ideas as long as the epistemology has been recognised. Later in this chapter I discuss my worldview in more detail. This is to demonstrate that there is a particular philosophical underpinning for this inquiry, and that I am aware of my tendencies and assumptions.

During the research process I have, at times, attempted to suspend my tendency to see animal-related learning in an 'unrealistically favourable light' (Mannay, 2010: 91) that arises from my positive view of the value of the experiences and relationships that children can have with animals which I disclosed earlier in the chapter. In order to circumvent excessive bias and retain some objectivity, I have selected activities and processes that include co-operative inquiry and I have given priority to activities where I listen to the narratives of early childhood educators about the current context and status of animal-related learning in ECE. However, I have also been mindful of the risks with moving beyond my lived experience and delving into the perspectives of others. I have remained conscious of Husserl's philosophy that it is possible that we can only know what we experience (Findlay, 1970), and that I should acknowledge the difficulties of trying to evaluate perspectives that are not my own.

1.4 How this thesis is organised

While collecting the inquiry data I sought to make sense of what I found by analysing the literature in the field of research about the child–animal relationship through psychological and educational lenses. In Chapter Two I discuss the dominant academic discourses about the child-animal relationship, early learning about animals and nature, teaching young children about animals and nature, animals as tools for learning and development and as social facilitators and how animals can assist educators, plus I explore some factors that affect practices. This discussion provides a background and context for the

study. In Chapter Two I also look at views on the use of animals, how broader animal-related learning (ARL) can be also extend to animal-assisted learning (AAL) and the associated legal framework and moral arguments that can impact on the decisions that early educators make.

In Chapter Three I explain the methodology of the inquiry. I explain how the study is a deliberately eclectic and organic approach to research which uses bricolage as a tool, a philosophy and an outcome. I provide a justification of my methodology and methods by detailing how I see myself as a pragmatist and how I have taken a pragmatic approach in choosing mixed methods for this study. Then, in Chapters Four, Five and Six, I present my findings for the individual research activities that were conducted as the parts of the bricolage. I augment the data presented with a narrative as an explanation for the continual process of analysis, rational inference, abductive reasoning, reflection, and readjustment of aims.

In Chapter Seven I discuss the synthesis, abduction and the cycle of reflection that took place during the research. I provide 'summative codes' derived from each activity through reciprocal translation analysis and then a 'line of argument' explaining what I have inferred from my analysis of the data. Within Chapter Eight of this thesis I provide my conclusions and suggestions based on the data, and my reflections. Within the final chapter I begin to conceptualise a new space to enable and sustain an academic discourse about animal-related learning as part of education in early childhood.

1.5 The use of the term 'Early Childhood Educational Anthrozoology'

At present there is no single term used to represent the child–animal relationship in early childhood education. According to the International Society for Anthrozoology (2015), anthrozoology is now gaining recognition as "a subject for the scientific and scholarly study of human-animal interactions". Although the term has been used by the International Society for Anthrozoology since 1991, the earliest use of the term that I have been able to identify specifically in the academic educational field is by Mariti et al. (2011). I have

been unable to locate a precise term for the subject of anthrozoology for ECE and so, for the purpose of this study, I have created the term *'Early Childhood Educational Anthrozoology'* (ECEA).

1.6 The use of the term 'Early Education Practitioner'

In this study there is a particular focus on attitudes and perspectives of professionals in early childhood education who work with children in a formalised way as a vocation. I have chosen to avoid using the term 'early years' (and other related terms such as 'early years professional', 'early years teacher' or 'early years educator') for three reasons. Firstly, 'early years' gives a sense that professional work with young children is predominantly about being about the delivery of a prescribed curriculum as characterised by the use of the term in the Early Years Foundation Stage curriculum (EYFS) (Department for Education, 2012b), and I wish to avoid an automatic linking to government terminology and ideology and the notion of the educator as 'technician' (Alexander, 2004). I want to uphold the idea of the early childhood educator role as being professionally and pedagogically driven, through imagining that educators are able to work in an autonomous way outside the frame of current political ideology and dogma. Some scholars choose to instead use 'early childhood', 'early education' or 'early childhood education' in place of 'early years' (for example, Taylor, 2013; Samuelsson and Kaga, 2008; Dahlberg and Moss, 2005; Moss and Pence, 1994) and I have made this deliberate choice too. Also, I have noted that the literature and research originating from outside of the UK is unlikely to use 'early years'.

Secondly, 'early years' would suggest a broader age range (i.e. from birth) in line with the Early Years Foundation Stage curriculum (EYFS) (Department for Education, 2012b). I do not dissociate from the care aspect of working with babies, but the use of 'early years' would be unhelpful given that the typical ages of children that the research participants who took part in the study work with were between 3-7 years. Thirdly, I have become aware that there are new qualifications called 'Early Years Teacher' and 'Early Years Educator'. My view is that these qualifications do not align with the conclusions of the

Foundations for Quality report (Nutbrown Review) (Department for Education, 2012c) about pay and status for those working as early childhood educators as needing to be equal to qualified teacher status (QTS). I do not want readers to confuse with, or make connections to, those new qualifications. This thesis is not about providing my perspective or unpicking the fuller debate about the moral and ethical standing of the new qualifications but it is important to state my view as there has been an impact on the terms I use because of it. However, I do not reject the term 'early years' entirely. I use it when I am meaning the 'early years of…' something in particular (for example, as in the 'early years of life' or the 'early years of compulsory education').

I have also selected the term 'practitioner' over 'teacher' because I see ambiguity between role labels in early childhood education settings. Whether an early childhood professional has a role as a teacher in a Reception class or as a nursery/pre-school worker they will plan and deliver educational experiences and support learning as an educational *practitioner*. My main intention in using 'practitioner' is for inclusivity, but it is also helpful when referring to the same group multiple times and to avoid listing roles at every mention. However, I do state the particular job role of the participants to provide the context for their input and involvement when appropriate. The term 'educator' is used intermittently throughout the thesis, but again it should not be interpreted to mean 'teacher' unless this is explicitly stated.

I acknowledge that parents, families and carers do also fall into the 'educator' or 'practitioner' category. However, I have needed to define the parameters of the study for practical reasons and how to demarcate the exact boundaries was a struggle, especially in light of a number of home-setting links which emerged in the study. However, I chose to look specifically at professional (paid) early educators who operate in a group setting in this inquiry. For the same practical reason, childminders and 'wraparound' care staff are not a particular focus of this study, although I recognise they too are professionals whose views could have been explored.

1.7 Researcher voice

In the process of writing this thesis I found that I could not remove my values entirely from the inquiry. I have also recognised that, as a researcher, I have a desire to retain my own 'voice' and my reflexivity. This has impact on the style of writing and ways of presenting the data. Without my voice I would find it difficult to explain the research process and my understanding of the world as I live it (Moustakas, 1994). I would also find it impossible to justify my methodological choices as they have arisen from the very personal scholarly journey, from writing this thesis and from my worldview. The research is centred on my personal narratives which I have set alongside the perspectives of others, which is also recommended by González, Biever and Gardner (1994). In addition, there is a strong emphasis on co-operative inquiry due to my 'self with others' philosophy of research that stems from a personal alignment with the ideas of Loris Malaguzzi (1920-1994) in relation to the Reggio Emilia approach to early education. This 'self with others' philosophy focusses on the knowledge that emerges during co-operative inquiry that involves others (participants as co-researcher collaboration) but retains the 'I' (of the primary researcher, or 'self-knowledge'). This 'co-construction of knowledge' in research about early childhood (Rinaldi, 2006: 9) is something that I am comfortable with and take value from which, hopefully, is evident in the research undertaken.

The primary objective of using mixed methods for this inquiry was to generate something over and above its individual quantitative and qualitative components (Bryman, 2008: 89). This idea appealed to me as a researcher who likes to think she is creative and thinks outside of the box (Adair, 1969). During the research process I have had what Shotter (2011) called a 'readiness' to respond to seemingly dissimilar elements, which he believed to be at the heart of creative, flexible thought. I have also used 'playfulness' (the affective creative engagement conducted within boundary of the traditions of research) (Kinn et al., 2013: 1291). Kinn et al. view this 'playfulness' as crucial to the act of researching, and an essential for a manual (or 'human') research process. Mostly, I have enjoyed this playfulness within the process of research. I recognise that my research might appear to be towards the periphery of a

traditional research and in conflict with scientific inquiry but I am looking to create my own space as a researcher using a methodology that is consistent with my worldview.

1.8 My worldview and the nature of this inquiry

Earlier in this chapter I identified that I am a pragmatist and that I have used mixed methods for this inquiry. I used Crotty's (1998) four-level conceptualisation to develop this research study and Crotty's conceptualisation model has helped me to rationalise my beliefs about knowledge and knowledge acquisition, and better understand how my 'philosophical assumptions' (although I prefer the term 'worldview' used by Creswell and Plano Clark, 2011) have informed my stance and methodological approach. I have outlined the conceptualisation in Figure 1.1.

The figure originally presented here cannot be made freely available via LJMU Digital Collections because it is an adaptation of source material. Please refer to the original table which can be found in:

Crotty, M. (1998) *The foundations of social science research: meaning and perspective in the research process.* New South Wales: Allen and Unwin.

I have struggled with my uncertainty about my philosophical position. However, Bryman has suggested that it is common for pragmatists adopting mixed methods to 'lack methodological certainty' (2008: 98). I have made some progress with solidifying my position, but some contradictions remain. For example, in this inquiry, I have investigated and integrated the political concerns associated with anthrozoology in early childhood and collaborated with participants, discussing issues of marginalisation and empowerment and,

20

earlier in this chapter, I wrote that I "look beyond the explanations offered by participants to consider the contextual and political factors". This may appear to contradict my assertion that I am a pragmatist. Beyond the scope of this particular inquiry, I often relate to a participatory worldview, as I have a belief in Dewey's idea of 'capacity for growth' in education (Jenlink, 2009: 75). It is this belief has led me to question: Am I really aligned just with pragmatism?

I have grappled with the four worldviews (pragmatism, postpositivism, constructivism and transformative-participatory) described by Creswell and Plano Clark (2011) and the outcome is that I identify with the view of Crotty (1998: 9) that different stances by one researcher are possible and that being unable to place myself in one category is justified given my ontology. The outcome of this philosophical dilemma has been that I now recognise that I have a more general philosophical orientation towards pragmatism, especially within the context of this research inquiry. I accept that my worldview should be viewed overall as a pragmatist one.

I have also been encouraged by Creswell and Plano Clark's suggestion that "mixed methods encourages the use of multiple worldviews" (2011: 13). I recognise that my struggle to locate myself solely and permanently within one worldview is not so much a personal issue, but typical of many researchers who have had experience of more than one discipline or have developed multiple ways of seeing (Denzin and Lincoln, 2011). However, according to Bergman (2011), the idea that there is a 'best' paradigm for mixed methods remains a subject of debate. Bergman suggests that "it is time to bring in a second generation of theoretical considerations about the shape and reasons for mixed methods research" (Bergman, 2011: 101). One proposal is that the realist perspective used in the field of evaluation (Pawson and Tilley, 1997; Henry, Julnes and Mark, 1998; Sayer, 2000) could be the better paradigm for mixed methods studies. Hall (2013) believed that a realist approach "does not suffer from the limitations of the pragmatism" (Hall, 2013: 5) (i.e. its failure to give a coherent rationale for mixed methods and a lack of a clear definition of 'what works'). Hall suggests that the realist perspective has the "potential with further development to provide a much needed paradigm for mixed methods research"

(Hall, 2013: 5). With this in mind, I now consider 'realist pragmatism' (Lipscomb, 2011) to be closest to my overall stance from having a realist ontology (that the real world exists independent of our perceptions, theories and constructions) with a pragmatic epistemology (that understanding can shift depending upon perspectives and standpoint). A 'pragmatic realist' would be the nearest characterisation I could provide for my worldview as a researcher with "freedom in their choices of investigative technique whilst holding onto a strict realist metaphysic" (Lipscomb, 2011: 5). I state 'nearest' as an acknowledgement that my struggle to find the 'best' paradigm is unlikely to end in a precise identification of my worldview.

In undertaking this particular research inquiry, I have been able to explore my research philosophy and attempt to identify my orientation to a worldview in tandem with collecting and analysing data as a 'pluralistic stance' that is transient and shifting (Creswell and Plano Clark, 2011: 46), as a response and outcome to the process. I do not claim that the understanding I have gained throughout the research process is the ultimate, objective truth. Wheeldon (2010) has argued that the metaphysical concepts of 'truth' and 'reality' can be 'sidestepped' if, as in this research project, a more practical philosophy is driving the inquiry. However, I still have a sense that there *is* a truth beyond my experience (albeit a subjective truth) which has influenced the process of research and my interpretation of the findings, and that needs to be acknowledged here as part of the process of disclosing my position which links back to a realist ontology and strict realist metaphysic.

1.9 The research problem

From the beginning of the research process, I had a pre-determined view of the research topic. I had observed in practice that the status of animal-related learning in early childhood education has been changing. This observation emerged from my various experiences, as a class teacher and, later, as a tutor visiting settings. As a student teacher in 1995, I had organised animal assisted/related experiences for the class and overseen a class pet. Then, in my first teaching job in 1998, I suggested the incorporation of similar animal-

related experiences and that we keep an animal in school, but these requests were refused by the head teacher. Through informal conversations with colleagues in other schools, I discovered that my situation was not unique. At that point, I did not critically challenge the decision, but I was left wondering why such experiences were viewed negatively when as a young child having a class pet had been a typical experience. I left teaching in 2001 but, following the birth of my first child, I returned to working in schools in 2005 in a different role as a university liaison tutor. Over a three-year period I visited 58 primary schools and early education settings, making ad hoc first-hand observations that there appeared to be changes and very few examples of animal-related learning and no class-based pets. I was intrigued by what I perceived to be a change in culture from my own experiences as child, and so in 2008 I registered for a postgraduate research programme with a view to considering the nature of animal-related learning within early childhood education practice. My goal was to explore the perceived phenomenon - *the changing nature of ARL in ECE practice* - in more depth, because I recognised that it was an area of study that was (and still is) relatively uncharted. The main purpose of this research was to investigate the following research problem: *What function **should** animals have in a contemporary ECE curriculum?* The specific objective of the research was to explore and, perhaps, challenge, my pre-determined view that that the status of animal-related learning in early childhood education has changed in recent years.

1.10 The research questions

Only the research questions in Phase One were fixed from the start, but other questions emerged in response to participant feedback and the collected data.

Table 1.1 shows the research questions driving each stage of the study.

TABLE 1.1 RESEARCH QUESTIONS DRIVING EACH STAGE OF THE STUDY	
PHASE	**RESEARCH QUESTIONS**
1. An evaluation of the status of animal-assisted and animal-related learning in ECE	**Initial questions:** What part do animals play in ECE? What animal-related experiences are being provided for young children in ECE (within ECE provision and in other ways)? What do young children say about their experiences of/with animals?
2. An inquiry about the attitudes and perspectives of early childhood educators about the human–animal bond and human–animal interactions	**Questions:** What animal-related teaching and learning is occurring in ECE practice in settings in England? What do EC educators say about animal-related teaching and learning? What do educators think and feel about young children having first-hand interactions with animals?
3. The development of a framework of support for AZ in early education	**Questions:** What information and support systems are available for educators about animal-related teaching and learning? How might EC practitioners develop their knowledge, competence and confidence with planning and delivering ARL?

1.11 Study design

The study had an *emergent mixed methods design* (methods arose during the process due to the needs of the study), rather than a *fixed methods design* (methods are predetermined and fixed at the start of the process). The quantitative and qualitative activities were mainly sequentially aligned (although some were conducted concurrently), and each new activity built upon what had been uncovered during the previous (or an earlier) one. In designing the study, there was a combined use of a typology (with reference to the design classifications of Tashakkori and Teddlie, 2003; Creswell et al., 2011; 2014) and a dynamic approach (an individualised approach with emphasis on multiple interrelating components). In other words, the inquiry took on a synergistic multiphase design. There are a number of benefits arising from the use of a multiphase design, including the flexibility to address the interconnected research questions, the potential to publish results from individual activities carried out during the discrete phases, and as a framework for conducting multiple activities over multiple years (Creswell and Plano Clark, 2011: 101-103). However, as the researcher conducting the multiphase design, I was also mindful that there should be sufficient resources, meaningful connections between individual activities and mixed approaches, and multiple protocols (including ethical considerations), because there was more than one phase (Creswell and Plano Clark, 2011: 101-103).

The different data collection activities were chosen through an organic process, with each activity providing a signpost to the next. The process continued until the saturation point in the inquiry, which Sandelowski (1995) referred to as 'informational redundancy'. This point was reached at the end of Phase Three. I was able to begin the research process without having a precise picture of the eventual size and scope of the project and to embark on a process without defined outcomes as I was confident with the use of my hunches, insights and intuition and I accepted this uncertainty because I had reconciled with the 'openness' of the pragmatic framework (Morgan, 2014: 6) and that complexity is to be expected in combining methods.

I was the primary researcher, but the voluntary participation by others was an essential and important part of this study. The participants in this study were recruited systematically and in different ways at each phase of the study; sometimes participants were recruited as part of a random sample, sometimes they volunteered for other data collection activities once they had taken part in a random sample, and other times they were a targeted group. The participant feedback was fundamental to how this study eventually developed in Phase Three because it allowed the researcher-defined activities to be augmented by contextual, field-based information (Greene and Caracelli, 1997).

The study design is considered again, and in more depth, in Chapter Three ('Methodology'). In the following chapter (Chapter Two), I provide an overview of the associated factors and ideas that relate to this research study. For ECEA, there is not a defined body of literature or research, however a number of themes have been drawn from EC, anthrozoology and education (specifically ECE) interwoven with some concepts from developmental psychology and items from legislation. Some of the more pertinent moral and practical arguments associated with ARL and AAL are also included. The chapter provides the background and context for the inquiry.

CHAPTER TWO

Background and context for the study

The purpose of this chapter is to provide the background for this study about animal-related learning (ARL) in early childhood education. I will begin this chapter with a review of the relevant academic literature on the child–animal relationship from both a contemporary and historical perspective. I will then examine the prominent moral and ethical themes relevant to practitioners who support learning about, and with, animals in early education. I will also explore some of the key ideas associated with ARL and provide an overview of the related legislation and policy development affecting animal-assisted learning (AAL) in education. I will then consider some of the pertinent aspects of integrating ARL into ECE and explain some of the challenges and barriers associated with doing so. This background is provided in order to contextualise the findings and conclusions presented in subsequent chapters.

2.1. Conceptualising the child–animal relationship

When reviewing the literature associated with the child–animal relationship, it is clear that the idea of a 'natural childhood' has dominated the field. 'Natural childhood' is a term used to endorse the idea that children have a primal urge to connect with the natural world around them (Fromm, 1964). In other words, children are *naturally* predisposed to interact with other humans, non-human animals, and living things. Fromm (1964) argued that this primal and natural urge enables children to make sense of their experience as an individual in the natural world. Through their engagement with nature, children are able to "reach new depths of understanding about themselves, their abilities and their relationship with the world around them" (Gill, 2009). As such, nature-related experiences in early childhood have often been viewed as essential to the child, forming part of a 'special relationship' (Kahn, 1999; Kahn and Kellert, 2002; Sobel, 2008) that allows children to forge a relationship with the natural environment. Nevertheless, some researchers (for example, Louv, 2005) have

27

noted an ongoing reduction in these experiences, considering it to be a 'modern epidemic'. In early childhood education forums, this decline has been attributed to shifts in forms of play and experience (and in particular to the rise of online play and learning and technological experiences) (see section 3.7.3 later in this chapter). Scholarly commentators have interpreted this reduction of first-hand, kinaesthetic (or embodied) experiences with nature as a 'disappearing childhood' (Postman, 1982), with Palmer (2008) viewing it as being 'toxic' to childhood, and Pyle (2003) and Gill (2005) referring to it as the 'extinction of experience'.

The 'natural childhood' idea, and its emphasis on the child–animal relationship, has stemmed from the work of E. O. Wilson and his theoretical framework of learning about animals as part of a biological and evolutionary heritage. Indeed, most considerations about the child–animal relationship usually contain some reference to Wilson's 1984 book entitled *Biophilia*. In his book, Wilson discussed the human connection to nature and living things, and argued that humans are inherently attuned to nature as part of their evolutionary heritage. This perspective – that learning about animals and nature is biologically driven and vital – has been shared by some (Kahn and Kellert, 2002; Melson 2011), but rejected by others as a 'sentimental displacement' that is unhelpfully nostalgic and unrealistic (Daston, 2004; Taylor, 2013). This dichotomy of seeing the child–animal relationship as either 'sentimental' (exaggerated and self-indulgent) or 'special' (a biologically based affinity that is crucial for a child's development) (Sorbel 2004, 2008) has characterised the dominant thinking in the literature, and early education practitioners (EEPs) may affiliate themselves with either position.

Wilson's idea of biophilia, broadly defined as a 'human need', is genetically based (Kahn, 1997: 1). However, biophilia should not be interpreted to mean only a *love* of nature (i.e., as *positive* only). Indeed, Kahn (1997) noted that there is a danger that the idea be taken literally to mean that every child should wish to affiliate with life and lifelike processes or that it should come naturally to all. Rather, the relationship can also be "unlikable and unfriendly, if not threatening and harmful" (Kahn 1997: 2).

Although there is a view that children are born with an innate disposition to interact with the natural world (Leibniz, in Jolley 2005), it has also been suggested that tendencies need to be supported through the provision of direct experience in order to be fully realised (Kant, in Louden 2006). This latter view implies that the provision of ARL is necessary to enable children to fulfil an innate drive. These two views comprise a popular, broad discourse that is referred to as the 'nature/nurture' debate. When applied to the topic of ARL this debate centres on the degree to which biology (nature) influences children's responses, behaviour, and learning and the extent to which culture (nurture) influences this process which has created a marked epistemological difference and disciplinary divide between the 'nature realists' and 'social constructionists' (Taylor, 2013: xvii), eliciting contrasting viewpoints. The child-animal relationship is investigated either for its biological/chemical or neurological determinants, or for how it is culturally produced (Taylor 2013: xvii). On the one hand, *developmental psychology* has taken the nature realist view about children's learning about animals as being a natural act, while, on the other hand, this view has been challenged by ideas rooted in *sociology* – that features of childhood are unnatural and arise from historically produced discourses, power relations, and political interventions (Hultqvist and Dahlberg 2001: 9).

An important philosopher who considered the interplay between nature and experience was Jean-Jacques Rousseau (1712–1728). Rousseau proposed that young children have a deep connection with the natural word but, over time, that connection is severed by society. Rousseau felt that, more often than not, adults educate nature *out of children* (Rousseau, in Bloom 1997). Rousseau's ideas have been central to the phenomenon under investigation in this study – the changing nature of ARL in ECE practice – and link to my own reflections (and the reflections of others) on the current system of educating young children in this country (England), for example, how education has become increasingly performance-driven (Garrett and Forrester, 2012; Lyotard, 1984) as the result of a rationalist approach to nature education (Taylor, 2013: 46), and the rise of standardised and technology-assisted learning as part of 'neo-liberalist productivity agendas' (Kahn and Kellert 2002; Sobel 2008; Tayor 2013). In

light of this shift, some scholars (for example, Louv, 2005; Sorbel, 2008) have argued that the outcome and shadow of these changes has been the decline in nature-orientated practice – a development that Rousseau forewarned in his writings in the 18th century. References back to the ideas of Rousseau are important as it establishes that ARE and nature-related themes are not necessarily new considerations. Revisiting Rousseau's particular ideas on liberalism and social justice can be a reminder about how nature and education are often forced apart (Rousseau, in Bloom 1997).

There have been other relevant challenges to modern educational ideologies and approaches to learning. From a developmental standpoint, it is argued that there is, in fact, little value to children being taught about complex animal themes before the age of seven, because their cognitive abilities are not developed enough to engage properly with ARL. According to Piaget (1928, 1952), once a child reaches seven years of age they experience a progressive reorganisation of mental processes and enter the 'concrete operational stage'. This more mature, adult-like mind is better equipped to make use of logic and inductive reasoning. Piaget postulated that entering this stage is characterised by a 'decentring' – a shift towards the ability to recognise and understand the perspective of another, and to modify one's own behaviour in response. From that developmental point onwards, children are better able to understand animal behaviour due to their improved ability to empathise, to appreciate animals' needs, and to recognise the importance of wider issues of conservation and ecology. However, Piaget also recognised the value of 'environmental experiences' in conjunction with children's 'biological maturation'. This suggests that the provision of environmental experiences (as ARL and AAL) during the 'sensori-motor' and 'pre-operational' stages of early childhood that occur prior to the concrete operational stage would not be inappropriate, but would rather be *foundational*. This view of ARL in ECE as a basis for future learning about animals and nature is also in line with Bruner's belief (1966) that very young children are capable of learning about complex ideas and issues, as long as the teaching is appropriate to their current cognitive skill level and level of understanding. Those conditions ignite two core ideas for this study: (1) that

ARL is not only appropriate, but also fundamental to later understanding and (2) that the skill of the EEP in pitching ARL appropriately is crucial.

The provision of ARL in early childhood as the foundation for later animal-related and nature-related education connects to the idea of the 'sensitive period' for learning and development. As Kellert (1997) stated, it could be that humans have a genetic predisposition towards nature, but experience during the sensitive period of childhood is necessary for sensitivity and attunement to actualise. ARL and AAL introduced in ECE, therefore, may provide the opportunity for children to become sensitive and attuned to animals and animal-related themes. Kellert (1996) also suggested that in the adolescent phase there is a sharp increase in abstract and conceptual reasoning about the natural world. And so, from the teenage years on, children are more able to act independently with a new level of empathy, morality, and rationality that facilitates more intuitive interactions, which are beneficial to both the child and the animal. Therefore, for younger children, perhaps, it is the *type* of opportunities for ARL and AAL that needs to be addressed, ensuring that they are developmentally appropriate and distinct from those provided in later childhood (when the child's knowledge and understanding of the world is more refined). This is not to say that there is a particular 'sensitive period' in early childhood when the individual is predisposed to developing understanding and skills – i.e., a 'window of opportunity' (Bateson, 1978), but rather that the early provision of experience may facilitate responsiveness and engagement with ARL that the EEPs can harness and extend by accompanying the child during the learning experience. Thus, the EEP should offer meaning-making opportunities in a way that is focussed on initiating (provoking) rather than establishing fully a connection to nature and living things.

2.2 Early learning about animals and nature-related themes

2.2.1 Nature-related theories and methodologies

Ideas and thinking about ARL are interconnected with contemporary and historic nature/natural education philosophies in ECE. In this section, I explain

how ARL is, in fact, not a new idea in ECE, but one that has been well-established in the EC theoretical tradition in different ways, with signs and indicators of this embedded in the narratives and some methodologies of EEPs and their practice. In effect, the EEPs' ways of interpreting ECE translates into pedagogy and various forms of practice, including ARL.

In ECE, there have been varying conceptions of childhood, including idealised or 'Romantic' notions and scientific ideas. Rousseau's philosophy has been strongly linked to the topic of ARL through his perception of nature *as* education (Rousseau, 1979). Rousseau held nature in high esteem, always writing 'Nature' with a capital letter. He saw nature as being embodied and innate within the child – something to be protected from 'man' (by which Rousseau means others in society) until the child reaches at least 12 years of age (Rousseau, 1979). Thus, the role of the practitioner should be to protect the 'primitive dispositions' (Rousseau, 1979) and allow the child to freely observe and explore, rather than to overly structure or plan activities. Rousseau (1979) believed that the purpose of early education was to allow the child to move towards adult rationality and reasoning in their own time. According to Rousseau, if the child is not rushed in this process, he or she will learn more rapidly, strongly, and in a more robust way. Through this method, he postulated, the more sensible and judicious children would be "able to reach their full potential as autonomous adults capable of participating in [his] vision of the good society" (Rousseau, in UNESCO, 2012: 20). In light of this reasoning, Rousseau would probably see AAL, as with nature learning in general, as a prerequisite for subsequent lessons on the topic (Rousseau, 1979). His stipulation that adults not interfere in learning also implies that EEPs should let children play freely with animals. His hypothesis was that free play is 'better' than anything 'man' could construct for the child – part of his concept of 'negative education' (Rousseau, 1979) which is how others only bring a negative outcome to children's thinking – and less adult involvement is more advantageous for the child.

Rousseau also perceived that experiences with material objects, rather than with representations, are essential for a 'natural education', as a means for humans to

remain in tune with their innate drives and inherent nature. He supposed that the outcome of a natural education would be synchrony and harmony (well-being) for the individual due to the presence and alignment of all 'three teachers' (nature, things, and 'man'). Being so clearly focussed on "natural things for a natural education" (Rousseau, 1979: 2), Rousseau dismissed disseminations from the educator as being unnatural. For Rousseau, therefore, interactions with animals as first-hand educational experience for concept building would be seen as a fundamental part of childhood. Substituting that real experience with a representation would be unnatural and jeopardise the synchrony and harmony of the child.

Johann Heinrich Pestalozzi (1746–1827) held similar Romantic beliefs as Rousseau in terms of early education and the 'goodness' and 'truth' of nature (Taylor, 2013). Pestalozzi felt that education (its systems and processes) should be respectful of the child and his or her innate nature in much the same way as Rousseau felt it should be protected – as the 'truth' of nature. Pestalozzi suggested that conflict and controversy, in particular, were important aspects of learning. He believed that these aspects should be continuously experienced and continuously resolved in naturally occurring contexts as a bespoke act of teaching "in practical situations and vicissitudes of daily life" (Soëtard, 1994: 8). Pestalozzi's view suggests that the potential conflicts arising from ARL are, in fact, valuable in themselves and should feature in children's educational experiences. Some EEPs may associate this notion with the idea of 'provocation', which is a feature of ECE practice that aims at getting children thinking or theorising (Pace, 2014). The question of whether EEPs will be able to embrace the conflicts and provocations associated with animal-related themes, in particular, remains to be seen.

Friedrich Fröebel (1782–1852) also explored the idea of nature education through his 'method of nature' and his idea of educating young children through his 'kindergartens' (children's gardens). His focus aligned with Rousseau's and Pestalozzi's conception of 'truth' in nature and belief in the natural form as perfection. Fröebel's ideas were inspired by his religious beliefs and spiritual philosophy of 'unity' (interconnectedness). He believed that children's

relationship to nature was much closer to his ideal of 'unity' than that of adults (a view similar to Rousseau's). Parallels can also be drawn between Fröebel's philosophy and Wilson's (1984) idea of biophilia as an innate drive to recognise and care for other living things.

In his 'laws of nature', Fröebel saw a constant between the growth of natural things (e.g., plant and animal growth, and crystal formation) and the growth and development of a child. Along with this metaphorical view, he focussed on the physical space for cultivating the nature of the child in EC. Fröebel provided detailed instructions for attaining order in the educational environment so as to reflect the rhythms and patterns of nature because he believed that by bringing order to their lives, children and adults could develop enduring habits for social and civic responsibility. Fröebel felt that children learn best by observing the order and patterns of nature (Athey, 1990), which provides a model for intuitive behaviour and connectedness. Individual responsibility can be encouraged (Tovey, 2012) as children (and adults) gain experience of these patterns and become connected with others (including animals), for example, by looking after an animal or participating in a 'common garden' or space. For Fröebel, such experiences give children a deeper understanding of the different parts that make up the whole and the 'unity of all life' (Taylor, 2013). Fröebel believed that children's clear knowledge of nature, and of themselves, is possible even in very early childhood, even before language and articulation are achieved. As he argued, "The child attains a clear knowledge of nature and of himself, though he cannot yet express it in word" (Fröebel, 1912: 198). According to his sense of spirituality and sense of a deity (God), Fröebel defined children's 'special relationship' with nature as a religious communion through which they could draw closer to a Creator (Lee, Evans and Jackson, 1994). While my research study does not have an explicitly or intentionally religious emphasis, Fröebel's ideas are considered here as a quasi-spiritual explanation of the ideas of children's connection and unity with animals as a moral and cultural, rather than religious, focus.

The ideas of John Dewey (1859–1952) had an essence of Rousseau's philosophy in terms of his view of learning associated with natural things but

also quite different notions for education. Dewey saw learning as something that needed to be related to 'real life' and first-hand, rather than abstract and decontextualised experiences (Fishman and McCarthy, 1998). According to Dewey, it would be "impossible to procure knowledge without the use of 'objects' which impress the mind" (2009: 218). However, in contrast to Rousseau, who saw adult-led activity as detrimental to a child's education, Dewey believed that the educator was in a position to create optimal learning conditions through planning and providing first-hand educational opportunities. Applying Dewey's views to ARL, the provision of first-hand experiences with real animals and objects can capture the attention of the child and make an impression on the mind. As a form of experiential learning, AAL opportunities can offer tangible and engaging first-hand experiences that support development.

At the beginning of the twentieth century, there was a move towards rationality, and children being "inducted into rationality by being taught *about* nature" (Taylor, 2003: 43). As a result, early learning about animals and nature became more of a theme of education, rather than *as* education itself. Children became, as Rousseau prophesised, rushed by 'man'. Alternative pedagogies with roots in nature did, however, continue in some cases – notably advocated by Rudolf Steiner (1861–1925) and Maria Montessori (1870–1952).

Steiner was influenced by Fröebel, particularly in terms of his environmental design and use of nature-focussed materials. Like Fröebel, Steiner saw an association between nature and spirituality. In his lecture "Animal, Soul and Human Individuality" (Steiner, 1907), Steiner explained his musings on the differences between the human soul and the soul of other animals. He felt that such personal ponderings and noticing of nature is vital for children's learning. He viewed ECE as being about bringing children to nature and allowing children to see the beauty of animals (and plants) with awe and wonder (The Steiner Waldorf Schools Fellowship, 2009).

Montessori (1964), also influenced by Fröebel, advocated detailed and exact methods for natural observation and inquiry. Hers was a 'scientific pedagogy'

called the 'Montessori Method' (Montessori, 1912) which aligns with Dewey's scientific attitude towards the education of children and social progress (Dewey, 2009). Through Montessori's 'new education', children were encouraged to be scientific observers of natural phenomena. As with Fröebel and Steiner, Montessori adopted a spiritual view of early education and the 'natural truths' (similar to those described earlier by Rousseau) 'revealed' through her scientific method. Children were viewed as 'worshipers and interpreters of the spirit of nature' and educators (through their training as Montessori teachers) were taught to 'stand back and observe the learning' without 'obtrusive interference' (Montessori, 1912). In ECE, these ideas have been interpreted to mean that learning is not attributed to what the teacher gives (imparting facts about nature), but to what is revealed when children are given opportunities to see the 'natural truths'. Montessori outlined that EEPs should themselves undertake "long and patient exercises for the observation of nature" (1912: 11–12) in order to be able to lead children to investigate natural animal-related phenomena for themselves. Montessori also held a particular view about nature-related practices, stating, "We have been drawn into a false and narrow way, from which we must free ourselves, if we are to establish true and living methods for the training of future generations" (1912: 7). Montessori's message that EEPs should free themselves from such narrow approaches is of interest in this research study, particularly related to the question of whether EEPs are given the training and 'freedom' to support children in ARL.

According to Taylor (2013), in contemporary ECE, these early pioneers' notions about nature have been embedded in practice in various ways, notably in child-centred, experiential, and play-based learning. However, practice has become more focussed on teaching *about* nature, rather than promoting education that is *nature-based* (Taylor, 2013). It has been suggested by Taylor, 2013: 45) that pedagogical methods that allow children unity and reflection on nature's rules, patterns, forms, processes, and rhythms are "now largely a thing of the past". There are some notable exceptions – for example, Montessori and Waldorf schools. Indeed, scholars and practitioners have noticed an overall reduction in animal- and nature-related learning as an "object of study" and that technology has become "the ultimate source of information about nature"

(Taylor, 2013: 46). However, there are signs that Rousseau's 'methods of nature' is undergoing a resurgence, and there is a renewed interest in returning children to nature. This trend has been influenced by ideas in the research and academic communities (Taylor, 2013: 52) as evidenced by public awareness campaigns looking to influence policy (for example, the 'Leave No Child Inside' campaign in the United States) and funded research (for example, 'Natural Childhood' funded by The National Trust in the England) that have called for the establishment of more nature-based education for young children.

This renewed interest, in the form of campaigns, research, and literature, has provided a counter voice and an opposition to what formal education has become. This movement has emerged alongside the global concerns about the environment, and the international push for education policies to be focussed more on sustainability (UNESCO, 2012), and the recognition that no amount of representations of nature (whether scientific or technological) can substitute the child's direct experience of it (Sobel, 2008). First-hand experiences are needed to reengage children with the idea that they are a part of nature rather than an observer of it. In light of this need, Sobel (2008) asked schools to extend their role to enabling children to become 'environmental stewards'. Sobel, among others (for example, Chawla, 2009; Wilson 2008, 2011), argued that children become 'environmental stewards' not through teaching that is focussed on the delivery of facts about the environment, but through play in natural settings which has roots in Rousseau's ideas about nature as education. While the role of the early educator in overseeing and developing this stewardship has not yet been precisely defined, there has been a suggestion by Samuelsson and Kaga (2008) that children's attention to nature and sustainability themes should begin very early in life, so that children can develop basic values, attitudes, skills, behaviours, and habits for the future.

2.2.3 About the child's 'special' relationship to nature

Children often have ad hoc experiences with animals that occur both inside and outside of formal education settings (e.g., pets at home, zoos, farms, wildlife). It is through these encounters that children have opportunities to develop an

37

understanding about animal-related themes (for example, the treatment of animals, and animal welfare and conservation), as well as their own place as humans within the ecosystem (Melson, 2001). It is through naturally occurring situations, interactions, and pet ownership responsibility – contact that provides love, comfort, responsibility, and nurturance – that children can also gain educational benefits. This education also takes place through the 'teachable moments' that arise with natural education with the birth, death, and illness of animals (Melson, 2001) and an accompanying educator can facilitate timely discussions and model responses.

As described by ECE theorists (see section 3.2.1), a nature-rich childhood can fulfil a child's primal urge to connect with the natural world (Fromm, 1964) and is a prerequisite for later lessons on the topic (Rousseau, 2003). This aspect of childhood is one that aligns with the idea of the 'special relationship' in early childhood (Kahn 1999; Kahn and Kellert 2002; Sobel 2008) – that being able to spend time in the presence of an animal is a 'special' experience and so should be valued.

The idea of 'awe' and 'wonder' relating to children's experiences with animals is of particular importance when rationalising ARL. This sense of awe and wonder has been described as 'magical' (Chawla, 1990; Warden, 2010) and capable of igniting a cognitive and emotional resonance that stays with children (Taylor, 2013). However, this view is one that has derived from the distinct perspective of the 'Romantic' nature education advocates who, according to Taylor (2013: 50), are passionate supporters likely to "bemoan the loss of these experiences". Yet, alongside these Romantic and passionate views of children and nature, scientific explanations from neuroscience with respect to this 'special relationship' have emerged. Researchers have begun to investigate early attention to animals in order to discover whether children show a preference for animals above other non-biological stimuli (McCardle et al., 2011). For example, Simion, Reoin, and Buff (2008) studied the attention of newborn babies to a moving hen versus other non-biological random movements. They found that different infants showed a preference for the hen, indicating an innate propensity to pay greater attention to animals than to

inanimate, non-biological objects. Only when a real animal was present was this preference identified. The findings provide an argument for AAL that, seeing as young children pay particular attention for live animals, practitioners may see live animals as being more valuable for capturing attention than inanimate, non-living resources.

The biological basis for 'awe and wonder' and its behavioural characteristic of biased attention towards animals have been explained as evolutionary mechanisms to facilitate survival. In effect, such mechanisms enable the rapid detection and identification of predators, prey, and conspecifics (McCardle et al., 2011). McCardle et al. also postulated a second explanation for this preference for animals and natural things as an early manifestation of biophilia, which then acts as a scaffold (Bruner, 1978) for conceptual development, enabling humans to better affiliate with life and become concerned for the well-being of others and not just themselves.

2.3 Teaching young children about animals

Early theorists have suggested that there is a 'special relationship' with animals and nature that occasions awe, wonder, and the hypothesised attentional bias towards nature. Scholars have not yet captured the diversity of ARL and AAL practice that is occurring. As Melson (2001: 75) remarked,

> No-one even knows how frequently teachers furnish classrooms with living animals….and how they are used by teachers. The inclusion or omission of live animals as part of the learning environment seems particularly unremarked – the enthusiasm of some teachers …the indifference or even distaste by others.

Melson (2001) drew a clear distinction between the types of animal experiences provided beyond the classroom by third sector organisations (zoos, aquariums, and nature parks) and those provided in the classroom. She described a 1999 survey of teachers from 30 schools in the United States, which found that 59% of the classrooms had live animals. Another survey from South Africa that same year concluded that the 'majority' of classrooms contained animals.

Apart from those studies, Melson was unable to locate any other surveys investigating the presence of animals in classrooms or looking at ARE in practice. Interestingly, in the data from the South African study, Melson found that many teachers lacked knowledge about animal management and behaviour and were concerned about zoonotic disease. In the United States study, Melson identified that the teachers who did not have animals in their classrooms cited continuing care over the weekends, holidays, and the summer, 'sanitisation problems', and concern over liability related to animal bites or allergies as deterrents. However, these were studies that took place outside of England and a number of years ago. Comparable studies have not yet been conducted to assess the corresponding approaches or viewpoints in England or practices in ARE.

2.3.1 Sentience and connectedness to animals and nature

There has been a range of views related to animals as sentient beings (Hurn 2012) and whether non-human animals are self-conscious and what this might mean for ARL in ECE. These views have varied - from Kant's claim (1930: 239) that "animals are not self-conscious, and are there merely as a means to an end. That end is man" to a more compassionate and passionate view of animals as self-conscious and aware beings that think and feel and, as such, should be afforded similar rights as humans (i.e., freedom from 'inhuman' treatment or persecution). These contrasting views have been, according to Hurn (2012), shaped by culture. Therefore, people would seem to have a cultural responsibility to consider the implications of these views and how they shape behaviour.

Some views about animal sentience are connected to a scientific viewpoint and method that dictates that objective detachment makes for 'better science' (Hurn, 2012). This approach has resulted in a possible tension; 'detachment' (a detached view by humans towards animals) conflicts with beliefs about animals as sentient beings that are equally capable of consciousness and affective response. This dichotomy between the scientific view and beliefs about

sentience is problematic in ECE, in that it creates the potential for diverse behaviours and practices by EEPs when teaching young children about animals. Early educators who take a scientific view – who are detached or do not see animals as sentient beings – could choose to provide different experiences for children to those educators who espouse and advocate animal sentience, as a behavioural consequence of their way of viewing the topic, which could impede a love of animals by not supporting an affiliation with them.

In order to more fully explain the link between ideas of sentience and approaches to education, it is important to consider some of the concepts associated with how children develop a sense of 'self'. Milton (2005) suggested the concept of 'egomorphism' to explain how children connect to their own sense of self and become mindful of others and their environment. Egomorphism is a recognition of the mutuality between individuals (that transcends human and other distinctions between species), or intersubjective empathy. This type of identification with animals is about feeling connected, which Milton believed to be important for engaging with important local and global sustainability and ecological issues. Feeling connected ('joined up') is not a spontaneous occurrence, but the outcome of early experience through reciprocal interactions (Hinde, 1976). A reciprocal interaction is when a given action by one elicits a similar reaction from another (Hinde 1976). This type of reaction can sometimes occur when children imitate an observed model of behaviour (Bandura, 1977) and assimilate it as their own. Children who elicit or observe a positive response to animals or nature also react empathetically to nature-related stimuli.

Another concept explaining how children develop a sense of self is interaffectivity (when an emotion is shared and understood). Interaffectivity needs to be experienced and involves the child comparing an internalised feeling with that of another being towards the same event or theme (Strayer, 1987), i.e. occurring when a child recognises another person's reaction to be the same as theirs. This experience is also known as 'attuning to others' (Stern, 1985). For both reciprocal interaction and interaffectivity, the presence of

innate empathy is important, but it is the knowledge gained from experience that creates the sense of connection (Myers, 2007).

A third concept is the sharing of attention or 'interattentionality' – a concept that recognises that the attention paid by the self is different to that paid by others. Myers (2007) suggests that interattentionality arises from observing what others pay attention to. It is important to distinguish this concept from subjective sharing: shared attention (intersubjectivity) or shared emotion (interaffectivity). Myers (2007) argued that children are driven towards the experience of shared intention (attributing an intention to another and recognising that that intention aligns with one's own, and the act of aligning these). This theory aligns with a 'theory of mind', which is a complex, higher order social competency (Myers, 2007). Children are able to develop competency in relationships with humans and other animals in the process of developing a more refined sense of 'self' and competencies related to understanding and responding to the needs, wants, and desires of others.

Avis and Harris (1991) and Leslie (1991) have suggested that children have innate competencies for shared intention (reading gesture, intonation, and utterances) even before they can conceptualise and draw meaning. However, it is, as Stern (1985) elaborated, likely to be from 'sharable experience' that an understanding of the world is attained. Myers (2007) conceived that when children are able to share intention, it leads to them being able to interpret and predict their own actions, as well as the actions of others, and helps them to make sense of the social world. The development of the self with others and the experience of connectedness appear to be both innate and reliant on experience. As such, all children require opportunities to share attention, intention, and affect with others – with and about animals – in order to better interpret the outcome of their own actions and reciprocal relations, and to influence their empathic responses to animals and nature-related themes.

The ideas about personal identity, self-concept, sentience, and connectedness link to the idea of 'animalism', which is about being human, being part of nature, and understanding what it is to be one animal species among others.

Animalism also refers to the philosophical position that people are animals and that there is no demarcation between the two (Wiggins, 1967, 1980). Animalism is an opposite view to the one held by Locke (1975), who distinguished between people and animals, and also 'animality' (the differences between animals and humans). The distinction between these terms is important when considering ARL in EC, as the emphasis of each position impacts how ARL is carried out in practice.

2.3.2 Animism

A key concept in EC that is connected to this study is that of 'animism'. Animism is the idea that very young children perceive inanimate objects as being *alive* in the same way they do animate things. This perception can affect how children think and behave towards animals and people. Piaget (1929) suggested that the cognitive developmental shift young children undergo at the age of seven allows them to make sense of the living/non-living dualism. It is only at that point they can conceptualise animals (as well as humans) as sentient beings. Piaget believed that before that cognitive shift young children find it hard to think logically and make sense of the natural world because they do not have sufficient understanding of the ontological category 'living thing' and how it differs from non-living things (Kahn and Kellert, 2002). As a result, young children do not make distinctions between inanimate objects (for example, cars and clouds) and living things (such as dogs) and therefore it will have an impact on how they respond or interact with them. In their study, Laurendeau and Pinard (1962) were able to support and replicate the distinct differences Piaget identified between a young child's thinking and an adult's thinking about what is alive. However, others (e.g., Richards and Siegler, 1984) have argued that the explicit developmental shift discussed by Piaget is overestimated, and more recent investigations have revealed little evidence of childhood animism (Kahn and Kellert, 2002). Nevertheless, Piaget's ideas about animism have been influential in developmental psychology and anthrozoology and are often cited by scholars in these fields. At present, there is no agreement about whether ECE should include a model of teaching that would enable children to move

smoothly through the animism conceptual change, although Carey (1985) has suggested that children do need help to reason about animals.

As Kahn and Kellert (2002: 72) pointed out, "Urban children have relatively little interactive experience with a range of living things and little cultural support to see humans as one living thing among many." Kahn and Kellert argued that a 'salient exemplar' is required in order to enable this 'biological reasoning' (2002: 72). One example could be the curriculum guidance; the Statutory Framework for the Early Years Foundation Stage 2008 (Department for Children, Schools and Families, 2008 and Department for Education, 2012b) and the Primary National Curriculum (Department for Education and Employment/QCA, 1999 [*Note: There is a new Primary National Curriculum from September 2014*]). Animism is present in these documents through the reference to the living/non-living dualism, indicating that EEPs are directed to teach children about things that are living and what they need to stay alive. *How* EEPs should teach animism, however, is not made explicit. This study looks to investigate this issue further by exploring the curriculum guidance and EEPs' responses to it in more depth.

Prior to my project, there does not seem to have been a fuller consideration of EEPs' perspectives on animism. Therefore, it is difficult to establish from a review of the associated literature whether particular beliefs are influencing practice. In addition, there is no evidence as to whether EEPs believe that children are more likely to come to know and understand the differences between 'living' and 'non-living' things through early teaching or whether it is a viewed as a developmental issue. There are only theoretical ideas about pedagogies that enable children to understand these differences, and their power as individuals and their responsibility for their own actions with/for animals and in relation to other nature-related themes. Therefore, this study looks at how EEPs interpret their role and the types of teaching activities that they are providing in order to see if animism does indeed feature. One goal is to find out more about whether EEPs see value in teaching about animals in EC and/or have observed an impact from doing so.

2.3.3 Supporting children's explorations and knowledge construction

In order to further consider teaching about animals in ways other than bombarding children with age-inappropriate information (Sorbel, 1996), ideas about the social nature of learning need to be reviewed. Lev Vygotsky (1896–1934) was a main proponent of social learning theory who provided a perspective on learning that focussed particularly on the structuring of experience and the social context for children (Vygotsky, 1934). Vygotsky argued that development cannot be separated from its social context and he viewed learning as being more than merely providing a 'lesson'. Instead, Vygotsky saw the educator–child relationship as being valuable for the language that it generated, consolidating the child's thinking on the various themes. Vygotsky's ideas suggest that EEPs need to think more in terms of the relativity of the environment, the 'real' opportunities for providing language and discourse, and the meaning children take from the experience. In particular, Vygotsky's ideas suggest that there should be a specific focus on the interactions and language used during the learning process in order to support the thinking of the young child. In the case of ARL, this approach would extend to the language emerging from encounters with animals. Vygotsky believed that the language used for such learning should therefore be simple, but intellectually challenging (Vygotsky, 1938).

Vygotsky also highlighted the value of the child acting as an apprentice when learning. This approach has also become known as 'guided participation' (Rogoff, 1990) in which more experienced individuals support the child's learning and development. In terms of ARL, guided participation helps to balance the educator's desire to keep the child safe around animals, while permitting the required level of independence necessary for the child to attain competence. Therefore, the role of educator is to tailor situations and experiences within the child's 'zone of proximal development' (the zone between where the child's skill level is and where it could be under adult guidance) (Vygotsky, 1978).

According to Jerome Bruner (1915–), children construct *their own* knowledge and meaning through exploration (Bruner, 1966). As a result, children will gain a fuller understanding of animals through opportunities to observe, to become aware, and to learn in animal- and nature-rich environments. By being part of those rich environments, gaining knowledge about behaviour and behavioural cues, children can learn to read the signs and signals given by animals (particularly the indicators of fear-driven aggression) and to respond appropriately. This knowledge then becomes a protective element for children, enabling them to keep *themselves* safe around animals. In turn, this knowledge could reduce the need for overly protective risk reduction for AAL in ECE. However, providing a child with first-hand opportunities in animal-rich environments alone will not guarantee the development of that knowledge and meaning-making, but will condition a transactional and reciprocal relationship between the educator, child and animal (Kahn and Kellert, 2002) that can support the child to develop his or her own understanding. Thus, it is the adult intervention that increases the chance of the child reaching his or her potential (Bruner, 1978). In exploring these notions about encounters and guidance for ARL, this study focusses on whether EEPs are providing animal-rich contexts and tailoring the EC environment for ARE and whether ARL is being used as a protective factor for keeping children safe around animals.

2.4 The use of animals as a tool for learning and development

Whether teaching children 'lessons' about animals as distance learning or structuring experiences for ARL, there may come a time when direct, first-hand opportunities may be appropriate. Academic research, however, has not explored whether EEPs do provide first-hand opportunities, under what circumstances and why. One exception has been Herzog (2010), who suggested that the full spectrum of perspectives associated with the human relationship with animals is related to how a person views the 'use' of animals. For example, if an EEP chooses to keep live animals in the setting in order to facilitate an understanding of the animals' specific needs, this would foster an appropriate attitude towards animals (Jensen and Toates, 1993) and ignite a lifelong love of animals and an affiliation to them. Other EEPs, however, might

see the animal that is assisting in the learning process as merely an object or 'tool' for this activity. Therefore, the idea of using animals in this way could conflict with the moral views of some EEPs, who might argue that this 'objectification' by and for children (Parish-Plass, 2013) violates animal rights (Bekoff and Meaney, 1998).

Susan Isaacs (1885–1948) was an early childhood educator who advocated a natural education, but was clear on her standpoint that an animal should not be "an object of power and possession" (1966: 166). Rather, an animal should be treated as "an independent creature to be learned about, watched and known for its own sake" (1966: 166). Isaacs saw the 'use of animals' for learning purposes as valid and acceptable only if it is about observation and not about interfering with the animal's activity. Isaacs stressed that there is an important demarcation between the 'use' of animals (with manipulation and control of their behaviour) and 'ownership' of animals (custodial responsibility) for the purpose of education.

One of the main objections EEPs may have for using animals in ECE is the potential for animals to be treated cruelly (by practitioners or children) or be stressed by being an object of study or attention. It is a moral issue related to 'speciesism' (Ryder, 1989), which is a bias in favour of the interests of one's own species against those of other species (in this case humans against other animals) (Singer, 1975). This bias is associated with the values of individuals and their actions. Some EEPs may have a particular bias towards their own interests as humans, which will cause them to prioritise human over animal needs, whereas other EEPs may object to the use of animals based on their desire to protect the rights of animals as a sentient beings, and the different attitudes could lead to different behaviour towards animals and ARL.

DeGrazia (1996) explained that there are different perspectives regarding the ethical treatment of animals by humans and a moral hierarchy; at the top of the hierarchy are sentient organisms who are aware of their own existence and would prefer to continue existing; below them are sentient organisms that are not self-aware and do not have any desire to continue existing; below them are

inanimate objects and insentient organisms. Although this model of thinking provides a useful discussion point, it does not account for situations where a 'trivial' endeavor by the higher animal actually carries greater consequences for the lower animal with the lower animal being affected by affected in this subservient role.

In the United Kingdom, legislation has provided a framework outlining human responsibility for non-human animals that are often in this position and beholden to the endeavors of human. In effect, the Animal Welfare Act 2006 acts as a cultural frame for the perceived appropriate treatment of animals. Contravention of the Act will result in a punishment or penalty to the individual concerned.

2.4.1 Animal Welfare Act 2006

In the Act, an animal is defined as a "vertebrate other than man" (1.1) that is "capable of experiencing pain or suffering" (1.4). The Act focusses on the 'protected' animal (commonly domesticated in the British Islands, under the control of people whether on a permanent or temporary basis) and the responsibility citizens have for those animals (including ownership, being in charge of an animal, or being responsible for a child under 16 years who has care and control of an animal). The Act makes explicit when an offence has been committed – for example, harming or failing to secure the welfare of an animal – and includes a code of practice. The Act also makes clear the legal powers of the constabulary when an offence appears to have been committed. What the Act means for EEPs is that they have a compulsory duty of care, and as the responsible adult in their setting, they must ensure that they take reasonable steps to meet the legal requirements of the Act. Otherwise, they could commit an offence and be subject to legal prosecution with possible punishment or penalty.

2.4.2 The 'Five Freedoms' framework

Prior to the Animal Welfare Act, the UK government commissioned an investigation led by Professor Brambell into the welfare of animals kept under intensive farming systems. In the report of this study, the recommendation was that animals should have the freedom to stand up, lie down, turn around, groom themselves, and stretch their limbs (Rogers Brambell, 1965). The Farm Animal Welfare Council has now developed these recommendations into the 'Five Freedoms' framework for evaluating the treatment of animals by humans. These Five Freedoms centre on the human obligation to ensure that the animals they keep or oversee are free to express 'normal' behaviour (for that species) and are free from hunger/thirst, discomfort/pain, injury/disease, and fear/distress. The Five Freedoms are generally accepted and well-known in farming, policy making, and academic circles (McCullock 2012). For EEPs, it will allow them to rationalise their decisions about whether they are able to keep animals in their education setting in light of the related legal and moral considerations.

As an extension of the Five Freedoms approach, Grandin and Johnson (2009) suggested a pragmatic stance – that any activity involving animals that does not stimulate rage, fear, and panic for the animal is acceptable. Furthermore, if the education activity stimulates 'seeking' (interest) or play in the animal, then it should be positively encouraged. Knowledge of the Five Freedoms can be an act of empowerment for EEPs who wish to engage with AAL as part of ARL but are concerned about the legal and moral issues. Having this more basic frame of reference simplifies the information allowing more equality of access to the necessary moral argument, which can then empower EEPs freedom to choose if they would like to develop AAL and the manner in which they plan for ARL.

2.5 Animals as social /emotional facilitators

Kahn and Kellert (2002) argued that animals act as 'social lubricants', enabling more positive social perceptions and facilitating social encounters. Studies have demonstrated that when children are accompanied by an animal, they talk more freely (Levinson, 1969) and have increased social interactions with others (Mader, Hart and Bergin, 1989). This builds their capacity for relating to others

on an emotional level (Levinson, 1972). Since the education of young children is as much about developing social and emotional skills and well-being as it is about developing cognition, the value of the animal as a social/emotional facilitator needs to be acknowledged. A link has been suggested between children's socio-emotional competence and initial success at school (Raver, 2002) and their later learning and academic performance (Zins et al., 2004). Therefore, it could be argued that using animals as a social lubricant could have a positive influence on a child's learning and attainment.

2.5.1 Attachment

Developmental theorists have proposed an important 'attachment' model for socio-emotional development and in this section it is discussed what this means for a child. Initially, it was Bowlby (1969) who identified the predisposition of people to 'attach'. The theoretical principle of attachment is that, once established, it provides a protective factor against fear and insecurity (Bowlby 1980). Bowlby saw this attachment manifest itself in terms of the maternal attachment figure (mother) in a child's life. Now, however, the idea has been generalised to mean any bond, tie, or relationship to a figure in the child's experience (Malekpour, 2007). Attachment is also used to refer to a sense of connectedness or 'relatedness' (Furrer and Skinner, 2003), which can take a range of forms (including alive or not living). Applying this idea to AAL in ECE, children could gain an opportunity to build meaningful, satisfying connections or relationships, whether or not an earlier attachment has been formed with a person or something else. Providing conditions that foster a child's connectedness to animals and nature has also been found to mitigate the risk factors for social psychopathy (Gullone, 2012) and also animal abuse (Agnew, 1998).

Being around animals is considered to be a natural experience and part of being human (Wilson, 1984). Children are fascinated by the behaviour and characteristics of animals, as demonstrated in the "finely attuned sensitivities to qualities of animals that children display" (Myers, 2007: 4). Newborn infants

often elicit the attention of animals, and the interactions between animals and children often transcend species boundaries (Myers, 2007). These tendencies suggest that a bond or attachment can likely be formed between children and animals in much the same way as between humans and other humans. In studying the interactions between babies and animals, Kidd and Kidd (1987) observed that children can relate to animals in the same way as they do humans. Moreover, Kidd and Kidd reported that young children exhibit more proximity-seeking and 'contact-promoting' behaviours in the presence of real animals. EEPs could make use of children's fascination, sensitivity, proximity-seeking behaviour to enhance socio-emotional development. In the course of my study, I have focussed on whether practitioners are interpreting AAL in this way or whether these ideas are informing practice.

2.5.2 Therapeutic interactions

Another way that EEPs can employ AAL is in the development of attention (Kahn and Kellert, 2002) – a key component for regulating learning (Rosenthal and Allen, 1978). EEPs can encourage the development of attention by taking advantage of the power of animals to hold children's attention (Myers, 2007). Indeed, AAL provides opportunities for sustained attention that allow the child to practice concentrating on tasks and promote the 'neural wiring process' for attention (Gopnik, Melzoff and Kuhl, 1999). Such exercises could be of particular benefit to children who find it difficult to maintain attention.

ARL has also been found to lower levels of arousal in children (Kahn and Kellert, 2002). Therefore, ECE settings could integrate AAL as a calming presence and introduce animal-induced relaxation (Melson, 2001). Such strategies could produce positive physiological and psychological effects (Nagergost et al., 1997). However, the practitioner must also be mindful that for children who have a fear or dislike of animals, such activities could conversely increase distress (Friedman, in Fine 2010) and have detrimental effects on learning.

Recently, there has also been emerging evidence to suggest that AAL is particularly effective in addressing the specific needs of individuals. For example, therapeutic benefits with a secondary impact on learning have been reported for children with Pervasive Developmental Disorder (Martin and Farnum, 2002), Autism (Redefer and Goodman, 1989), speech-language disorders (Macauley, 2006), antisocial behaviour (Ascione, 1993) and emotional difficulties (Barker and Dawson, 1998). Here, a distinction needs to be made between EEPs who are overseeing opportunities in ECE settings and the *qualified therapists* who make use of animals as tools in their therapeutic work with clients. These are two distinct ways of providing animal-assisted experiences, which should not be confused with each other. EEPs who incorporate animals into their settings for their therapeutic effects are doing so not as professional therapists, but as educators. The use of animals in this context should not be misconstrued as intervention or therapy.

2.6 Animal assistance in ECE settings

In ECE settings, the educator is often given assistance in teaching and learning activities. A teaching assistant (also referred to as a learning support assistant) is a person who is employed for this supportive role. But, this role could also extend to animals as they have the potential to provide support in the setting in particular ways: early academic support (for example, literacy or creativity), emotional support, or as a motivational tool. An observational study by Myers (1998) revealed that animals in school classrooms stimulate language, sense of self, connection with others, imagination, and play. Scott, Haseman, and Hammetter (2005) studied classroom visits by dogs as part of a 'Dogs in Education Assisting with Literacy (DEAL)' programme. Scott et al. reported that listening, reading, and writing skills improved and, in particular, language skills (such as articulation of words) were enhanced among participants. The researchers also described emotional outcomes, including increased confidence, expression of emotion, integration of children with poor social skills with their peers, and overcoming fear of dogs and other animals. Mayers (2000) argued that such outcomes were explicitly due to the nature of animals, which enabled children who were normally anxious about learning tasks to express themselves

and perform better on tasks. It has been suggested by Freisen (2010) that this it because children tend to perceive animals as non-judgemental participants outside of the complications and expectations of human relationships. There have been few published studies regarding the educational outcomes associated with the presence of animals in education settings (Elms et al., 2014), and there are no known studies related to ECE settings specifically. In order to begin to address this research gap, this study explores whether EEPs can contribute narrative examples of animal assistance and the impact of such activities.

There needs to be attention drawn to another type of assistance that animals may provide in ECE settings. Animals are also used for supporting individual children with medical conditions in the education setting where animals can be a means for providing access to and inclusion in a mainstream education. Such animals (typically dogs) are given the particular task of alerting an educator to unfolding/emerging issues regarding the child's health, for example, in predicting the occurrence of seizures or identifying drops in blood sugar (Serpell and McCune, 2012). These specially selected and trained animals are mainly referred to as 'medical assistance animals' (sometimes shortened to 'assistance animals'), 'medical alert animals', or 'service animals'. The role of these animals is not centred on learning, but on monitoring the health needs of individual children within education settings. The use of such animals is being trialled in settings – for example, with dogs accompanying children to nursery or school, as in the case of Shirley, the Labrador dog, who accompanies a child to her primary school in Northamptonshire in order to monitor her diabetes (The Telegraph, 2011) - and referred to in literature (for example, the 'Young Epilepsy' organisation's Primary School Teachers' Guide, 2012).

Support or service animals can be integrated into ECE settings for academic, emotional, motivational, or health/well-being reasons, but the presence of the animals can contribute to the context as a whole as a 'community asset' (Levinson, 1972). This research project looks at the views of EEPs regarding the various uses of animals (therapeutic, medical alert, learning support, or community asset) and whether these align or conflict with their broader perspectives on animals and ARL.

2.7 Factors affecting practices

So far in this chapter, I have considered the features of ARL in theory and practice, but I would also like to look at the factors that may contribute to or conflict with the status of ARL in ECE or that affect the attitudes and perspectives of EEPs towards ARL or AAL. In consulting the available literature, I identified some key issues regarding health, safety, risk, contemporary approaches to learning (use of technologies), intergenerational values, and the personal values held by EEPs. I will focus on these issues in the remaining sections of this chapter.

2.7.1 Health-related considerations

Although some studies have shown that there are health benefits associated with experiences involving animals – for example, the reduced risk of cardiovascular disease (Anderson, Reid and Jennings, 1992), the reduced use of general practitioner services (Parslow and Jorm, 2003), and the reduced risk of asthma and allergic rhinitis in children who were exposed to allergens from animals at an early age (Nafsted et al., 2001; Ownby, Johnson and Peterson, 2002) – there are still concerns about potential health issues associated with animal experiences. Fear of 'zoonoses' (animal to human transferrable diseases) is one of the most common arguments against implementing animal-assisted programs (Morrison, 2007). Zoonoses are defined as diseases and infections (bacterium, virus, fungus, parasite, or other communicable agent) that are naturally transmitted between vertebrate animals and humans (World Health Organisation, 2014). In England, the responsibility for providing information about zoonotic diagnosis and management lies with the Department of Health and a list of zoonotic diseases and how they are transmitted to humans is available (Public Health England, 2015). For EEPs, a particular concern would be that a number of zoonotic diseases are 'notifiable' or 'reportable'. As the Animal Health Act outlines, "Any person having in their possession or under their charge an animal affected or suspected of having one of these [notifiable] diseases must, with all practicable speed, notify that fact to a police constable"

(1981: Section 15(1)). As stated by the International Association of Human–Animal Interaction Organisations (2014) zoonotic diseases are not uncommon, but are preventable with appropriate knowledge and strategies, for example, through routine health evaluations and screening of animals and through exempting persons who are immune-suppressed or have species-specific allergies. Whether EEPs are aware of such strategies or whether they would simply prefer to avoid the potential for zoonoses has been explored within this research study.

2.7.2 Safety-related considerations

Within EE settings safety considerations are paramount. Managers and providers of ECE say that their aims are to minimise or eliminate risks as their duty to ensure safe and suitable environment (Ball, Gill and Spielgal, 2013). The Statutory Framework for the Early Years Foundation Stage (EYFS) (DfE, 2012b) also outlines legislation and welfare requirements, and makes explicit the requirement to ensure the safety of children. Any safety concerns or non-compliance are investigated by the government Office for Standards in Education (OFSTED) (Office for Standards in Education, 2015) who may issue a welfare requirements notice or judge that an offence has been committed. Such an outcome would have a negative impact on the registered setting and/or individual involved. Therefore, ensuring safety in EE settings is of utmost importance to EEPs, and it is likely that a choice will be made to either reduce or omit ARL (and AAL in particular) if an EEP or setting manager determines that the risks to safety outweigh the benefits.

Gill (2010) observed that England has become a more safety-obsessed, risk-averse culture – a development that is reflected in education practices. However, Ball, Gill and Spiegal (2012) have called for acceptable 'good risks and hazards' (activities that engage and challenge children and support their growth, learning, and development) to be reintroduced into children's EE experiences. Ball, Gill and Spiegal (2012) have argued that opportunities to learn how to handle risk are a crucial part of preparing children for adult life.

Although they continued to view 'bad risks and hazards' (those difficult or impossible for children to assess for themselves and with no obvious benefits) as unacceptable and, if possible, to be prevented. ARL/AAL could fall into the 'good risks and hazards' category if the benefits are clearly defined and children are able to assess for themselves the impact and consequences of their actions with/about animals in order to prevent injury. However, EEPs could still view ARL/AAL as a 'bad risk' if they do not subscribe to the ideas described earlier in the chapter about young children learning, about and with, animals. This study looks at EEPs' views about ARL and young children's interest, engagement, and abilities with respect to animals and explores their conceptualisation of risk.

2.7.3 Distance learning through technology

As considered earlier in the chapter, Rousseau hypothesised that natural childhood is continually threatened by the emerging priorities of 'man', and in the modern age this would appear to relate to modern technology. Sobel (2008) suggested that there has been a significant upsurge in children's virtual engagement, and Kellert (1997: 140) expressed his concerns that such representations cannot substitute for direct experience: "Nature is intrinsically and qualitatively different …no matter how well simulated, technologically sophisticated, or 'virtual' these manufactured representation may be." Technology, for example gaming and online social media, is said by Taylor (2013) to be capturing the attention, awe, and wonder that children should have for first-hand experiences with animals and nature. Ginsberg et al. (2000) state that children are said to spend, on average, nearly 30 hours a week staring at a television or computer screen, listening to something through headphones, and/or using cell phones or media players.

Children are also becoming 'digital scholars' (Weller, 2011) who prefer a technological approach to learning rather than having direct experiences. Moss (2012) has blamed the technological age for 'robbing children' of natural experiences by being an addictive force, or 'visual voodoo' (Sigman, 2007).

Technology is drawing children away from animals and nature, even though children would prefer to spend more time with them (Moss 2012). Television imagery and other screen-related experience is particularly hypnotic, and to Sigman (2007), this is an unacknowledged public health issue of our time. Louv (2008) has blamed the contemporary world for alienating children from nature and real experiences with animals, which is occurring in spite of adults themselves recalling their own natural childhood experiences with affection.

Louv (2008) targeted the education setting as being an 'antidote' to the high level of 'unnatural' experiences in the contemporary world. Sobel (2008) also suggested that education settings are the best place to tackle emerging 'ecophobia' (the dislike and distancing from nature). It is first-hand sensory experience, according to Rolston (1997), which can 'ground' children in what it means to be in harmony with nature and to know nature and animals for real, as was introduced and advocated by pioneer theorists years ago. EEPs, therefore, could be obligated to promote natural childhood experience and reconnecting children with awe and wonder through direct experience. Finding out whether EEPs have knowledge of this contemporary discourse and whether they are compelled to play a part is also a focus of this research study.

2.7.4 Digital pets

Also capturing the attention, awe, and wonder that children have for first-hand experiences with animals and nature are digital pets. Although some literature on the design of virtual pets is now emerging, very few academic papers have examined the benefits of interacting with one compared to a real one (Chesney and Lawson, 2007). Whilst the use of digital animals is 'great for the games industry' there is no accepted consensus about whether they provide the same positive effects of human-animal relationship (Chesney and Lawson, 2007). If a position is taken that there is a propensity to affiliate with nature and nature (as opined by Wilson, 1984) it will not necessarily lead to a rejection of the idea that virtual pets, for example, the 'Tamagotchi' (a game from 1996 created by Bandai that *represents* a pet) or the more visually realistic 'Nintendogs' (a

game that exhibits some real animal-like behaviours created in 2005 by Nintendo) could deliver some of the benefits associated with real animals (see section 2.3). However, digital pets will distract and detract from interactions with live animals and, thus, decrease the potential for children to be exposed to the nuances of real animal behaviour. Awareness of the nuances of animal behaviour allows children to learn to be sensitive to animals and to develop a positive affective response to animals, which is implicated in developing a connectedness to real animals, an affiliation to with them and an awareness of their sentience (see section 2.3.1). Also, because digital pets do not die, the attachment and engagement to them (although experienced) will be different to that arising from an experience with a real animal as, for most children, the affective response when a real animal is suffering, becomes ill or dies is a feature of being human.

2.7.5 Generational and intergenerational values

Kahn (2002) warned of the potential for 'environmental generational amnesia' – a technology-linked reduction and eventual 'forgetting of nature'. He suggested that this eventuality would make future generations inadequately prepared to respond to the environmental issues or natural crises to come. This issue of intergenerationality is related to the values and behavioural responses of humans in the present that have the potential to make a transgenerational impact. In effect, when children become parents, their experience and observations of models of behaviour could shape their own children in the next generation. It was Freud who believed that children are more likely to internalise values they have observed around them (Bocock, 2002). This means that children who have parents with positive, negative or passive perspectives on animals and nature may internalise these and transfer them to their children (and to their children's children, and so on). EEPs may acknowledge that, as part of their sphere of influence (and through awareness of Bronfenbrenner's Ecological Systems Theory, 1979), it is their responsibility as educators to be aware and intervene to prevent the perpetuation of negative values and beliefs. As professionals, EEPs could be expected to provide a broad and unbiased

perspective on the subject matter they are teaching (*Note: it is appreciated that this is a liberal position*). Nevertheless, it has not yet been established whether EEPs see intervention as their role or remit, and so this issue has been explored in this study.

2.7.6 Personal values of EEPs towards animals

How EEPs view animals varies significantly, and a personal standpoint can influence practice if no attempt is made to redress bias. Pedersen (2010) discussed this idea of a need for 'neutrality' of educators with regard to ARL as a means to avoid 'a potential indoctrination problem'. Pedersen suggested that educators should refrain from giving a personal view, at least until after a child's own experience has occurred. However, inferences and non-verbal messages can still be apparent, even if one's views are not made explicit and being able to withhold strongly held views and beliefs requires self-awareness and impulse control.

There is a potentially broad spectrum of personal values that EEPs may have in terms of ARL and AAL. At one end of this spectrum are those EEPs who view animal protection as equal to or above the needs of humans and have a strong desire to protect animals. If such beliefs extend to activism, an EEP will likely refuse to withhold or suspend personal values, because the key to activism is to be consciously and consistently active in promoting a cause as part of a principled approach. At the opposite end of the spectrum are those EEPs who prioritise their own (or humankind's) needs over the needs of animals. They, too, may find it difficult to suspend their values in a similar way to animal activists. It is clear that being able and willing to engage with and promote different points of view – or being unable to do so – could impact how the EEP will interpret and approach ARL and AAL.

The idea of neutrality, openness, and engagement with different points of view regarding animals is a liberal position (Fien, 1993). EEPs who hold liberal views believe that children should be taught about a range of values and how to

clarify their own standpoints (Pedersen, 2010). The degree to which this liberal position towards ARL is held by EEPs has not yet been explored. As the researcher in this study, I acknowledge my liberal position on the topic and, as a consequence, I am open and drawn to learning more about the various perspectives that other EEPs hold in order to explore how they influence the provision of ARL/AAL in ECE, and my overall objective is to disseminate what I have found to open up a space for debate.

2.7.7 Questions arising from the review of literature

From a review of the literature and relevant discourses considered within this chapter, it is apparent that there are various gaps in knowledge for the topic of anthrozoology in early childhood education. These gaps have led to particular questions that have guided the research process. Firstly, do early education practitioners currently offering meaning making opportunities to establish, as Wilson (1984) suggested, a connection to animals and other living things? If so, do practitioners see value in providing those opportunities and have they observed an impact? Also, as Montessori (1912) suggested, do early education practitioners have 'freedom' to support children to develop values, attitudes, skills, behaviours and habits related to animals so as to prepare them for the future? Secondly, do practitioners see, as Kahn (1999), Kahn and Kellert (2002) and Sobel (2008) did, that being able to spend time in the presence of an animal is a 'special' experience which should be valued? Thirdly, is there potential for bias towards practitioners' own interests as humans, i.e. 'speciesism' (Ryder, 1989), or, alternatively, towards animal rights activism?

Extending from Melson's (2001) research findings that many teachers lack knowledge, there is a case for also finding out about the knowledge practitioners have about animals, the understanding practitioners have about the various ways animals can be used to support learning, but also how this knowledge relates to their broader perspectives on ARL/AAL. From this, there are then two further questions; How aware are practitioners about zoonotic disease and strategies? Do safety concerns impact on the practitioner's choice to

include or omit AAL? From this, there are then two further questions; How aware are practitioners about zoonotic disease and strategies? Do safety concerns impact on the practitioner's choice to include or omit AAL?

Finally, from considering the contemporary developments in using technology for ARL, there is cause to warrant research into whether practitioners are likely to use distance learning and technology to teach about animals, and whether, as a consequence, there are any indicators of an impact, for example 'environmental generational amnesia' (Kahn, 2002) arising from a reduction of natural experience that could lead to an eventual 'forgetting of nature' in generations to come.

In the next chapter (Chapter Three -'Methodology') the study design and process are explained in more detail. As multiple inquiry methods have been employed, there is also a justification and an account of how my pragmatic stance has led to the decisions made within the inquiry process.

CHAPTER THREE

Methodology

This chapter looks at the methodology and multiple inquiry methods of this study. First, there will be a consideration of the assumptions underpinning the research, about pragmatism and about the use of mixed methods. Next, there will be an explanation of how my philosophical stance has informed my choice of methods for this research process. I will consider how the specific combination of research methods demonstrates theoretical coherence (the researcher's ways of seeing and social location), as well as a commitment to research eclecticism (Lincoln, 2001). Then, I will describe the main features of the study using a diagram and notation system in order to illustrate the sequential and concurrent strands in the multiphase design. Later in the chapter, I will explain the design and procedures related to each discrete element of the research project (referred to as *activities*) throughout the three phases of this multiphase mixed methods inquiry. I will also discuss the process of collecting and analysing the data in order to offer insight into my main considerations when researching and operating ethically in the field. Finally, I will consider the validity and rigour of my methodological approach.

3.1 Assumptions and methodological decisions

The goal of the research was to map the status of animal-assisted and animal-related learning in early childhood education (ECE) and to find out more about the attitudes and perspectives of early education practitioners (EEPs) regarding child–animal interactions and the human–animal bond.

This research project was a multiphase study (see Table 2.1).

TABLE 3.1 THE THREE PHASES OF THE RESEARCH INQUIRY		
Phase 1	**Phase 2**	**Phase 3**
An evaluation of the status of *animal-assisted* and *animal-related* learning in ECE	An inquiry into the attitudes and perspectives of early childhood educators regarding the human–animal interrelationship	The development of a framework to support ARL in early education

The research inquiry began with an exploratory project to consider how animal-related learning fits into the context of ECE. The study then transitioned into a confirmatory project that looked at the views of individual early childhood educators. Later, I incorporated the findings of the two earlier phases in an action-orientated research phase through which I developed and evaluated a framework of support for ARL to be accessed by early childhood educators. I was able to combine confirmatory, exploratory and action-orientated research at different stages of a single study because I was investigating the same underlying phenomenon (Leech and Onwuegbuzie, 2009) which was the changing nature of ARL in ECE practice.

After reviewing the dominant academic discourses (see Chapter Two) I found that studies of animal-related learning and the human–animal bond have tended to use positivistic frameworks of inquiry focussed on demonstrating a positive effect and impact (with case studies being the most common academic research method used).   I also noticed that, to date, there has not been a fuller mapping of the academic field from an interpretivistic perspective. My inquiry, thus, emerged from noticing this scholarly gap, and I have tackled what I perceive to be an uncharted field of research.

Over a four-year period I conducted 21 research activities for which I used multiple inquiry methods, including ethnography, surveys, grounded theory, case studies and action research (the full table of the research activities and tools appears in Chapter Three – in section 3.5). My decision to employ a broad

range of methods relates to my personal position on the nature of research. My ontological belief is that there are singular *and* multiple realities. I wanted the opportunity to capture these in various ways and using different methods is a way to do this. I also identify myself as a pragmatist**,** which means that I am drawn to a process of research that allows multiple ways of seeing, hearing and making sense of the social world (Greene, 2009). This 'multiple way of seeing' (Creswell, 2011) has allowed me to "uncover information and perspectives, increase corroboration of the data, and render less biased and more accurate conclusions" (Reams and Twale, 2008: 133).

3.2 About pragmatism

During this inquiry I have been influenced by the philosophy of pragmatism. Pragmatism began with the ideas of Charles Sanders Peirce (1839-1914) and William James (1842-1910) as a movement for the "glorification of action and usefulness" (Thayer, 1982: 11-12) that centred on 'knowledge' and 'truth' as being what is useful and of practical value (Dewey, 2009). In the study, I have taken Peirce's concept of the 'scientific method' of logical inference (Thayer, 1982) to draw meaning from different research activities for the phenomenon under investigation (the changing nature of ARL in ECE) and I have focussed on how the findings relate to 'real life' in a social and political context (Kincheloe and Berry, 2004).

Pragmatism has had a profound effect on the ways in which scientific and social research is conducted (Maxcy, 2003, p.75). Pragmatism allows the researcher to take account of the contexts within which the research questions are embedded (Creswell, 2014) and enables them to be curious and adaptable (Kuhn, 1962). The 'openness' of the pragmatic framework (Morgan, 2014, p.6) allows the researcher to remain flexible in the process of making inquiries, gathering information, entering into a dialogue and engaging with the emotional experiences of participants, all the while being aware of potential personal biases and the social and cultural contexts. For this research inquiry it was never my intention to gather facts only. Being a pragmatist has meant that I have been able to conduct my research in this open, flexible space as the lead

researcher, but still, at times, as a co-participant focussed on supporting others in their reflections within the research process. According to Rorty (1999: xxvi), pragmatist researchers also hold an 'antirepresentational view of knowledge'; they do not aim to accurately represent reality, but provide research outcomes that are useful and 'aim at utility' (Rorty, 1999: xxvi). As such, I am drawn to more practical ways of researching that 'mix' or 'blend' ways of investigating a phenomenon. I regard myself as being broadly orientated to 'what works' and to real world practice (Creswell and Plano Clark, 2011: 41).

I attribute my pragmatism to my earlier experiences as a novice researcher and the various opportunities I have had to engage with different research methods (as a psychology student, as an educational researcher and as a practitioner researcher). I have conducted research as a 'visitor' to the qualitative and quantitative paradigms for various research projects, but I have never felt attached to one in particular or duty-bound to adhere to one way of doing research. Through having a pragmatic stance I also did not have a preconceived idea at the start of the research process, nor did my supervisors or institution ask me to take a particular approach. Instead, once my initial research aims were set for this project, I decided to use a mixed method approach (Tashakkorie and Teddlie, 1998) as I saw its potential for shedding light on the topic better than either approach on its own (Creswell and Plano Clark, 2011). I have learned that this way of thinking is also shared by other researchers who support a mixing of methods as a *methodology*. It is not by chance that I have taken this approach for this inquiry; as Bryman (2008: 96) explains, "[it is] the philosophy of pragmatism that underpins much mixed methods research thinking".

3.3 The use of Mixed Methods

The mixed methods approach, called the 'third methodological movement' by Burke Johnson and Onwuegbuzie (2004: 1), has become popular among researchers (Plano Clark, 2010) developing its own basic vocabulary and techniques (Tashakkori and Teddlie, 2003). Mixed methods appears to have emerged in response to the "research audience's demands for multiple forms of

evidence, particularly in applied areas" (notably for policy makers and practitioners) (Creswell and Plano Clark, 2011: 21). Some researchers view mixed methods as a 'superior approach' (Bryman, 2008: 96), though I do not subscribe to this view. For this study, I have used mixed methods simply as a way to address distinctive research questions from an interdisciplinary perspective (Creswell and Plano Clark, 2011) and where questions can only be answered using mixed methods (Bryman, 2008). Rather than employing a 'universalistic discourse' (a view that mixed methods is generally superior), I have used a 'particularistic discourse' (an approach tailored to the research question it seeks to answer) for this study (Bryman, 2008: 96-97). My choice of approach for this thesis, therefore, has been task-driven and centred on the research questions, rather than the result of being a 'mixed method fan' (Bryman, 2008: 96) or from holding an allegiance to mixed methods (Burke Johnson, Onwuegbuzie and Turner, 2007). For future research, I remain open to the singular use of quantitative, qualitative or, equally, to mixed methods; the choice of method will depend upon the research question(s) and the nature of the inquiry.

After selecting a mixed methods design, I sought to become familiar with the advantages and challenges with respect to mixed methods. Jink (1979) has often been referred to as the first person to suggest that the strengths of using mixed methods offset the weaknesses of both quantitative and qualitative approaches in research, for example, combining the emergence of novel data, contextual understanding and more direct access to voices as a strength of the qualitative aspect and the unanticipated but potentially valuable insights and a stronger use of the objective lens when using a quantitative approach.

Bryman (2008), however, described some potential problems with mixed methods. Firstly, Bryman stated that the language of mixed methods is still limited. I agree with this point as I have, at times, struggled to find the language with which to explain the process and articulate the precise ways I have approached my research. Creswell (2011) has recommended that the mixed methods community work towards providing a much clearer definition of their terms. Secondly, there are very few prescriptive accounts and fewer exemplars from which to learn as compared to quantitative/qualitative studies

(Bryman, 2008). Also, Freshwater (2007: 137) has suggested that the mixed methods approach is "too focussed on fixing meaning" and that researchers should seek to "adopt a sense of incompleteness" (Freshwater, 2007: 138). Her suggestion was to avoid "3rd person writing, flatness, and allow for competing interpretations to coexist" (Freshwater, 2007: 138). I have tried to take these suggestions on board - both in the research process and in the prose of this document.

Mixed methods require the researcher to have a very broad skill set for data collection and analysis, and to be able to access and use a range of quantitative and qualitative techniques. In order to employ mixed methods effectively the researcher must "understand the essential principles of quantitative research— rigour, measurement, reliability, validity, experimental control and generalizability" (Creswell and Plano Clark, 2011: 13-14). At the same time, the researcher must be able to "identify the core phenomena of the study, pose meaning-orientated questions, consider participants as the expert and recognise persuasiveness" (Creswell and Plano Clark, 2011: 13-14). The researcher must also "be familiar with the semi-structured, open-ended interview and observation techniques for data collection and coding, along with the common validation strategies used in QUAL research" (Creswell and Plano Clark, 2011: 13-14). This is an extensive inventory of skills that I, as the mixed methods researcher in this inquiry, needed to develop prior to embarking on this mixed methods project and during the process. I was fully aware that using mixed methods was, as Creswell and Plano Clark (2011) highlighted, unlikely to be 'easy' (Creswell and Plano Clark, 2011: 17).

With these challenges in mind I have used the available literature on MM, predominantly the writings of Tashakkorie, Teddlie, Burke Johnson, Onwuegbuzie, Creswell, Plano Clark and Bryman as these scholars are generally considered to "have a strong knowledge and understanding of the complexities of mixed methods" (Burke Johnson, Onwuegbuzie and Turner, 2007: 119-121). However, Burke Johnson, Onwuegbuzie, and Turner (2007) also have suggested others whose definitions of mixed methods have made them 'leaders in the field' (Onwuegbuzie, and Turner, 2007: 119-121) - for

example Campbell and Fiske, Sieber and Patton - and so I wish to acknowledge these authors here too.

I share the view of Greene and Caracelli (1997) that we have moved past the paradigm debate, or 'paradigm wars', and should accept mixed methods as a distinct approach to research. I have not received formal instruction in mixed methods (I recognise that some courses for mixed methods have emerged in recent years). I chose instead to supplement my prior understanding of qualitative and quantitative research, gained through my undergraduate and graduate studies, by taking note of the different rationales and procedures appearing in published studies using mixed methods approaches (mainly within the Journal of Mixed Methods Research (JMMR) and the International Journal of Multiple Research Approaches (IJMRA)). Examining the established rationales and procedures has guided me towards developing my own competence in mixed methods research. I hope to submit papers arising from this thesis about the mixed methods approach taken for publication in JMMR, IJMRA (or other academic journals devoted to education studies, anthrozoology and higher education studies). Such exposure helps to "convince others of the utility of mixed methods" (Creswell and Plano Clark, 2011: 15).

3.4 Way of seeing and theoretical coherence

Prior to this study, I had already abandoned the naïve concept of reductionism, having accepted the complexity of the lived world. This position led to a broader rejection of monologic and ordered approaches to knowledge production, although I could not fully discard them because of my pragmatism. I have recognised that I take a dialogic view in the pursuit of knowledge, and my approach to research is largely 'human-centred, communication-centred, and relationship-focussed' (Arnett, 1992). As an outcome, I avoid research that is focussed on people as 'the object' of study. However, when my research is *about* an object, I often become conflicted as I then wish to adopt an objectivistic approach. However, as Denzin (1970) suggested, objectivism is difficult to achieve because the researcher is part of the process, and it is hard to say for sure that any field of research an ever be truly value-free.

I have established that I have a preference for engaging with open, organic inquiry processes (out of which can emerge numerous outcomes). For this study, I decided not to plan out my research strategies in advance, preferring instead to trust that the appropriate strategies would emerge. I fully understood the "complicated, mercurial, unpredictable and complex nature of organic inquiry" (Kincheloe and Berry, 2004: 4) and how relying on the organic development of the research strategy (with the associated limited foresight) meant that the process was going to be 'no easy task' (Kincheloe and Berry, 2004: 4). I did not have a precise picture of the scope of the research but I did have clear ideas about the research problem and phenomenon under investigation. I was mindful from the start that I would need to find a suitable junction in the process at a 'saturation point' (Sandelowski, 1995) and when, as Zimmer (2006) suggests, a deeper theoretical understanding of the phenomenon had been reached. I 'tinkered' (a term suggested by Levi-Strauss (1966)) over several years during this inquiry, using various research methods to collect data in order to answer my research questions. In an eclectic way, I used the "tools at hand rather than receiving the 'correct', transcultural, universally applicable methodologies" (Kincheloe, 2007: 950). This type of approach might feel uncomfortable for some researchers, but for me 'tinkering' is a valid strategy that aligns well with my pragmatic and flexible orientation towards knowledge production. Bricolage emerged as a framework for the research after reading in Denzin and Lincoln (2011) about the many methodological practices within mixed methods and how researchers can become a 'bricoleur', learning how to borrow from many different disciplines (Denzin and Lincoln, 2011: 3). This enlightenment (and identification as a bricoleur) occurred towards the end of Phase One of the inquiry.

In order to 'tinker' effectively, however, I needed an awareness of a wide range of research methods. I have gained this awareness through my prior experience (see Chapter One – 'Introduction'). Through my different research experiences, I have never affiliated myself with one methodological approach in particular, and as a consequence I have now been able to take on the role of 'methodological negotiator' (Kincheloe and Berry, 2004: 3), shifting easily

between different research activities and employing a variety of methods. This overarching perspective and experience has given me the courage to persevere when, at different points in the process of 'tinkering', I questioned my methodological choices and I was tempted to revert to a strictly monological and ordered approach for the sake of ease and simplicity. It could be argued that a narrower scope with fewer research activities could have led to a stronger focus, but I was confident that the bricolage approach would uncover new knowledge for a phenomenon where there was complexity and multiple ways of seeing in a power saturated context. To have reduced the study to 'less' would have potentially missed the new insights that I now have from doing 'more'.

3.5 The process of research in this study

Being comfortable with both qualitative and quantitative research methods, I have 'tinkered' (Lévi-Strauss, 1966) and explored the notion of bricolage (Lévi-Strauss, 1966; Denzin and Lincoln, 2000) which I use to explain the particular process of research for this study. For the purpose of this study, I define bricolage as a process of research which is deliberately eclectic and organic in nature. As described by Wibberley (2012), the process of bricolage is practical, creative and orientated to real world practice and, in particular, to 'what works'. Bricolage is a term also used to describe the field of research as in 'entering the bricolage' (Kincheloe and Berry, 2004) and the outcome of the research (the product arising from interpreting the pieces that becomes the whole (Denzin and Lincoln, 2011).

A range of metaphors that can be used to describe the bricolage approach: weaving, sewing, quilting, montage, and collage (Wibberley, 2012), which give descriptions that match the process I have undertaken in this study. I have, as Wibberley (2010) suggested, embraced bricolage as my approach to research, but also its duality as the consciously constructed product of the research design (Wibberley, 2012: 1-7).

As the bricoleur in this inquiry, I have made use of a variety of research tools and ways of seeing. I have produced a multiple method bricolage to form a biography

about animal-related teaching and learning in early childhood education settings, which is made up of various strands: research journal narratives, scholarly literature, statutory curriculum guidance, surveys, dialogue and discourse between researcher and participants (ad hoc 'chats' and more forma interviews), plus my own personal narrative. According to Kincheloe and Berry (2004: 2-3), it is the bricoleur's reflections which play a central part in piecing together the parts to make a more meaningful whole and so my reflections as the researcher feature through the thesis. I have also organised the material into a consciously constructed product that provides an account of the part animals play in early education about the animal-related experiences that are provided in early education, and what children and early childhood educators say about animal-related teaching and learning and the support system available. In doing so, I offer an original contribution to the existing knowledge base.

In the next section of this chapter, I will give an overview of each phase of the bricolage process. In line with the mixed methods tradition, I offer a detailed explanation of the method of inquiry by employing the notation system first used by Morse (1991) and include some elements added by Plano Clark (2005).

The following points should also be noted:
- the use of uppercase letters shows when that particular method takes priority
- a plus sign (+) shows when methods are used at the same time
- an arrow (→) shows when methods are used in sequence
- parentheses show when methods are embedded within a larger framework
- an equal sign (=) shows the purpose for combining the methods

As well as the notation system, the use of diagrams is instrumental to describing the procedure in a mixed methods study. Diagrams were first introduced to mixed methods designs by Steckler et al. (1992) and reports using mixed method designs incorporate diagrams as a way of identifying the specific activities and products throughout each stage of the research process. Diagrams are helpful because they make clear the 'points of interface, relative priority and

timing of the quantitative and qualitative strands as well as how the two strands are mixed' (Creswell and Plano Clark, 2011: 141).

Diagrams are utilised throughout this document. The first diagram, provided overleaf, is an overview of the full project (see Figure 3.1). It uses the notation system to detail the main features of the study and to show the sequential and concurrent strands of the inquiry over the four-year period of data collection in this multiphase design.

FIGURE 3.1 FULL PROJECT DIAGRAM

Phase 1
An evaluation of the source of animal-centred and animal-related learning in ECE

Phase 2
An inquiry about the attitudes and perspectives of early childhood educators about the human-animal bond and human-animal interaction

Phase 3
The development of a framework of support for AAI in early education

Focus: Development of a theory A
GROUNDED THEORY
QUAL

Focus: Describing and interpreting the educational work of animal-orientated charities B
ETHNOGRAPHY
QUAL

Focus: Review of the EYFS/ NC curriculum C
SYSTEMATIC REVIEW
QUAN→qual

Focus: Children's interest in animals D
SURVEY
QUAN→qual

Focus: Stories of children's individual experiences with animals E
NARRATIVE RESEARCH
QUAL→quan

Focus: Priorities in Primary schools and animal-related practice F
SURVEY
QUAN→qual

Focus: Describing and interpreting the provision at a Danish farm kindergarten G
ETHNOGRAPHY
QUAL

Focus: The lived experience of educators (about animals, children and education) H
PHENOMENOLOGY
QUAL

Focus: Stories of experience of educators I
NARRATIVE RESEARCH
QUAL

Focus: Describing and interpreting the work of a national anthropological organisation J
ETHNOGRAPHY
QUAL

Focus: Describing and interpreting the work of an international anthropological organisation K
ETHNOGRAPHY
QUAL

Focus: Describing and interpreting the work of an organisation that supports school farms M
ETHNOGRAPHY
QUAL

Focus: Developing an understanding of one published programme to educate children about animals L
CASE STUDY
QUAL

Focus: Development and evaluation of a pilot scheme for supporting early childhood educators about anthrozoology N
ACTION RESEARCH
Qual→QUAN

Dissemination and engagement work (publications and presentations) O

As already discussed, the process of research has involved me 'tinkering' (Levi-Strauss, 1966) and 'using the tools at hand' (Kincheloe, 2007) in order to create a bricolage, piecing together the parts to make a more meaningful whole (Kincheloe and Berry, 2004). In the following three sections of this chapter, I will provide an outline of these parts, which I refer to as *activities*, explain the research design with the use of diagrams, and offer a narrative of each activity's procedure.

3.6 About Phase One

In the first phase of this project, I collected data and used it to evaluate the status of teaching and learning about animals in ECE. I have taken the idea of evaluation from Stufflebeam (2001) as I see it as an individual rather than external judgement to contribute towards improvement ('improve but not prove'). In this inquiry evaluation is, as suggested by Saunders (2006), a systematic collection of information for developmental purposes that enhances understanding as a cooperative activity which acts as a 'bridging tool' for planning and innovation.

3.6.1 Design of Phase One

Phase 1 included five research activities (A–E), as shown in Figure 3.2.

FIGURE 3.2 DESIGN OF PHASE ONE

Activity A
Focus: *Development of a theory*

Activity B
Focus: *Describing and interpreting the educational work of animal charities*

+

Activity C
Focus: *Review of the EYFS/ NC curriculum*

Activity D
Focus: *Children's interest in animals*

Activity E
Focus: *Stories of children's individual experiences with animals*
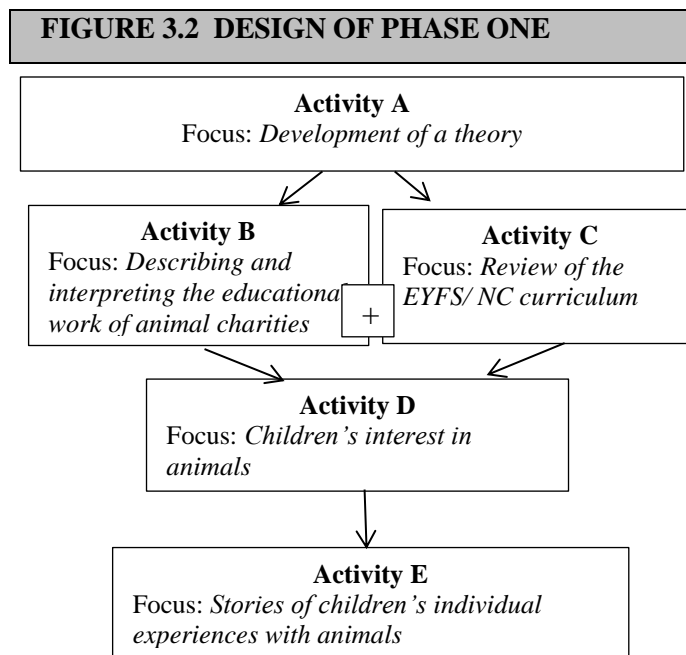
The first activity (Activity A) generated a theory that subsequently led to two concurrent studies (Activities B and C). These studies then converged as the research returned to a sequential process (Activity D, followed by E).

3.6.2 Phase One Procedures

Activity A

Grounded theory (Glaser and Strauss, 1967) was used to explore the field initially to gather information about the phenomenon being studied to enable an inquiry grounded in theory. My focus became the development of a theory regarding the status of teaching and learning about animals in ECE. This focus helped to direct the subsequent research activities. During this activity I collected data from a broad range of research participants in the form of interviews, recorded conversations with EC educators and my field notes from the time I spent as a visiting tutor in Primary schools and early years settings (as explained in Chapter 1).

Activity B

For Activity B I used ethnography (concurrent to Activity C) to take into account the perspective of third sector educators involved not just in planning animal-related learning but also working first-hand with children and animals. I sought to better understand the remit of the third sector organisations, their educational work, and their role as educators for ARL. The organisations were contacted in person, by telephone, or by email. These dialogues and conversations informed the rest of the study.

Activity C

Concurrently to Activity B, I systematically reviewed and evaluated the contemporary curriculum guidance documents in England at that time for early childhood education (Department for Education and Employment/QCA, 1999; Department for Children, Schools and Families, 2008; Department for Education, 2012b). I considered the documentation for explicit references to animals and animal-related learning, but also taking implicit messages into account.

Activity D

Following an initial analysis of the data from Activities A and B + C, I decided to find out more about children's interests in animals (their preferences, experiences, and choices) as a way of further investigating the types of animal-related learning taking place. This goal was achieved by working in partnership with a national magazine for children. I devised a survey that was then distributed as a magazine competition (see Appendix A for a copy of the competition article in the children's magazine). Although the main purpose of this activity was to gather meaningful statistics, the qualitative data provided by the children's competition entries also informed this study.

Activity E

The final activity in this phase was to conduct narrative research for children's individual experiences with animals. I interviewed 28 children from one Reception class individually in a quiet area of their classroom (consent and permissions were in place). Prior to the interview, the children were asked to source a photograph of an animal (with parental support) and bring it to the interview to use as a stimulus. The photographs acted as a visual cue and support mechanism during the interview in light of the age of the children. After the interviews, the children took part in an extension activity wherein they were given the opportunity to take home a research pack (camera and diary) and participate in a collaborative research activity overseen by their class teacher. The narratives and photographs collated from this activity were analysed.

The findings from Activities A-E in Phase One are provided in Chapter Four.

3.6.3 Transition from Phase One to Phase Two

After analysing the data from Phase One, I took stock of the findings. I recognised that I had made some progress towards answering the initial research questions, but I felt I still had more to find out more about the underlying phenomenon (i.e. the changing nature of animal-related learning). One finding that emerged in Phase One was that the attitudes and perspectives of EC educators were in some way connected to animal-related learning. In addition, social and political factors emerged which led to me wanting to find out more about what individual practitioners think and feel about ARL and AAL.

3.7 About Phase Two

In this phase, the data collection was focussed on the attitudes and perspectives of EC educators regarding ARL and AAL. Phase Two was an organic progression from Phase One informed by the data and contextual information I had gathered from the contemporary curriculum guidance documents in England (Activity C) and the children's stories about their individual experiences with animals (Activity E). My objective during this second phase

of the inquiry was to explore in depth the status of ARL in ECE settings by accessing the stories and lived experiences of EEPs.

3.7.1 Design of Phase Two

Phase Two consisted of four research activities (F–I). In this phase, all of the activities were conducted sequentially; see Figure 3.3.

FIGURE 3.3 DESIGN OF PHASE TWO

Activity F
Focus: *Priorities in Primary schools and animal-related practice*

↓

Activity G
Focus: *Describing and interpreting the EC provision at a Danish farm kindergarten*

↓

Activity H
Focus: *The lived experience of educators regarding animals, children, and education*

↓

Activity I
Focus: *Stories of educators' experiences*
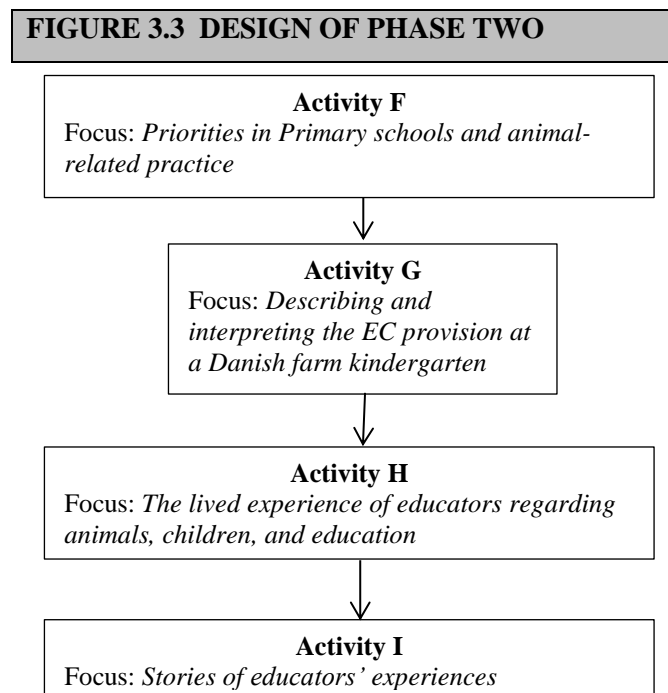
3.7.2 Phase Two Procedures

Activity F

I conducted a survey at the beginning of Phase Two, sending 268 questionnaires to primary schools in my local area (Merseyside). 56 questionnaires were returned. I chose this activity because I wanted to access a fairly broad representation of views. I targeted particular primary schools - not for their

particular views or visibility related to animal-related learning - because of their active partnerships with the university and, as a consequence of the partnership, their openness to be part of the research process. I developed the questionnaire specifically to find out about the priorities of early childhood educators and setting leaders, and, in particular, the animal-related practices taking place. A clean copy of the questionnaire sent to the schools is provided as Appendix B. The main purpose of this tool was to gather statistical information, but opportunities to gather qualitative data were built into the tool.

Activity G

After conducting the survey, I had the opportunity to travel outside of my locality to Europe, as part of a study group exploring international early education provision. I was able to spend time in a Danish farm kindergarten where I took an ethnographic approach to finding out more about this type of provision and practice. I collected data by talking to the educators and children in this setting that was based in a farm and recording my observations and reflections as field notes. I began to draw comparisons and make connections with the data obtained from my analysis of the contemporary curriculum guidance documents in England (Activity C).

Activity H

Following my research in Denmark, I decided to again spend time with English practitioners. I organised ten unstructured interviews ('chats') with school-based EEPs. The participants were mainly self-selected as they had volunteered their participation after taking part in the survey (Activity F), or through becoming aware of my research through the early dissemination of the findings, or through incidental meetings in schools with EEPs. I restricted the number of interviews to ten because of my personal and professional time constraints at that time. For this activity, I took a phenomenological approach, exploring the lived experience of EEPs with regard to animals, children, and the connections to education. The exploratory activities in Phase One and the earlier activities in Phase Two had revealed some key points and I began to focus on

confirmatory data, which I subsequently developed into a theory about the support needs of EEPs for ARL and AAL. This activity was pivotal in facilitating a clearer idea of the purpose of the research project and providing a signpost as to where I should concentrate my efforts next.

Activity I

The last activity of Phase Two involved narrative research focussing more deeply on the stories of school-based educators about their experiences. Three of the participants from Activity H took part in longer semi-structured interviews (which were recorded and transcribed). These interviews were comprised of a protocol of five standard interview questions to elicit data to fill particular gaps in the bricolage and additional questions that extended to new areas of inquiry that emerged during the interview (the interview protocol is provided as Appendix C). The additional and extension questions were participant-specific and facilitated discussions about the social, political, and contextual factors associated with their stories. Aspects of the data confirmed some of the earlier findings, but new concepts and ideas also emerged, prompting the subsequent activities that then took place in the final phase - Phase Three.

The findings from Activities F-I in Phase Two are provided in Chapter Five.

3.7.3 Transition from Phase Two to Phase Three

The data from Phases One and Two had steered the inquiry towards a further exploration of the information and support systems available to assist educators in animal-related teaching and learning and the ways in which educators can develop their knowledge, competence, and confidence in planning and delivering ARL and AAL. At this point, it became clear that action research would be informative and could be planned to test the theory that EEPs would benefit from a mechanism of support. To this end, I decided to embark on two activities; first, I wanted to look at the models of support currently available,

and second, I wanted to create and review a pilot scheme designed to support EEPs. As a result, Phase Three was primarily concerned with a basic 'plan-do-review' cycle of action research.

3.8 About Phase Three

This was the final phase of the research project. During the initial part of this phase, I collected data about the support currently provided for setting-based educators in Merseyside and beyond and I began to develop a bespoke framework for supporting EEPs.

3.8.1 Design of Phase Three

Phase Three was comprised of six research activities (J–O); see Figure 3.4.

FIGURE 3.4 DESIGN OF PHASE THREE

Activity J
Focus: *Describing and interpreting the work of the national anthrozoological organisation*

Activity K
Focus: *Describing and interpreting the work of the international society for anthrozoology*

Activity L
Focus: *Developing an understanding of one published programme to educate children about animals*

+

Activity M
Focus: *Describing and interpreting the work of an organisation that supports school farms*

Activity N
Focus: *Developing and evaluating a pilot scheme for supporting early childhood educators about anthrozoology*

Activity O
Dissemination and engagement work
(main publications and presentations)

3.8.2 Phase Three Procedures

Activities J and K were conducted sequentially. These activities then led to concurrent studies (L and M). Activity N was an overarching pilot scheme that emerged from the provisional research conducted early in this phase. The evaluation and dissemination of the research findings for the project occurred as Activity O.

Activity J

As an outcome of the Phase Two interviews with teachers (Activity H), I chose to embark on further ethnographic research and spent time at a national organisation which has an anthrozoological remit and mission statement, as a researcher but also as a student. From an earlier information gathering exercise I had established that, at the time, this was the most prominent organisation in the UK for providing information and support, and disseminating research, about animal–human interaction. I looked at the information on their website and contacted their staff in order to learn more about the nature of the support provided to EEPs and the general public (in terms of education services). I was able to combine the research activity with a continuing professional development course that I enrolled on to learn more about anthrozoological theory and practice. In the later stages of the study, I was contacted by the organisation and invited to write a public engagement article for their journal on the topic of ARL in ECE. After spending time with this national organisation, I decided to look for opportunities to incorporate a global perspective by exploring the support mechanism provided by the leading international organisation for the study of anthrozoology. This organisation includes education and early childhood as part of its reach.

Activity K

I opted to join the leading international organisation for the study of anthrozoology by becoming a subscribed member. I used ethnography to

explore this international organisation's work and investigated their research and their avenues of support for practitioners. As a result of this activity, an opportunity arose to disseminate some of my earlier research when I was invited to speak at their annual conference (see 'Activity O' for more details.).

Activity L

Following completion of the earlier ethnographic activities that looked broadly at these key national and international organisations, I decided to use a case study approach to look at a published programme developed by a veterinarian to help EEPs teach young children about animal behaviour. The aim of the programme is for children to specifically learn "how dogs feel and how similar they are to us [humans] in how they would like to be understood and treated" (Shepherd, 2002; 2007; 2012). The programme was of particular interest as it presented an opportunity for me to explore how the study of anthrozoology can be applied in ECE.

Activity M

Running concurrently to the case study (Activity L), I chose to look at another national organisation that had come to my attention. This organisation was providing practical support for school-based educators tasked with teaching children about animals as a school farm. As part of the ethnographic research, I attended the 100th School Farm opening ceremony organised by this organisation, conducted a telephone interview with a senior manager within the organisation, and interviewed a network member in a school farm setting. I also attended the organisation's annual conference where I had the opportunity to converse with members of the School Farms Network and different stakeholders in educational anthrozoology, to engage in dialogue, and to gain feedback about my research to date. This experience sparked many ideas about how to develop the pilot scheme for a support space for EEPs and what form it would take.

Activity N

I developed and piloted a support mechanism for early educators as a research activity. This activity involved the formation of 'Animals in Primary Education Reframed' (APER) through which an 'Animal Aware School' scheme was developed. Although the main purpose of this activity was to gather qualitative data in order to inform the refinement and further development of the scheme and to gather some statistical information about the schemes validity and response to the idea, it also gave me the opportunity to evaluate my line of inquiry for the underlying phenomenon.

Activity O

The aim of this final activity was not only to seek confirmatory evidence for the findings of the research, but also to fulfil the assurances made to participants that ongoing feedback about the findings would be provided. (This assurance was included in the terms of participant consent – see later in the chapter). I gave oral presentations to local, national, and international stakeholder audiences (Gallard, 2011; 2012a; 2012b; 2013a; 2013c; 2014) and published public engagement articles in journals (Gallard, 2012c; 2013b). A news item about the 'Animal Aware School' scheme was also published online (Liverpool John Moores University, 2013).

The findings from Activities J-O in Phase Three are provided in Chapter Six.

In the next section, I will explain my main considerations when researching and collecting data in the field and the ethics of the research undertaken.

3.9 The collection of data

As Teddlie and Yu (2007) have outlined, there is no widely accepted typology of mixed methods sampling strategies, and therefore I developed my own strategies for this project. Throughout the research process, the sampling approach and sample size varied depending on the kind of information being sought and with/from whom. For the qualitative aspects of the study,

participants were intentionally selected for their knowledge of the subject, their role, their particular perspective, or their orientation with regard to the research question being investigated at that particular time (Creswell, 2013). This purposeful sampling allowed me to gather in-depth and relevant information about the phenomenon (Creswell and Plano Clark, 2011). The number of participants recruited (sample size) to take part in the project was not necessarily known at the outset (Creswell, 2013) and, for each activity, recruitment was different depending on the particular aim at that time. For the quantitative aspects, I sought a larger group of participants because I was interested in collecting a broader set of views regarding ARL and the AAL currently taking place. The use of a larger group of participants was also useful for evaluating the pilot scheme developed in the final phase of the inquiry. When conducting surveys with children, and school settings in particular, I used a secondary sampling procedure because I had access to a group of potential participants via a third party (for example, the national children's magazine, a placement liaison administration department in the university, etc.). The sample for the evaluation of the pilot support scheme was self-selected as participants volunteered as a result of the promotional activities for raising awareness about the scheme.

Prior to each research activity, I carefully considered the ethics associated with the research, access to participants and permission to collect data. I applied for and received university ethics approval at the start of the project having paid particular attention to the aspects of the research related to interviewing children in the earlier phase of the study. I also liaised with my supervisors throughout the process (as new activities emerged organically) to ensure that the minor amendments to the original ethics application were appropriate. During the final phase, I revisited the original ethical approval and ensured that the participants were updated and were aware of disseminations that had taken place since their contribution and initial verbal consent. Throughout the project, different gatekeepers were identified. This study uses the concept of the gatekeeper as "the person with the power and authority to grant or deny access to the researcher to a set population, usually considered vulnerable" but this "…does not change the ultimate responsibility of the researcher to those

participants…to do no harm" (Bound, 2012: 5). I spent time nurturing honest and respectful relationships with gatekeepers in order to facilitate entry into sites and to be able to work with organisations in a collaborative and cooperative way. I found that the gatekeepers had valuable insights into the underlying phenomenon, which I could learn from. The gatekeepers also acted as critical friends to enable me to maintain an ethical approach through the different phases. I considered the contributions from the gatekeepers as part of the study and included these reflections in a research journal.

When entering the field I was mindful of not disrupting the usual flow of activities, events, and behaviours of the participants. From my perspective, the researcher cannot avoid influencing situations that they become part of through their presence and there will be an impact from the act of research. In light of this, I wanted to create minimal disruption, but remain conscious of my actions creating an effect and the potential consequences of my actions. I also took steps to avoid situations where I would be exposed to sensitive or confidential information and I was careful to continually remind participants that my core objective was to develop answers to the research questions (Teddlie and Yu, 2007). This was to avoid being placed in a situation where I might be given information beyond the focus of my inquiry which could either compromise participants by its inclusion in publications arising, and to minimise the potential for a dilemma later on about which aspect could or could not be counted as data for inclusion.

For the majority of the research activities, a formal consent form was provided to participants, and signatures were obtained. There were some occasions when verbal consent and agreement was more appropriate, for example during discourses with non-formal participants acting as critical friends or when the information was offered as feedback following dissemination. I share the view of Miller et al. (2012) that the meaning of 'informed consent' is really about trust and making explicit my ethics as a researcher. I also took a similar perspective on the topic by ensuring that the information I gave to each participant was tailored to that person's right to full, transparent, and relevant information about the research activity they were participating in and about the

main research questions and the phenomenon under investigation. As part of this perspective, feedback and dissemination activities were viewed as essential and thus built into the process. The rights of the individuals participating in the study were paramount, and it was important to me that the power relationships between researcher and participant be acknowledged and, where possible, mitigated by creating the opportunity to co-construct a democratic, communicative space during each research activity. This approach was meant to initiate a joint process of knowledge production that could, as suggested by Bergold and Thomas (2012), lead to new insights on the part of both researcher and participant. The space that I created was intended to be domination-free (Habermas, 1975, 1984; Kemmis, 2001; Wicks and Reason, 2009), encouraging and valuing openness, differences of opinion and conflicts (Bergold and Thomas, 2012).

Another feature of the democratic nature of this research project was the building of rapport (Creswell, 2013). A rapport between researcher and participant is based on a warm relationship with a harmonious or sympathetic relations (bordering on, but not confused with, friendship), as advised in most ethnographic fieldwork texts (Glesne, 2006). In addition, a basic sense of trust was a priority to allow for the free flow of information and positive feelings about the research (Glesne, 2006) because this study was looking at personal views (about the priorities of practitioners and not educational leaders) and children's views (on their learning about animals) and it could be that views might be hidden for fear of marginalisation without this trust and rapport. This means that disclosure of the particular motivations behind the research – i.e. the passion that I hold for the topic and the intended output (a doctoral award) – was essential. [*Note: The children taking part in the study were provided with an adapted explanation as to the motivations for the study as I anticipated that they would not have an adequate understanding of what a doctorate is*]. Participants stated that they understood my intentions, and they were incredibly supportive, open and frank with their views, which I attribute to the disclosure and a relationship of trust. I saw the potential for the researcher and participant relationship to be a distant and detached one and wanted to avert this and, from

my perspective, warm relationships with participants, on a whole, were formed as a result.

I also nurtured shared mutual exchanges. For example, during the interviews with EEPs, I was able to draw on my prior experience as both a primary teacher and EEP in order to understand and appreciate the topics and issues described. In turn, the EEPs were interested to hear about similar pressures in my work in H.E and the challenges I had faced throughout the process of research. Another example is when during the interviewing of children stories and photographs about experiences with animals were mutually shared. This exchange allowed us to enter into a space that was much more egalitarian than if I had employed a detached researcher technique.

The protocols for recording the data developed in various ways depending on the activity taking place, and were influenced by the practical suggestions of Lodico, Spaulding and Voegtle (2010). For example, for the field notes I used a method of dividing a sheet of paper into two columns in order to capture both descriptive and reflective field notes. The descriptive notes column was used for objective descriptions of events and for recording comments made by participants. The reflective notes column was to allow my own ideas and views arising when making the descriptive notes to be recorded. The benefit of them being side by side was easier cross referencing and locating of information. For the open-ended interviews, I divided a sheet of paper into two columns: one for recording the main item from the dialogue with the interviewee and the other for reflective notes. For the semi-structured interviews, I created a sheet that listed the five initial questions with space to make notes and to record additional information between each question. A separate box was included at the end of the sheet for reflective comments. When reviewing curriculum documentation, online information, and the photographs (taken by the children during the camera/journal activity and provided by the children in the interviews), I devised a protocol with multiple columns on a single sheet in order to capture different aspects of the information being compared and contrasted. Throughout the study, I also kept a journal of personal reflections, including a log of the dates and a description of each activity.

Through completing the various research activities in the bricolage, a large body of research data was collected. The majority of the data was recorded by hand with an emphasis on preserving confidentiality and anonymity (for example, by allocating participant numbers and removing identifying features). I recognised the rights of the research participants and only collected data relevant to the research aims. As part of the study, there were some face-to-face interviews that were recorded and subsequently transcribed. This data, together with one survey database, are held on a computer. Only the core research data from the study is stored (on a memory stick encrypted with AES 256 bit) and only the essential information from the research data held appears in this thesis, which is in line with the Data Protection Act 1998.

The research activities for this project began in 2010 and continued over several years, and there could have been issues arising from the passage of time (for example, from the loss of contact with participants who would have been unable to provide feedback following their participation). Strategies were put in place to avoid loss of contact so this did not occur (i.e. keeping contact numbers/email addresses and ongoing feedback and dissemination activities). In fact, a positive feature arising from the long-term nature of this study is that original participants were able to observe the development of the study and to re-enter the research (even years later) as participants and the new data they provided based on their reflections in the period following their initial contributions have also been of value to this inquiry. This has been noted by Axinn and Pearce (2006) as a particularly helpful way of guiding subsequent round of methods.

3.10 Strategies of analysis

In light of this being a multiphase mixed methods inquiry necessitating multiple levels of analysis on both qualitative and quantitative data over several years, transition points were built into the study that occurred after each phase of research. The transition points were important because they helped me to make sense of the vast amounts of data being collected and collated during the inquiry, which can lead to a researcher feeling overwhelmed (Patton, 1980).

The transition points are explained at different points in the thesis (See section 3.3.3; 3.4.3; 3.5.3. and 4.6; 5.5; 6.7)

3.10.1 Qualitative analysis

The majority of the research activities were qualitative in nature and followed a similar process of analysis and coding procedures. Creswell (2012) suggested that there are central steps in coding qualitative data: initial coding, finding broader categories or themes, with the researcher then making comparisons between these categories. I needed to custom build the data analysis approach for the qualitative aspects of this inquiry (Miles and Huberman, 1994) but I based my approach on using analytic circles wherein "one enters with data of text or images …and exits with an account or narrative…the researcher touches on several facets of analysis and circles around and around" (Creswell, 2013: 182).

There was a repetitive cycle of organising, coding and categorising, reflecting, and transitioning throughout each of the three phases until I could arrive at an overall interpretation.

> **Organising of the data** – This involved re-reading and memoing the data. I used memoing, as O'Hara et al. (2011) suggests, to record my thoughts and ideas as I made links at the point of data collection as an 'aide-mémoire'.
>
> **Coding and categorising of the data** – This involved aggregating, categorising, assigning labels to, and cross referencing the texts in order to look for other codes with which to cluster the material. In Vivo Codes (frequently appearing terms) were of particular interest. The In Vivo coding involved the assignment of a label to parts of the data to ensure that the key element of what was being discussed was captured and as close as possible to participants' own words or terms. Aggregated In Vivo Codes (similar frequently appearing terms exact words used by participants) were of particular interest as this indicated patterns and connections in the data to explore.

Reflection and transition – During this phase, no codes were discarded, but some occurred more frequently than others, and these were used to create categories from which new research questions/directions emerged for the next phase. The categories were initially 'emergent' (Crabtree and Miller, 1992) which means that I looked for patterns rather than particular themes, but later a number of 'prefigured' categories were used because I had a bank of categories which had appeared, although I remained open to new codes emerging in the later stages of analysis.

In Figure 3.5 (below), the data analysis approach is captured using a visual representation.

FIGURE 3.5 THE DATA ANALYSIS APPROACH
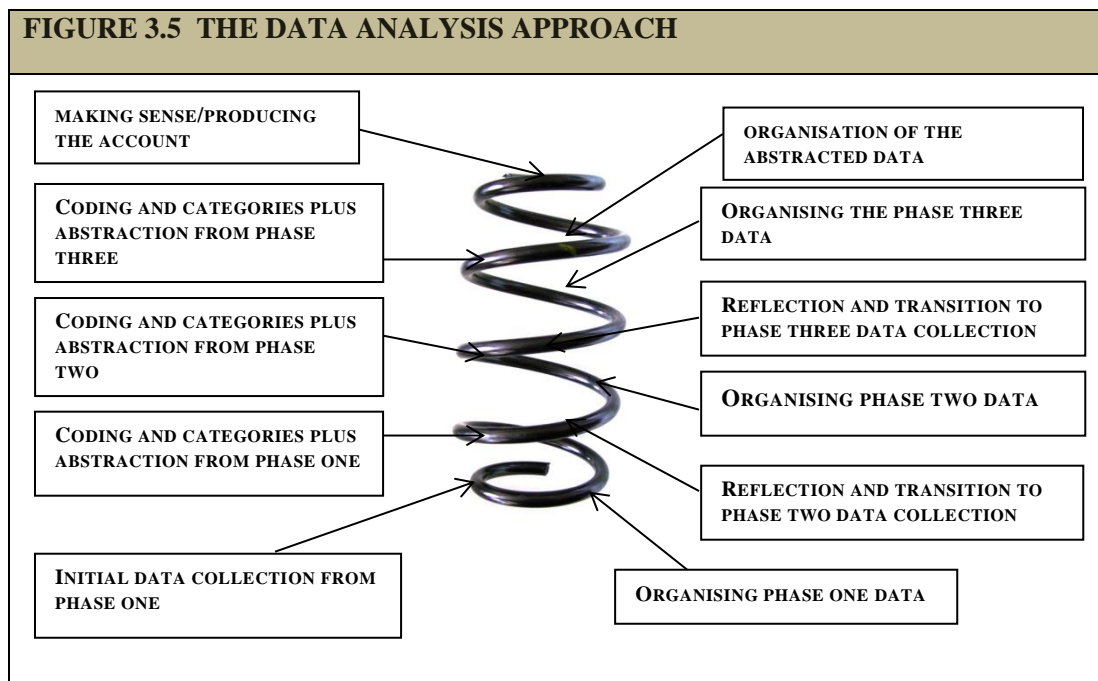
Aggregated In Vivo Codes (exact words use by participants) were of particular interest as this indicated patterns and connections in the data to explore. I then abstracted any codes that could be aggregated into categories, or broad units of information called 'themes' (Creswell, 2013: 186), in order to find the larger meaning from which to make an interpretation.

3.10.2 Quantitative analysis

I designed and conducted three surveys as the quantitative part of this mixed methods inquiry to quantify the trends, attitudes and opinions of children and EEPs, and to evaluate the pilot scheme. For all three surveys, I planned descriptive analysis. I did not consider using more advanced, inferential analysis as I recognised that the sample size was likely to be too small to attain statistical significance and because generalizability was not what I focussed on. The survey tools were intentionally dualistic to be able to collect both quantitative and qualitative data. The overall, combined value of the survey tools was that they provided two forms of data, with equal value in contributing to the bricolage.

3.11 Interpreting the data

The interpretation involved making sense of the data once analysed, and abstracting beyond the codes and themes. I relied upon hunches, insights, and intuition, although I recognise that other researchers might instead see this as tentative, inconclusive, and questionable (Creswell, 2013). However, I can justify this way of interpreting the data as a pragmatist and a 'bricoleur' in an open, organic inquiry.

In Chapters Four, Five and Six, I discuss the findings of each phase of the study and present diagrams to show the emergent and prefigured categories, along with the different levels of abstraction for each phase of the qualitative methods and the descriptive analysis of the quantitative methods. The diagrams have been constructed to demonstrate how I brought together the results from the inductive processes (that generated theory) and the results from the deductive process (that tested theory) to create the 'biography' about animal-related teaching and learning in early childhood education settings.

3.12 Validity and rigour

A mixing of methods occurs in this research as I selected either a qualitative or quantitative approach for particular activities and also mixed the approaches *within* particular activities. I used a blend of data collection and analysis strategies. My eclectic tinkering may elicit claims that scientific rigour was sacrificed along the way, however Kincheloe (2007) suggested that there is rigour in employing a bricolage approach but that rigour itself is a complex and textured notion. Bricolage is really offering an alternative approach to educational inquiry. Sparkes (2002) asserted that to increase the relevance of social and philosophical practices there needs to be this kind of re-conceptualisation and redefinition of social inquiry. This is in order to challenge the ideology of epistemic criteria that focusses on fixed and predetermined rules (Schwandt, 1994). Those adhering to a traditional view of research may choose to make challenges of the bricolage approach that I have used, but they are subscribing to a different epistemology. I have opted to use this approach for its value in making features of the social world visible (Kincheloe, 2007) that may have been repressed previously.

I accept that my thinking on ontology has shaped the outcome of this research. As the bricoleur in this inquiry, I have thought carefully about the activities and the data collection tools, and 'tinkering' does not in my case mean absence of thought. As Kincheloe and Berry (2004) suggested, I have made decisions based on an understanding of the preferences and assumptions in all modes of inquiry whilst still recognising the perspectives of others who have made, or would make, selections that are different from mine.

The value of bricolage as a method of philosophical inquiry is also connected to one's perspective. There are academic researchers who say that bricolage does not constitute 'real research' (Kincheloe and Berry, 2004), however, the philosophical grounding of bricolage is 'an emergent research design' (Wibberley, 2012: 1) approach helps to dispel that argument. In this study, there is no intention to use the knowledge from this one context to tell a story about another context. Instead, the knowledge produced is, as Kincheloe (2007) asserted, about making visible the features of the phenomenon under investigation within a social world from the perspective of one researcher; but,

at the same time, it has invited in - and taken account of - the perspectives of others.

I have made a number of references to the 'self' in this account. It is important for the bricoleur to understand the social construction of the self and its influence on perception and the nature of inquiry (Richardson and Woolfolk, 1994; Pickering, 1999). However, the bricoleur must also be open and able to see beyond the self, engaging with multiple perspectives and realities in order to appreciate 'the difference' (the alternate ways of analysing and producing knowledge) between the self and others (and also others and others). Within this difference are incongruities that are valuable, because inside these tensions lies insight (Kincheloe, 2007) that has the potential to move us to previously unimagined levels of understanding (Semali and Kincheloe, 1999; Burbules and Beck, 1999). Thus, the value of using the bricolage approach in this inquiry is that there has been the opportunity to attend to perspectives that might have otherwise been dismissed or missed in the pursuit of those that are scientifically validated in the traditional way. As Kincheloe (2007) considered, we have the potential to gain a new appreciation of how the unknown tacitly shapes what we know and how we come to know it.

In the next three chapters (Chapters Four, Five and Six) I present the findings of the research activities. I also explain the outcomes of the activities, and the emerging themes that are discussed later in Chapter Seven ('Discussion').

CHAPTER FOUR

Phase One Findings

In this chapter, I outline the findings from Phase One of the study. I give a description of the data analysis and provide the codes, categories, and themes abstracted from the qualitative data collection activities A–E, as well as the results of the quantitative activities C and D. I also provide brief considerations of the findings from Phase One alongside the perceived phenomenon (*the changing nature of ARL in ECE practice*), the research problem *(What function should animals have in a contemporary ECE curriculum)*, and the initial research questions *(What part do animals play in ECE? What animal-related experiences (AREs) are being provided? What do children say?)*, and explain how the findings informed Phase Two and beyond.

4.1 Activity A findings

During the first months of data collection, I conducted short, informal interviews and conversations with 22 early education practitioners (EEPs) who were employed as *teachers* in a school setting [*Note: 'teacher' is a precise terms for the job role of participants – an issue discussed in Chapter 1 – section 1.6*]. The interviews and conversations were recorded either as audio recordings or as written field notes depending on the context. After re-reading the field notes and listening to the interviews, I memoed the data. This step was followed by a process of open coding and aggregating those codes. I then used axial coding to make connections within the data from which seven categories emerged: *Perspective, Attitude, Parents, Community Context, Leadership, Government, and Information*.

Perspective

Most of the teachers interviewed articulated a personal perspective when they were asked about animals and animal-related teaching and learning. The

teachers used terms such as 'valuable' and 'valued' when talking about ARL in early education. In particular, participants saw learning through first-hand experience as a positive thing. One teacher placed a high value on the opportunity for children to care for animals in particular.

"Children must be allowed to pet animals and be involved in their care. I think that it is so important as it teaches them to be kind." (Mrs C, Foundation teacher)

Another teacher explained that she thought that real animals had a particular appeal for children, and it was important for young children to have access to opportunities for tactile experiences with animals.

"I always think that children are drawn to real animals more than anything. I think it is a shame if a child never gets to hold or stroke one." (Miss T, Year One teacher)

One teacher also offered her perspective on the child's view.

"We have a child who loves horses and rides and has won rosettes. I think that it is great and it is important to hear about the interests of children outside of school. The other children love to hear about it and they keep asking her to bring the pony in [laughs]." (Mrs C, Reception teacher)

Among the perspectives shared, a few teachers described some negative issues impacting on their ability to 'allow' children to engage with animals in the setting.

"[Child's name removed] *will sit and watch the fish in the tank for ages you see and I know he enjoys it and I would like to let him do it more but then I have to make sure that they come and finish activities before story time. I wouldn't be allowed to let him stay."* (Mrs A, Reception teacher)

In this case, the In Vivo Code (**'allowed'**) was of particular interest as it raised some questions: *Who wouldn't allow the teacher to let the child stay? Why was the child not allowed to stay?* A similar tension was indicated by another teacher.

"[Having a class based pet] *would be too much of a distraction."* (Miss I, Reception teacher)

The implicit message was that animal-related learning was placed behind other classroom concerns. What was less clear was what other classroom matters it would be a distraction from.

Some teachers differentiated the role of animals when teaching children with specific difficulties. Therapeutic effects were mentioned a few times, often in relation to behaviour. One teacher's perspective was that animals were a potential resource for supporting children who were viewed as having behavioural issues.

"I can see the value for children with behaviour problems." (Mrs N, Year One teacher)

Often teachers talked about the types of experiences they were able to provide, with visits to the zoo was the animal-related activity most often mentioned. In one case, it was the *only* planned, first-hand opportunity for the children.

"We just go to the zoo. It is easy and the children love it. We go every year." (Mrs A, Reception teacher)

Most of the teachers referred to the support provided by the local zoos, and the educational benefits of a visit to a zoo were clear to them, although often they were linked specifically to conservation issues.

"The zoo is how we teach about animals and it is much better to see them being looked after and we learn about conservation at the same time" (Mrs C, Reception teacher)

Distance learning about animals was more appealing for EC teachers. While they cited many reasons for this preference, the safety of the children was a particular concern. When asked about class-based pets, one teacher was adamant that this would be a risky activity and unworkable in her classroom.

"It is because I couldn't be sure that one of the children wouldn't hurt animals. One child in particular I am worried about I imagine would do something…if no-one was looking." (Mrs N, Foundation teacher)

However, not all of the teachers shared this view, and, regardless of whether their current practice included planned activities for first-hand opportunities, most showed openness to the potential of animals in the classroom. But, they tended to perceive class-based animals as being a teaching support rather than the specific focus of learning.

"Animals are great as a distraction if children are upset or need to something to talk to. I think this is when it could be valuable." (Miss J, Foundation teacher)

Attitude

Individual attitudes towards animals and animal-related learning varied considerably among the teachers interviewed. Some teachers responded warmly to the topic of animals and incorporated some animal-related learning because of their own individual interest.

"Yes, we learn about animals. I love animals and I have loads of books and stories about animals that I share with the children, and of course there is the internet [to find out about animals].*"* (Miss T, Year One teacher)

Other teachers had more negative attitudes, which may then have an impact their decision of whether to plan and deliver animal-related learning and experiences. One teacher, in particular, held a strong view about the relationship between children and animals.

"Children and animals just don't mix…no, I don't particularly like animals."
(Mrs M, Reception teacher)

Some attitudes more clearly originated from the teachers' personal experiences.

"I was attacked by a dog so I know the problems." (Mrs M, Reception teacher)

In most cases, it was difficult to get a sense of whether the attitudes held by the teachers were innate or learned, for example:

"I just love animals. We always fundraise for the guide dogs. I'd fill my classroom with animals if I was allowed." (Miss T, Year One teacher)

Here, the In Vivo Code ('allowed') emerged again.

Some attitudes were held by groups of teachers and other staff in the setting, rather than by the individual; this meant that school policies were influenced by a shared, group attitude.

"…we had a meeting about the problems we were having and we now have a policy of no dogs on the playground…no, we don't want to have school pets."
(Mrs S, Reception teacher)

Parents

A number of teachers mentioned that the wishes of parents have had a negative impact on the provision of first-hand experiences.

"It's the parents you see. It is the issue of animals biting. Parents would rather we didn't have them." (Mrs C, Foundation teacher)

"A mum offered to bring in their rabbit but it is about hygiene and parents would complain if the children were ill." (Mr R, Reception teacher)

"...there is a child in the class where mum wrote in her daughter's welcome booklet that she is terrified of dogs. Most children are. That's why we go to the zoo. We can watch from a distance and parents can choose whether or not we are allowed to take them." (Miss J, Foundation teacher)

The In Vivo Code ('allowed') appears again in this third example.

Although it is accepted that planning for learning is the responsibility of the teacher, it is unclear in this case whether parental pressure steers the choices teachers make in these cases, or whether teachers are using the parental view as an explanation or justification for not facilitating first-hand experiences with animals.

Community Context

Closely linked to the influence of parents is the category of community context. In some communities, there can be a high level of pet ownership but in the contexts that the interviews took place the degree of pet ownership was not clear. However, what emerged was that if pet ownership seemed to be something that occurs at home for the majority of the children in a setting, it could affect the teachers' views and their decisions about planning and providing first-hand learning opportunities with animals in the settings.

"Most of our children have pets anyway." (Miss J, Foundation teacher)

"In this area children have loads of pets…even though the families are struggling financially…there are always loads of pets." (Mrs A, Reception teacher)

Here, both teachers choose to emphasise home experiences as part of a fuller narrative about them feeling unable to plan and deliver AAL.

Community dynamics and cultural factors also appeared to drive decisions about animal-related learning.

"…we have a high number of Muslim families in this school and I already know some parents would object so I wouldn't bother." (Mrs N, Foundation teacher)

The cultural context could be a particular driver for the type and extent of animal-related learning that can occur.

Leadership

Head teachers and the senior management teams were mentioned often during the interviews and conversations. Teachers also described the permissions that were required for any 'non ordinary' class activities. One teacher explained that she would have to seek permission for any animal-related teaching.

"Anything to do with animals would have to be allowed by the head teacher and the governors." (Mrs N, Foundation teacher)

Again, the In Vivo Code ('allowed') appears. It was unclear whether this need for permission was related to a quality assurance mechanism for curriculum delivery or because it was seen as a risky activity. Also, there was an indication that ARL and AAL can be interpreted generally and not differentiated.

One head teacher was said to be supportive of animal-related teaching and learning.

"My head [teacher] *loves animals and trusts me that hatching chicks won't create any problems in school… when we do this to learn about lifecycles, and the children love it."* (Mrs R, Reception teacher)

Another teacher said that her head teacher was less willing for animals to be on-site for teaching purposes – even if the learning was related to the Science NC programme of study – due to the health and safety issues it could raise.

"... and my head teacher is health and safety crazy and wouldn't want to take any chances." (Mrs O, Reception teacher)

Within this category, I identified a potential relationship between permissions, support, and risk within the school context.

Government

Along with school leadership, teachers outlined other external factors as having an impact on animal-related teaching and learning. Most of the teachers described governmental factors within this context. One teacher felt that current government education policy and curriculum guidance were solely responsible for narrowing the teaching and learning opportunities allowed (animals being just one deprioritised theme which, as an outcome, had been restricted). It was explained that this is more likely if ARL could not be assessed with respect to the EYFS and NC Key Stage One targets.

"The priorities are made clear to us. It is about attainment targets and SATs. If it can't be assessed it does not happen. Animals do not factor." (Mrs A, Reception teacher)

One teacher suggested that the inspection process had had a particular effect on practice.

"...if OFSTED graded a school outstanding and it mentioned animals in the report, every head teacher would want to do more." (Miss J, Foundation teacher)

This suggests that teachers are influenced by what is written in OFSTED reports, and that there is an outcome that influences behaviour of teachers when an 'outstanding' inspection rating is given to a feature of the setting or practice. An 'outstanding' rating would appear to have become a regarded attribute for learning activities in the teaching profession, suggesting that if ARL was mentioned in the narrative alongside the rating then ARL/AAL would increase.

Information

Teachers sometimes talked about the available information and lines of communication regarding animal-related learning. A few times teachers quoted inaccurate information. For example, one teacher said that she had been told that animals are not permitted on the school premises by law.

"I was under the impression that animals were not permitted [in schools]*."* (Mrs C, Foundation teacher)

Here, the word 'permitted' is used, which is similar to the In Vivo Code ('allowed'). When asked about the source of this information, this teacher named a national animal protection charity.

Some of the information quoted by the teachers in interview or in conversation had been gained from media stories.

"...the school that reared and slaughtered a goat. The head was hounded by animal activists and left her post." (Mrs N, Foundation teacher)

From the example above it appeared that, other than word of mouth, the teachers did not to have a forum through which to learn about and discuss

teaching and learning related to animals. I specifically asked one teacher about where this information came from.

"I just read the newspapers and hear stories. It is never something we talk about in school or think about in planning meetings. It is usually just individual teachers who suggest occasional things…like fundraising for animal charities."
(Mrs W, Reception teacher)

After completing the interviews, a process of abstraction took place and the seven categories became six themes with associated questions for further research.

1. PROFESSIONAL PRACTICE – What type of teaching about animals takes place most often? Are first-hand opportunities a core aspect of teaching and learning about animals?
2. ON-SITE PROVISION – How many settings continue to keep setting-based pets?
3. CURRICULUM – How clear is government policy and curriculum guidance with regard to teaching and learning about animals?
4. CONSENSUS – Is there a particular view shared by school-based EC educators regarding animal-related teaching and learning?
5. NATIONAL AND INTERNATIONAL COMPARISONS– How do the views of the teachers interviewed locally compare to national and international approaches?
6. FORUMS – How is information regarding teaching and learning about animals or knowledge about ECEA shared? Is there a shared space for the dissemination of appropriate and accurate information?

Finally, at the saturation point of the analysis process, I identified a core variable as **'Influence'** and derived a theory that: *Animal-assisted and animal-related learning has declined due to disempowerment and a lack of structural support. Information for practitioners would enable and develop ARL and AAL in early education settings.* This theory necessitated further research activities

to look more deeply at the main influences named: the animal charity that gave the impression that animals are not legally permitted in education settings and the curriculum guidance that was seen as restricting animal-related learning.

An overview of the findings from Activity A is provide in Figure 4.1.

FIGURE 4.1 ACTIVITY A - SUMMARY OF FINDINGS

Categories:

Teacher perspective	Teacher attitude	Parents	Community context	Schools leadership	Government	Information

Prominent ideas:

care	*tactile experience*	*potential distraction*	*therapeutic*	*conservation matters*
safety of children	*risk*	*as a support for teaching*	*shared attitude*	*parental pressure*
community-led need	*setting leader permission*	*setting leader support*	*government policy*	*targets*
	inspection	*law*	*media*	

External agencies and third sector organisations

Community

Government policy

Setting leadership

Parents

In Vivo Code found:

allowed

Core concept (summative code):

'Influences'

4.2 Activity B findings

For Activity B, I focused on interpreting the information provided by a leading national animal protection charity (named by one of the teacher participants in the previous research activity) and its position for ARL. I was able to triangulate this data by contacting different animal-orientated third sector organisations and cross-referencing my interpretations of the information published by the animal protection charity gathered during this activity.

The national animal protection charity

After exploring the information provided on the national animal protection charity's website, I arranged a telephone interview with the national education manager for the organisation. As I was looking to investigate the participant's comment made in the previous study (that the organisation was sending the message that animals are not permitted in education settings), I needed to talk to someone who was closely involved with the work of the organisation. The interview took place on 19 October 2009, which occurred shortly after a period of restructuring in the organisation; this restructuring and revisiting of aims was referred to often in the course of the interview.

During the interview, many themes emerged; the history of the organisation, the core focus of its work, its education remit, and how the charity was evolving as a result of the reorganisation of the education department. The education manager provided key information about the context of the organisation - the charity has a core focus on *preventing cruelty*. She explained that although there had been a dedicated education department since 1997, following a budget review in 2003 the education department had taken a large funding cut. The department was forced to reduce its staff (from 50 education officers to 30) and to change the nature of its education work (from face-to-face dissemination to web-based activity).

The manager spoke at length about a shift in emphasis back towards the core focus of preventing cruelty in the education department having recently been asked at a directors' meeting, *"What are you, as an education team, doing about deliberate cruelty to animals by children?"* This shift led to the prioritisation in the department more to work related to animal cruelty by children, and a reengagement with the theoretical link between childhood cruelty towards animals and later antisocial behaviour and psychopathy. The manager said that she felt that a particular objective had now emerged that overshadowed work with EEPs – work with the Youth Justice System.

The manager spoke about feeling that the broader education of children about animals was deprioritised in her organisation as it was now considered to be an unsustainable use of the charity's finances in a time of austerity and the remit of other organisations. The explanation came as she reflected on the questions raised at the directors' meeting she had been to, "*How best can we utilize the limited funds? Which action has the greatest effect in line with our core aim to protect against cruelty to animals?"* The board of managers at the education department of the organisation had concluded that the most cost-effective way to maintain a basic education service was by developing the education pages on the charity's website and online resources.

During the interview there was no indication that the organisation was actively promoting a message that animals are not permitted in education settings, that it is unlawful for early education practitioners to keep animals in schools, or other early education settings, for the purpose of providing first-hand experiences with animals, or that interactions with animals should be prohibited. However, a few months after the interview with the animal protection charity's education manager, I came across a document among the organisation's webpages entitled *'Animal-friendly Schools: How can schools be animal friendly?'* The document had a creation date of 18 November 2009, and its stated objective was for "Supporting teachers to develop informed, responsible and active citizens" (p.1).

"Animal-friendly schools do more than just teach about animals. They encourage both teachers and pupils to think about animals' needs and to develop a sense of care and responsibility." (p.1)

In the document, there was a sense that schools were expected to play a role in teaching about animals, but the focus should be on teachers and children learning about animals, and the particular needs of animals, but without AAL.

On the topic of on-site animals, the position of the organisation was clear.

"The [organisation name removed] *believes children and young people can be taught about animals without keeping pets in the classroom….The* [organisation name removed] *strongly discourages the keeping of animals in schools."* (p.2)

This information verified what the participant in the previous activity had said about the animal welfare charity –of a message to early childhood practitioners that animals are not permitted in education settings.

*"Any member of the school's staff who are responsible for an animal or animals being on the school premises – whether on a permanent or temporary basis – are now subject, as a result of the **Animal Welfare Act 2006**, to the legal obligations to ensure that those animal's needs are met…criminal prosecutions could in theory be brought against all persons over the age of 16 who had responsibility for that animal, including school staff* [if an animal's needs are not adequately met].*"* (p.2)

By referring to specific legislation (Animal Welfare Act 2006), the organisation gave the document an air of legality and gravitas. Certainly, accessing this (or similar) information presented in this way could result in someone inferring that animals are 'not allowed' in schools and early childhood settings (even though the term 'discourages' is the one used), particularly if this information is heard second-hand from colleagues or senior managers. This information could also influence a person's view on keeping onsite animals or volunteering to be the adult responsible for animals that visit their site.

The Animal Welfare Act 2006 was quoted in the document and so it became a priority area to research.

Other animal-orientated third sector organisations

I found other animal-orientated third sector organisations via an Internet search. I identified 107 relevant organisations (19 international, 67 national, and 21 local) and then contacted them by email. From this initial contact, I then conducted telephone, email, or face-to-face interviews and conversations with those organisations that agreed to do so. The purpose of contacting the organisations was to learn more about their ideologies and practices to do with animal-related learning, to find out about the shared support and information networks that exist between these organisations, to seek their perspectives on whether animal-assisted and animal-related learning has declined, and to seek evidence of a particular agenda that would lead teachers to believe that AAL is not permitted in schools. Prior to the initial contact, I reviewed the information available (on the websites of the organisations) about each organisation and their educational work with young children. In many cases, further information was sent to me directly as an outcome of the telephone or email conversations. Of the 42 organisations that responded to first contact, 22 provided further information via a nominated staff member. (Typically, it was the manager or chief education officer who self-nominated or was nominated to engage further with me.)

Most of the organisation representatives felt that the ARL managed by their organisation, and in the sector, had changed only in the nature of how it was being delivered. The type of educational work most frequently cited was online, distance learning; most of the organisations appeared to have recently set objectives and secured funding for developing online educational materials. When asked about the amount, type and nature of learning about animals managed by EEPs, all of the participants stated that they did not know if this had changed. Almost all of the organisation representatives said that they had not considered their personal position on the issue of ARL in early education

before or about their views on AAL in education settings. There was a lack of knowledge about the extent to which first-hand experiences were being planned and delivered in ECE settings. However, one organisation representative was aware of one example.

"We supply eggs to local Primary schools and the equipment to hatch them for learning about Life Cycles in Science and then they come back here." ('Dave', face-to-face conversation, a children's farm)

The comments made by three participants indicated that there might be a broad lack of insight and clarity in terms of what was occurring in EC settings.

"I can only talk from the perspective of [name of organisation removed]. *We don't really know what settings are doing."* ('Emma', email dialogue, an organisation with a focus on protecting cats)

"I always had a class pet. So I imagine schools and nurseries will still be doing that....but I don't know." (Mrs C, telephone conversation, animal health charity)

"I can put you in touch with teachers of young children we work with, but I am not sure what else they [settings] *do with the children."* ('Nick', telephone conversation, bird sanctuary)

This perceived lack of clarity surrounding what was actually occurring in settings became a research priority.

In order to triangulate my findings about the educational work of the primary animal protection charity, I posed some specific questions about the animal protection charity to the other organisations. The responses showed that knowledge and information about the animal protection charity's focus, its work, and its organisational restructure was in the public domain.

"Yes, they have lost a lot of their education officers I hear." ('Sue', telephone conversation, zoo)

"Their website is much better now. There are lots of resources. I know that is what they are doing now." ('Helen', face-to-face conversation, a ranger)

When asked if they knew about that organisation's perspective on class pets, participants said,

"[name of organisation removed] *are so focused on prosecuting. Did you hear about the news article about the guinea pigs in a school? About the mental needs of the guinea pigs? They were going to prosecute them or something..."* ('Sally', telephone conversation, an organisation with a focus on protecting dogs)

"I think schools would be a bit scared of [name of organisation removed] *as they can be a bit heavy handed in their approach."* ('Anna', telephone conversation, an organisation providing horse riding as therapy for children)

These responses indicated that the primary national animal protection charity's profile is sufficiently well known and associated with prosecution to potentially influence public perception. Overall, however, I found no evidence that there is a particular agenda to misinform teachers or lead them to believe that animals are not permitted in schools.

An overview of the findings from Activity B are provide in Figure 4.2.

FIGURE 4.2 ACTIVITY B - SUMMARY OF FINDINGS

Items:

core focus on preventing cruelty

needs of animals paramount

broader eduction in the third sector deprioritised in austere times

reference to the Animal Welfare Act 2006

Prominent ideas:

no reduction in education, only a shift in the nature of delivery

emerging use of technologies

lack of awareness of setting-based delivery of ARL

personal position on setting based pets generally not considered

Tension:

no evidence to suggest that there is a particular agenda to misinform EEPs or lead them to believe that animals are not permitted in settings, however...

the primary national animal protection charity's profile is sufficiently well known and associated with prosecution to potentially influence public perception

Core concept (summative code)

'Dissuasion'

4.3 Activity C findings

Concurrent to the Activity B research, I reviewed the curriculum guidance provided for the early education phase under investigation in this study (3–7 years): the Statutory Framework for the Early Years Foundation Stage (2008) for ages 0–5 years - which then became the Revised Statutory Framework for the Early Years Foundation Stage (2012) during the research process - and the National Curriculum in England Key Stage One for ages 5–8 *[Note: at the time of writing the new National Curriculum 2014 and the Updated EYFS 2014 have not been released/published].* I wanted to look more closely at the curriculum guidance that was seen by the participants in Activity A as creating a restriction on ARL and AAL.

The Early Years Frameworks in 2008 and 2012

I conducted my first analysis of the Statutory Framework for the Early Years Foundation Stage in January 2010. I conducted another analysis once the revised framework in September 2012 became available. When reviewing the Statutory Framework for the Early Years Foundation Stage (Department for Schools, Children and Families, 2008), I only found one explicit reference to animals, which stated that providers *"must ensure that any animals on the premises are safe to be in the proximity of children and do not pose a health risk"* (Department for Schools, Children and Families, 2008: 27). There were no references to expectations for teaching and learning about animals, and this supported what the participants in Activity A said about restrictions on ARL. This raised the question: *If the curriculum guidance made no explicit reference to animal-related teaching and learning, would EEPs therefore be less motivated to fulfil this aspect?* This question, however, was applicable only up until 2012 when the revised Statutory Framework for the Early Years Foundation Stage came into effect.

Upon reviewing the revised framework for the EYFS, I found no explicit references to animals in any of the Prime Areas (Communication and Language, Physical Development, and Personal, Social, and Emotional Development).

114

However, I found one reference to animals in one of the four Specific Areas (Understanding of the World). The corresponding fuller analysis is presented in Appendix D (in full under the terms of the Open Government License) with all references to animals highlighted). In the revised document, there is explicit reference to '**observations of animals'** (and being able to talk about such observations). As such, it can be deduced that, from 2012, animal observations began to be seen in the guidance as an essential learning activity, whereas this was not the case in 2008. In effect, with the revised curriculum guidance, there was a small increase towards acknowledging animal-related teaching and learning, with an emphasis placed on the observation of animals. Also, from 2012, from analysis of the documentation that early education practitioners have been expected to ensure that children can '**name the features of living things'**, and to promote this as an essential skill. The logical assumption then would be that animal observations and related activities in early education settings would have increased from 2012 onwards, though the type of activities would vary.

In Section 1.7, the Revised Statutory Framework for the Early Years Foundation Stage (Department for Education, 2012b) states,

> "Practitioners must consider the individual needs, interests, and stage of development of each child in their care, and must use this information to plan a challenging and enjoyable experience for each child in all of the areas of learning and development". (Department for Education, 2012b: 6)

The excerpt above suggests that the 2012 framework provided early years staff with the time, creative space, and autonomy to design/deliver activities to provide activities like learning about animals and other living things. This, however, goes against what the participants in Activity A said with regard to their perception of a restriction on animal-related learning.

In addition, Section 1.1 of the Revised Statutory Framework for the Early Years Foundation Stage (Department for Education, 2012) asserts that the core objective of an early education practitioner role is to "ensure [the children] are ready for school" (Department for Education, 2012b: 4). It could be that

particular curriculum aspects are prioritised more than others because of a wider policy of 'school readiness' following the White Paper 'The Importance of Teaching' (Department for Education, 2010). This core objective provided a possible reason why animal-related teaching and learning is perceived to be restricted as a consequence. It also suggests that wider government policy is a specific influence on ARL in ECE.

In the process of reviewing both EYFS frameworks, I discovered support both for and against the curriculum being a restrictive influence, and the potential for a new line of inquiry about wider policy as a contributing factor. In light of these findings, I planned a research activity (Activity H) to explore these discrepancies in more detail with EEPs.

The National Curriculum in England (Key Stage One)

I conducted my analysis of the National Curriculum (NC) in England documentation (Department for Education and Employment/QCA, 1999) in January 2010. I chose to review the National Curriculum in England (Key Stage One) because EEPs must adhere to this statutory guidance from when a child reaches compulsory school age (the term after the child turns five) until the end of Year Two. Also, during previous research activities, participants had highlighted a link between ARL/AAL and the 'Life and Living Processes' statutory area of study in Primary Science. After a systematic review of the NC documentation, I discovered that Primary Science is the only part of the curriculum that currently refers to animals. Within the Programme of Study for Science (Key Stage One) the topic of animals is an area of interest for study as '**a living thing'**, as '**linked to humans'**, and as '**part of the local environment'**. The corresponding fuller analysis is presented in Appendix E (in full under the terms of the Open Government License) with the references to animals highlighted.

The categories found were: *living/life processes, identifying external parts, staying alive, care and sensitivity, reproduction, senses,* and *diversity in the local environment*. The references to animals in the text are predominantly

116

about scientific understanding: finding out about animals, the concept of animals as 'the other', and sensitivity to living things including animals. These are the only citations about animals in the curriculum in England (for children aged 5–7) from 1999-2014.
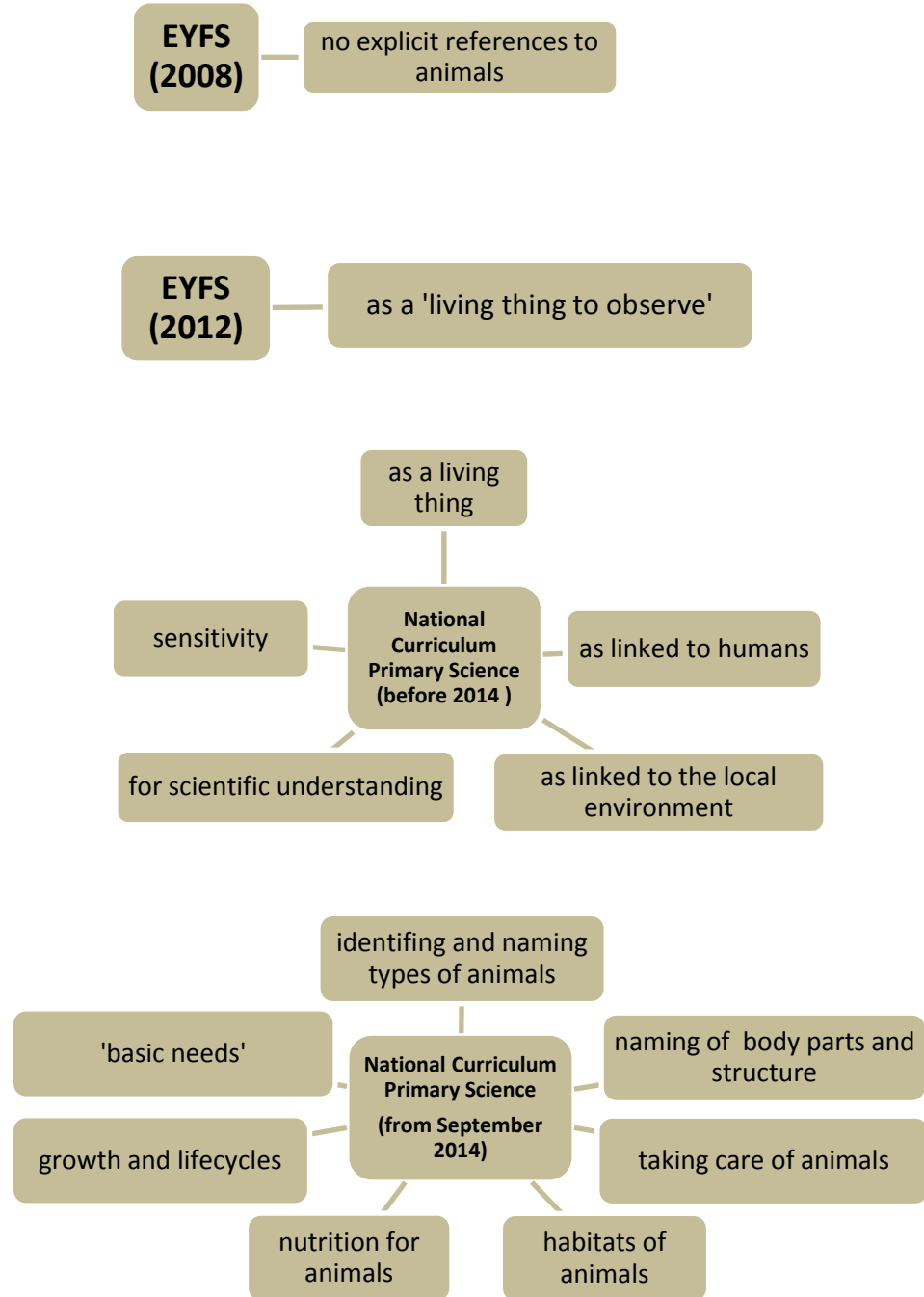
In September 2013, I was also able to analyse the draft revised NC (KS1) consultation document for the curriculum being designed for September 2014 (Department for Education, 2013). In this document, I found a slight increase in the number of references to animal-related teaching and learning, but these references remained within the scientific frame as identified in the current NC. The corresponding fuller analysis is presented below in Appendix F (in full under the terms of the Open Government License) with the references to animals highlighted.

I found one further mention of animals in the English Programme of Study 'Glossary' section. In this section, animals are referred to as an example of the 'the subject' in the English language, e.g. "The children will study the animals. Will the children study the animals?" (Department for Education, 2013: 81). It is difficult to establish whether the lead authors for the section on the teaching of English had the study of animals in their awareness for reasons unspecified and undisclosed, or if it is a coincidence.

The findings arising from the systematic review of these NC documents showed that ARL is included in the curriculum guidelines, but only as scientific objects. This discovery ignited new lines of inquiry: *What methods are used to deliver the KS One animal-related aspects of Science?* (See the findings of Activities L & M), and *what are the views of children with regard to learning about animals – do they see learning about animals as a scientific activity?* (See the findings of Activities D & E).

FIGURE 4.3 ACTIVITY C - SUMMARY OF FINDINGS

Curriculum references:

EYFS (2008) — no explicit references to animals

EYFS (2012) — as a 'living thing to observe'

National Curriculum Primary Science (before 2014)
- as a living thing
- sensitivity
- as linked to humans
- for scientific understanding
- as linked to the local environment

National Curriculum Primary Science (from September 2014)
- identifing and naming types of animals
- 'basic needs'
- naming of body parts and structure
- growth and lifecycles
- taking care of animals
- nutrition for animals
- habitats of animals

Core concept (summative code):

'Animals as the object of study'

118

4.4 Activity D findings

Following an email correspondence that took place as part of Activity B, I established a partnership with a national magazine for children. Within the context of this partnership, a survey was developed to gather data on the views and interests of children related to animals. The survey took the form of an open competition, and the advertisement for the competition appeared in the February 2010 edition of the children's magazine (Berry and Anstey-Holroyd, 2010) – a copy is available in Appendix A. Participating children were asked to

- draw a picture or take a photograph of their favourite animal and write something about this animal.
- write about animal activities at school.

The competition attracted 39 entries from children aged 5–13 years. Twenty-nine of the respondents were female, while 10 of the respondents were male.

A table showing which animals the children selected as their 'favourite' is provided in Appendix G.

Competition entry narratives

I analysed the written pieces that accompanied the photographs/drawings and four main themes emerged from the coding,

- Information about animals
- Humorous tales about animal behaviour
- Emotional stories about animals the children have kept as pets or animals seen in the wild
- Expressive/creative pieces about animals

All 10 of the male respondents provided *information about animals* only.

All of the female respondents included information and wrote expressive pieces about their interest in animals and/or humorous tales. The expressive pieces

tended to include a creative product (drawing). Six of the female respondents made reference to a passion for animal welfare.

Some of the respondents made references to activities associated with school. One male respondent, aged 11 from Bristol, provided information about a school trip to a safari park. One female respondent, aged 13 from Coventry, remembered that they had had a school pet a few years before, but it had died and all of the pupils had been *"really upset"*. One female respondent, aged 9 from London, talked about a school dress up day when all children had come to school dressed as animals from the North Pole. One female respondent, aged 12 from Cornwall, stated that, "*the school has no activities only visits to the zoo"*. One female respondent, aged 9 from Buckinghamshire, explained that they had donated money through her school to a charity that protects animals. One male respondent, aged 7 from Yorkshire, mentioned that they had studied tadpoles and butterflies at school. One female respondent, aged 8 from Cheshire, provided a (humorous) tale about a dog that had run into the playground. One male respondent, aged 9 from Belfast, explained that he walked to school with a dog every day.

I further analysed the competition entry narratives in order to find out whether learning about animals was viewed as a scientific activity by the children. There were no experiences that could be traced to 'Understanding of the World' in the Revised EYFS, or Science in the Key Stage One NC (although one respondent did allude to the NC, mentioning that they had studied tadpoles and butterflies at school). None of the respondents talked about undertaking observation activities at school, having a class-based pet, learning about the basic needs of animals, or being taught to name or identify animals and their behaviour. In contrast, the affective response by children was prominent.

The competition entries from the respondents had already been collated by a staff member of the magazine when I received them. That person acted as the gatekeeper for this research activity and conducted a separate analysis of the competition entries. There was joint agreement on the themes emerging from

the codes; learning about animals is a cognitive experience, but an affective one too. This indicated the potential for animals as an affective resource.

FIGURE 4.4 ACTIVITY D - SUMMARY OF FINDINGS

Main themes:

Information	Humorous tales
Emotional stories	Expressive and/or creative pieces

Outcome:

no matched references to curriculum elements in the free responses from children

Ideas:

cognitive experience

learning about animals

affective experience
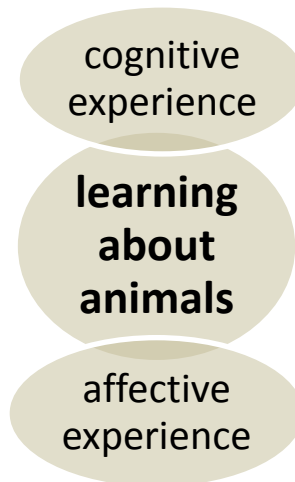
Core concept (summative code):

'Animals as an affective resource'

4.5 Activity E findings

Activity E was developed through a partnership with one of the teachers who took part in Activity B. I arranged to conduct interviews and an extension activity with her Reception class children as a partnership research activity, with ethical approval and appropriate consent and assent in place (see Chapter Three).

Twenty-eight children were interviewed with the aim of finding out the views of 4–5-year-olds about animals. Sixteen participants were male, while 12 participants were female.

Interviews

The interviews ranged in length from 30 seconds to 24 minutes. The mean interview length was 6 minutes. The children were not required to respond to standard interview questions, but were asked to bring a photograph from home (of a pet or other animal) to stimulate conversation in an informal interview situation. Through these informal interviews, I was able to gather information regarding children's views on learning about animals.

None of the children interviewed mentioned school-based animal-related activities, nor did they make reference to aspects of Understanding of the World in the Revised EYFS or any of the external influences identified by adults in the earlier research activities. In general, the data that was collected consisted of anecdotal tales, for example:

"I have a dog and he loves licking but he also is noisy." ('Paul', aged 4)

"I love rabbits. They are just so jumpy." ('Sami', aged 5)

"My grandma has a dog. I want my own dog but my dad says no." ('Faith', aged 5)

Also, one male participant brought a photograph of a dog to the interview and talked about it for 16 minutes until eventually admitting that it was not his photograph. He indicated that this was his photograph because he liked it more than his own photograph and because he wanted a dog. I reflect on this activity in Chapter Seven ('Discussion'). What became clear here was that the intersubjective experience between interviewer and participant were not aligned, and this is an important idea that was taken forward for the future activities.

Extension activity

A pack was sent home with each child in the class on a rota basis. Inside the pack was a camera, a diary to write in and information about the activity for parents with instructions about using the camera. Parents were asked to let the children choose which animals to photograph and include in the journal.

The pack was collected a few months later, and, upon analysis, it included 39 photos and 18 diary entries. Nine journal entries were from girls, and nine journal entries were from boys.

A table showing which animals the children selected for the journal is provided in Appendix H.

There were photographs of a leopard and the group of jungle animals but these were of inanimate ('non-living') animals (the leopard was a 'stuffed toy animal and the jungle animals were on a poster), while the remaining photographs were of real animals. This is interesting in that young children wanted to include representations of non-living animals when the expectation was that they would want to refer to a live animal. This is an example of misaligned intersubjective experience.

Most of the journal entries were *scribed by a parent*, and so it was decided that these could not be analysed using the themes from the previous research. No

references were made to class pets in the photographs or journal entries. No class pets were observed in the classroom where the interview took place.

Following the interviews and extension activity, I decided to shift focus towards other lines of inquiry that had been stimulated by Activities A–C.

FIGURE 4.5 ACTIVITY E - SUMMARY OF FINDINGS

Outcome:

no matched references to curriculum elements in the interviews

Ideas:

non living
animals

**learning
about
animals**

live
animals

Core concept (summative code):

'Intersubjectivity'
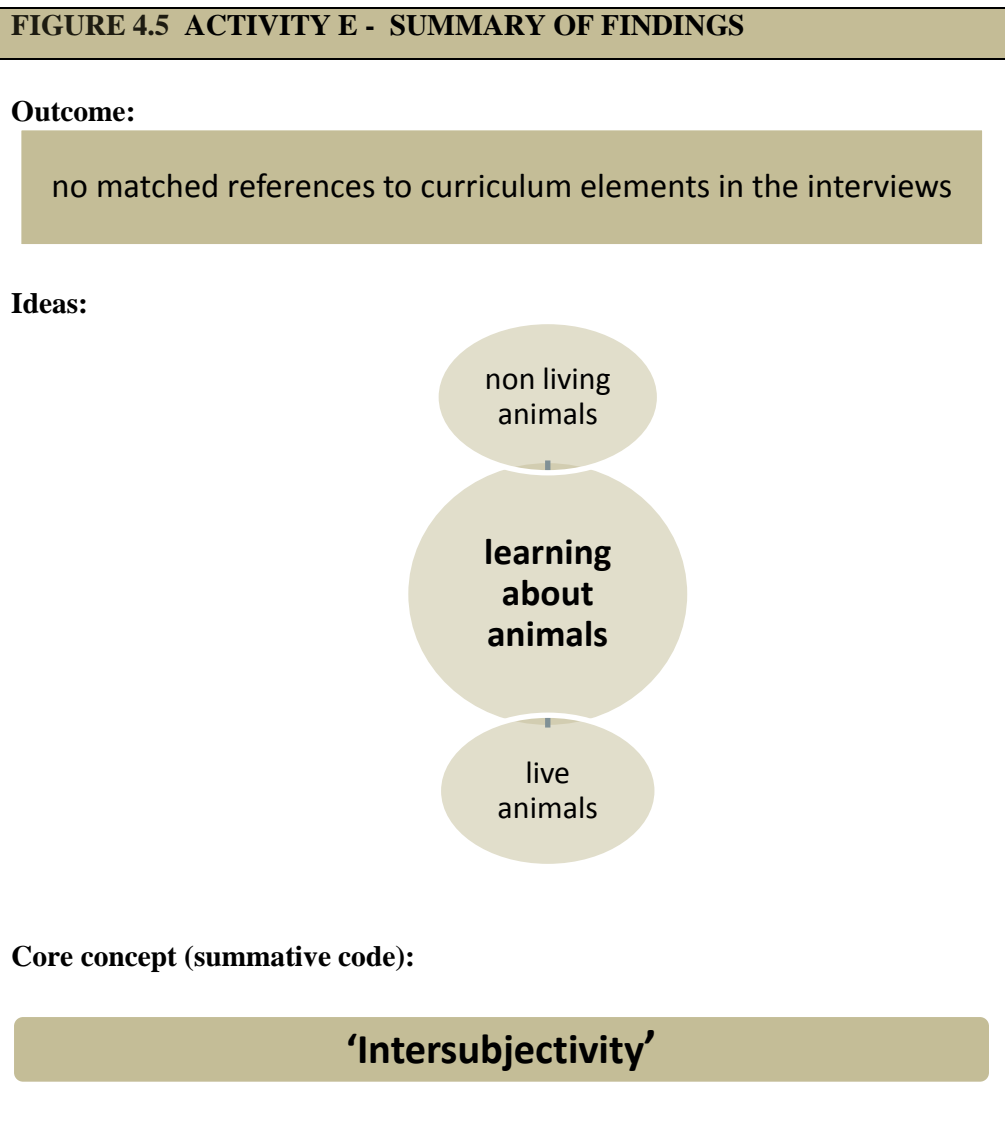
4.6 Summary of Phase One findings

This chapter has outlined the findings and outcomes of the five research activities that took place during Phase One of this study. Some of the activities were more successful than others in the degree to which they contributed knowledge related to the research questions.

Following the abstraction of the data in Activity One, I identified a core variable as 'Influence', which then became the primary construct for investigation in the activities that followed (Activities B–E). My analysis of the initial data gathered in Activity One provided a refined focus for the study. The research from that point onwards became centred on; the status of animal-assisted and animal-related learning in early education, the factors associated with practitioners feeling that ARL had been deprioritised and the lack of support and information available to facilitate the teaching and learning about animals.

It was clear that many of the teachers interviewed had positive attitudes and perspectives on the value of animal-related learning in early education, although a few teachers did hold negative views. The attitudes and perspectives of early education practitioners needed deeper exploration in order to give voice to the aspects of ARL that EEPs feel are appropriate for professionals to be involved in, and whether first-hand experiences for observation and for developing a sensitivity to living things are best managed by EEPs in settings or in collaboration with third sector organisations or provided by external parties. To this end, a new research question was required, making use of both survey and phenomenology methods: *What do early education practitioners think and feel about young children having first-hand interactions with animals?*

The degree to which animals are included in the EYFS/NC also became a priority area of study. When reviewing the EYFS/NC documentation, it became apparent that EEPs must have a view on whether the guidance is educationally and developmentally appropriate for the children they teach. I therefore felt it was essential to solicit the views of different early education practitioners in order to determine the extent to which they take see value in ARL and/or take ownership of learning about animals. Therefore, another research question was

included for Phase Two: *What do early education practitioners say about animal-related teaching and learning?*

Finally, it became important to gather examples of current practice not only to provide a fuller picture for the inquiry, but also to build up a toolkit of examples to fulfil the ad hoc requests for support and information that was mentioned frequently as I liaised with participants and gatekeepers during the research activities. With this intention, I developed a third research question to be integrated into Phase Two and researched using both survey and phenomenology methods: *What animal-related teaching and learning is occurring in early education practice in early education settings?*

Towards the end of this phase a second theory emerged: *Significantly more primary schools do not provide opportunities for interacting with animals than do.* This theory required further exploration, and it was targeted as the first activity (Activity F) after transitioning from Phase One to Phase Two.

CHAPTER FIVE

Phase Two Findings

In this chapter, I present the findings from Phase Two of the study. The data previously collected in Phase One (from participants and the review of curriculum literature) indicated that further research was required about; what early education practitioners say about animal-related teaching and learning, the aspects of ARL felt to be within the remit of the practitioner role, and the ARL taking place in early education settings. Thus, Phase Two was directed towards uncovering views and case examples.

At the end of the first phase a theory emerged ('significantly more primary schools do not provide opportunities for interacting with animals than do'), thus the first activity in this phase - Activity F (survey) - was designed to explore this. The subsequent activities in the second phase (Activity G-I) emerged organically from Activity F. For the research activities in this phase (Activities F–I), I predominantly used qualitative data collection strategies, incorporating some quantitative elements within Activity F.

In this chapter, alongside the codes, categories, and abstracted themes drawn from the qualitative data collected, I also offer suggestions and reflections related to the findings from Phase One. In addition, I explain how the findings from this phase informed the third (final) phase of data collection.

5.1 Activity F findings

By the end of Phase One, a theory had emerged: *Significantly more primary schools do not provide opportunities for interacting with animals than do*. To explore this theory, I sent a survey questionnaire to local primary schools – an opportunistic sample that arose from the access I had to a database of schools in the local area (the addresses are held by the university through a working partnership agreement and I was able to access this as a member of staff). The questionnaire was designed with a focus on animal-related practice and

educational priorities in primary school settings. I wanted to find out what was occurring in the schools. A clean copy of the questionnaire is provide in Appendix B.

Quantitative data

Two hundred and sixty-eight questionnaires were sent out to schools in February 2010. Fifty-seven questionnaires were returned (via prepaid envelope). Of the 57 schools surveyed, 41 respondents stated that they did not have animals on the premises (either continuous or visiting). This data gave support to the theory that significantly fewer primary schools provide opportunities for children to interact with animals.

Those that did have school-based animals were asked to name them in the questionnaire.

A table showing which animals were listed by schools is provided in Appendix I.

Five schools had more than one type of animal on site. None of the schools had more than three types of animals on site.

Some of the schools without permanent animals stated that they do have other on-site experiences, for example bringing chicks and ducklings on site to hatch, having dogs as visitors, and inviting zoo educators to bring animals into the school as part of an educational experience. However, the schools without any animal presence (permanent or visiting) represented the substantial majority.

Qualitative data

I coded the explanations given by the respondents for not engaging in animal-assisted experiences, and six categories emerged. The categories were:

- Allergies, asthma, and adverse reactions (health-related risk)
- Safety of children (safety-related risk)
- Hygiene concerns (health-related risk)
- Responsibility (continuity and care of the animals, especially during school holidays)
- Parents (consideration of parental wishes/previous complaints from parents/possible litigation)
- General time demands on teachers

Using the qualitative responses, I discovered links to the categories that had emerged in earlier research. These were identified as:

a. Risk – 'risky activity' (from Activity A), 'health risk' (from Activity C), and 'the safety of children' (from this survey).

b. Parents – 'wishes of parents' (from both Activity A and this survey)

Two other connections made were:

c. Leadership – 'responsibility' (from this survey) and 'permission and support' (from Activity A)

d. Government – 'demands on teachers' (from this survey) and 'narrowing of the teaching and learning opportunities' (from Activity A)

I also coded the potential benefits of animal-assisted opportunities named by the respondents, and eight categories emerged. These categories were:

- Developing desirable attributes (responsibility, care, gentleness, respect, social skills, understanding of others, empathy, morality, citizenship)
- Engaging children with an understanding of lifecycles
- Discussing animal welfare and protection
- Teaching children to 'keep clean' and 'be healthy'
- Providing a calming influence
- Improving literacy (reading about animals, children reading to animals)

- Supporting behavioural improvement
- Providing companionship

Interestingly, in the survey, the respondents mentioned *benefits* more than *barriers* for animal-assisted learning.

'Influence' (from Activity A) remained an overarching core category.

One comment by a respondent suggested that the barriers were externally mediated and linked priorities.

 "…I have so many other pressures that unfortunately this wonderful idea has to keep slipping down the priority list, usually out of sight!" (Respondent, questionnaire MER/199, no animals on site)

This respondent clearly valued ARL and AAL but felt that it had become deprioritised.

Also from the qualitative data, the categories of *Attitude* and *Perspective* emerged.

Attitude

Individual attitudes towards animals and animal-related learning varied, and attitudes did not necessarily correspond to whether animals were on site or other animal experiences were provided.

Some attitudes were implicit.

"One member of staff was allergic so we dispensed with them all."
(Respondent, questionnaire MER/215, no animals on site)

The use of the term 'dispense' suggests that this respondent saw animals as an object/tool that was of low priority and easily discarded. It was not clear in this case if it was the staff member with the allergy or another staff member who made this decision. Nevertheless, the respondent clearly had a dismissive attitude towards the reported event.

One respondent explained that different staff in their setting had different attitudes depending on the type of animal.

"Staff in [our] *school do not like certain animals and have certain allergies."* (Respondent, questionnaire MER/220, fish and 1 hamster on site and hatching chicks yearly)

Another respondent explained that although some staff in their setting had a positive attitude towards animals and animal-related learning, the decision had been made to not engage with on-site experiences.

"Some staff have asked if we could have some furry pet but issues surface ...preventing us taking it any further." (Respondent, questionnaire MER/ 086, fish on-site)

The term 'issues' links to the core category of 'Influence' identified in the early research activities.

Perspective

Many respondents articulated a personal perspective, for example

"We had animals in class when I was young and also had visiting animals – I learned not to be scared of them and hand fed them – I was always cautious before." (Respondent, questionnaire MER/209, no animals on site)

Some perspectives about animals in early education were entwined with personal experience and attitude. There were positive perspectives that corresponded to whether animals were on site or other animal experience were provided.

"I grew up with pets and so did my children. They are interesting and great company. An asset to any classroom." (Respondent, questionnaire MER/075, 2 gerbils on site)

"I have always had pets for my children. It teaches responsibility and provides friendship and calming influences." (Respondent, questionnaire MER/099, 1 gerbil on site)

"I always had pets as a child. I continue now – calming and relaxing when stressed." (Respondent, questionnaire MER/165, 2 guinea pigs, 10 chickens on site)

"I grew up surrounded by horses, cats, hamsters, fish and budgies." (Respondent, questionnaire MER/195, fish on site)

"...[I] *went to a primary school which had a variety of pets. [I] keep small animals at home with own children."* (Respondent, questionnaire MER/118, 2 guinea pigs on site)

However, the positive perspective of some respondents did not necessarily correspond to animals being on site or other animal experience being provided. For example,

"When I was at school myself, I always had animals in school." (Respondent, questionnaire MER/109, no animals on site)

One respondent (questionnaire MER/195) ticked 'no' for the question related to animals on site, but then mentioned having a fish tank on site in the comments.

This discrepancy could be an individual error or may be an indication that some teachers do not view fish in a tank in the same way as other animals.

Some respondents had a positive perspective on having animals on site, but were wary of the risks.

"I bring my dog into school from time to time – but I am wary of her around pupils. They seem to enjoy having her in school." (Respondent, questionnaire MER/212, no animals on site)

"Children with allergies can be a worry for teachers." (Respondent, questionnaire MER/228, no animals on site)

Information

Some of the qualitative comments indicated that 'Information' was a theme worth exploring further.

"[There are] *lots of mixed messages about what is acceptable."* (Respondent, questionnaire MER/032, 1 hamster on site in the learning mentor room)

The source and type of information appeared to resonate with early education practitioners, especially when stories were seen to have a negative impact and outcome.

"The media stories have focussed on 'disasters' – e.g. the school that reared and slaughtered a goat. The head was hounded by animal activists and left her post." (Respondent, questionnaire MER/125, no animals on site)

"The famous 'farm' incident did have an effect on thoughts on visits – but we still go to [name removed] *Zoo, etc. ...."* (Respondent, questionnaire MER/215, no animals on site)

One respondent actively sought information about what had been found across settings in the inquiry.

"I would be interested in receiving your final report." (Respondent, questionnaire MER/199, no animals on site)

Home–school

'Home-school' was another category which emerged in this research activity.

"I feel these days that children don't have that experience at home." (Respondent, questionnaire MER/222, 1 rabbit, 1 guinea pig, and 1 hamster on site)

'Home–school' was a category related to **'Parents'** (a category from earlier research activities), which was focussed on the nature of education beyond the school gates.

Autonomy

A second new category also emerged in this research activity about 'Autonomy'.

"The media bears no relation…if I was able to have many animals in school I would, to enhance elements of PSHE and the curriculum." (Respondent, questionnaire MER/043, no animals on site)
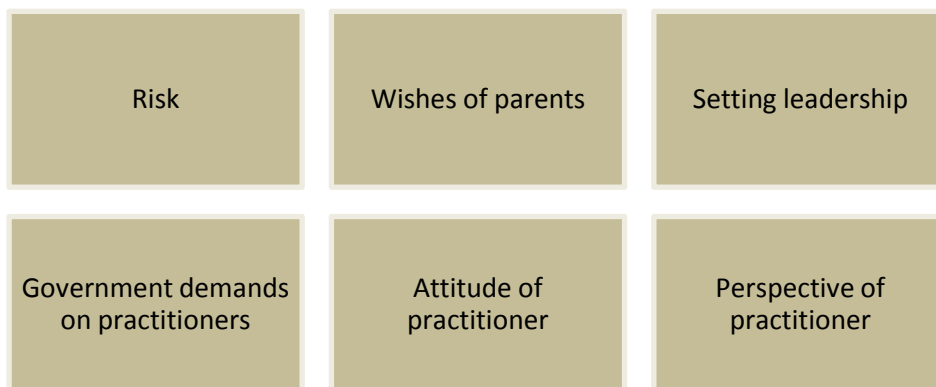
Although this quote indicates that the respondent felt a lack of autonomy in this area, it also ignited the idea that other teachers may feel that they do have autonomy and embark on animal-related experiences regardless of the perceived 'Influences'. This became a particular area of inquiry later (in Activities H and I).

FIGURE 5.1 ACTIVITY F - SUMMARY OF FINDINGS

Categories:

Allergies, asthma and adverse reactions	Saftey of children	Hygiene concerns
Responsibility for animals	Parents	General time demands

Associations with earlier research:

Risk	Wishes of parents	Setting leadership
Government demands on practitioners	Attitude of practitioner	Perspective of practitioner

Core concept (summative code):

'Autonomy of EEPs'
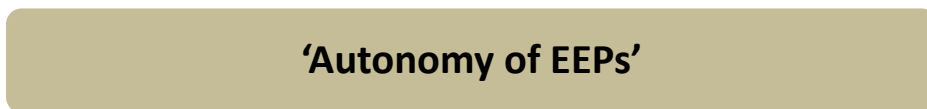
5.2 Activity G findings

Activity G focused on describing and interpreting the early education provision at a Danish farm kindergarten. By engaging with the views of staff from a farm kindergarten in a different country, I had the opportunity to contextualise my findings from the previous research activities centred on my local area

(Merseyside) and nationally in the curriculum guidance. This study visit, which took place in March 2010, was arranged through a consultancy organisation as a continuing professional development study opportunity for early education academics and practitioners, as an escorted tour to look at examples of early education provision in one central region of Denmark (Vejle).

The Danish kindergarten visited was not a compulsory education setting. In fact, children do not begin formal schooling in Denmark until the age of six. As a result, direct comparisons were difficult to draw with findings from the activities of the study which had, thus far, looked only at 'school-based' early education provision. However, this activity did enable me to consider the underpinning educational philosophy in an early education setting in a different country, to find out about the perspectives and attitudes of practitioners and the perceptions of influences on practice.

The visit to the farm kindergarten allowed for a mutual learning exchange with the setting professionals (manager, educators, and support staff). The kindergarten staff explained their pedagogy and practice, and I was able to discuss the findings of my research to date to which the staff offered their responses.

Context

The manager provided general information about the farm kindergarten in an introductory talk, and I made notes in my field journal. Below is an extract from the journal.

"The kindergarten is a place for children aged 0–6 years. It hosts visits from local schools often, but its primary role is childcare and education." (Journal entry, 22 April 2010)

"The farm is on a 6 acres site that houses the kindergarten, farm buildings. Some fields are used for agriculture (grain). Other fields are for sheep, two horses, a donkey, two pigs, geese, chickens, plus a farm cat. There are also

136

rabbits that belong to children who have opted to own them (overseen by the kindergarten staff to ensure welfare issues are addressed)." (Journal entry, 22 April 2010)

The manager suggested that the indoor space (kindergarten) and surrounding land were typical of Danish provision in terms of size and resources, although she stated that it was not typical for kindergartens to be located on a working farm.

I coded the data collected in my field journal and arranged the codes into two broad themes: *Similarities,* and *Contrasts*.

Similarities

The manager of the farm kindergarten was asked to explain the philosophy and values of the setting. The following extract comes from my field journal notes based on the response by the manager:

"The manager states that the staff team have created the kindergarten based on their shared educational values, supported by ongoing reflections and revisiting of philosophy. Discussions about the children and pedagogy occur frequently and they are timetabled to occur." (Journal entry, 22 April 2010)

This approach shows a similarity to how staff teams work together in many of the settings in England.

Contrasts

In contrast to the majority of the local settings surveyed for Activity F, setting-based pets were permitted and encouraged at the kindergarten. The kindergarten offered all of the children the opportunity to keep a rabbit at the setting.

"There are pet rabbits on-site. These are housed in individual pens in a large rabbit shed." (Journal entry, 22 April 2010)

When the issue of 'Responsibility' (continuity and care of the animals, especially during school holidays), a category from the previous research activity (Activity F), was raised with the manager, I made the following notes based on the response:

"They belong to individual children, however all children are expected to watch out for health and welfare issues with any of the rabbits. When the children choose to do this, the expectations on them as carers of the rabbit are made clear at the start. A feeding plan hanging on the wall in the hallway as a process of checking that the rabbits have received food and water and that each hutch has been cleaned once a week. There is a rota for sweeping and tidying the rabbit shed and for weekend feeding. [A named member of staff] *manages queries and concerns, (on taking ownership responsibility) and is notified if the child wants to put their rabbit up for adoption to another child then this is supported and arranged. The children are told that the rabbit will automatically be made available to another child if rules are not followed."* (Journal entry, 22 April 2010)

The category of 'Allergies, asthma and adverse reactions' from Activity F was discussed with the assistant manager. The following notes were made based on the assistant manager's comments:

"*Staff do not have these concerns. If children needs medication for allergies, etc. then they will take the medicine. The manager also mentions research that staff have engaged with in their training which suggests that exposure to different animals aids immunity."* (Journal entry, 22 April 2010)

The more relaxed attitude to allergies and the use of the theoretical view of immunity was noted as an area for further research (and it became a theme to explore in Activity H.

The category of 'Hygiene concerns' from Activity F re-emerged in this activity. I made the following notes based on what one farm assistant said:

"The farm environment can be a dirty place and for tasks with animals the children use aprons and rubber boots [like wellington boots]. *There are some tasks that only an adult will do. For example, if an animal is sick then it will be the staff who will assume responsibility."* (Journal entry, 22 April 2010)

The category of 'Safety of children' from Activity F was also presented to the manager. I made the following notes based on the manager's explanation:

"Children are familiar with the site. They are shown where they are permitted to be at particular times. They know the expectations and are reminded of them often. They are allowed autonomy and independence." (Journal entry, 22 April 2010)

An additional observation supported this explanation. While being shown around the kindergarten buildings and grounds, I observed children over the age of four engaging in open-ended activities and taking care of the farm animals without close adult supervision.

I asked a teacher at the kindergarten about 'Parents' (another category from Activity F) – specifically how they take parental wishes into consideration and deal with complaints and possible litigation from parents. I made the following notes based on the response:

"Dialogue with parents is essential to help support pedagogy. Parents tell staff stories of what the children have told them about their learning at the farm. The parents value the experiences that the kindergarten provides. Parents understand that children may have accidents or may get ill. The kindergarten teacher said that members of staff recognise that parental concerns are an aspect of their work and they try to respond to complaints in a professional way, but litigation is not something that has happened or that staff fear." (Journal entry, 22 April 2010)

I asked another kindergarten education practitioner about 'General time demands' and priorities. I made the following notes (and reflection) based on the response:

"The members of staff at the kindergarten see education and care as interwoven. The day to day activities centre on projects associated with the seasons, for example the production of apple juice, growing potatoes, sowing seeds and the harvest, raising animals and then slaughter, green woodwork. There is no mention of 'Influences' – especially external ones!" (Journal entry, 22 April 2010)

The issue of raising and then slaughtering animals was explored later in the visit. While being shown a lunch room used by an after school club, a study visit member asked about the plughole in the floor that we had noticed. The response was that the room is occasionally used as a slaughter room, and so the flooring and plughole were designed to enable easy cleaning. My notes and reflections about this experience were recorded in the field journal.

"The lunch room has a secondary occasional use as a slaughter room. Children are permitted to observe when animals are slaughtered. Not all children want to watch, but a number of them do as it is discussed often as part of the educational experience as topic work associated with the seasons. The pigs are called 'Ham' and 'Bacon' and the children accept that the pigs they care for on the farm will end up in the kindergarten freezer as food for all the children in the kindergarten. The manager states that children 'move on' quickly (Emotionally? Is this about accommodation? De-sensitisation?), especially when the new piglets arrive for the next cycle." (Journal entry, 22 April 2010)

This is a stark contrast to what I found in Activity A when a Foundation Stage teacher talked about a news story about a slaughtered goat (see Activity A – 'Information') and the extremely negative public and professional attention it received.

At the end of the tour, we were provided with a 'daily life' farm photo album. The album contained photographs taken regularly of the children engaged in 'typical' activities (usual to the setting). In the album, there was a series of photographs depicting the children hunting with guns, shooting black birds, and then defeathering the birds. When the manager was asked about this practice, I recorded notes in my field journal.
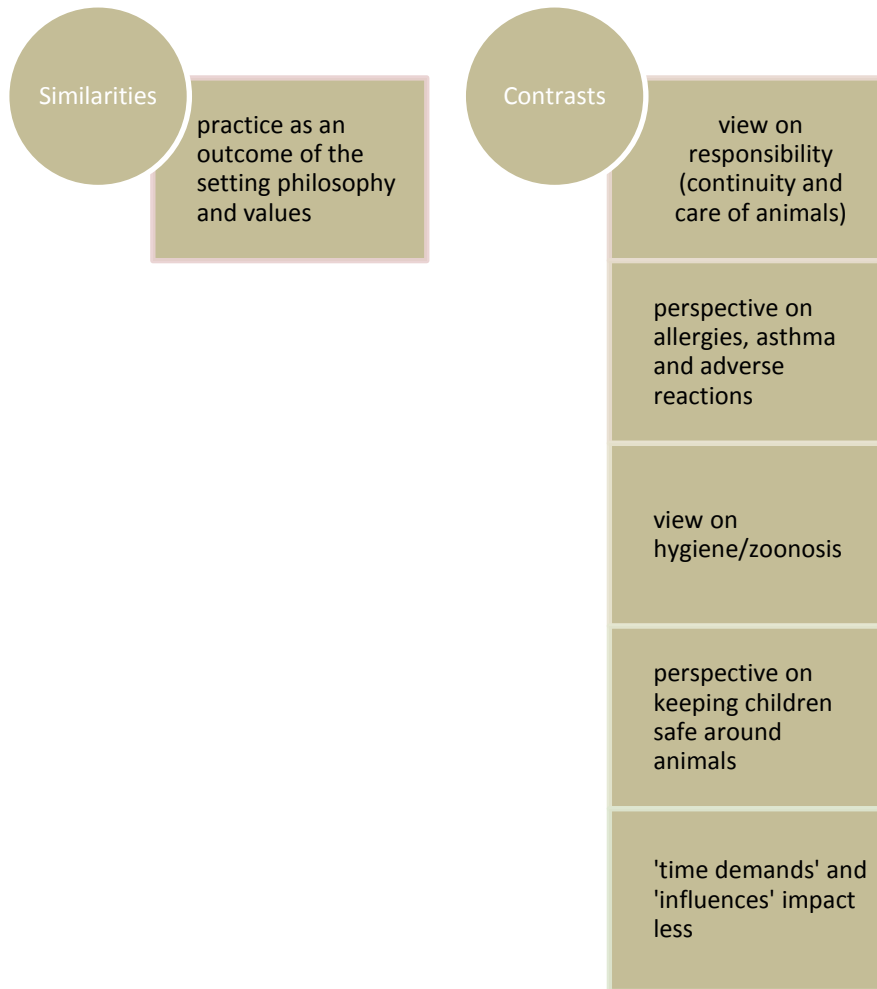
"The black birds were identified by the nursery manager as rooks and the activity is another topic associated with the seasons. Once a year, the older children are invited to accompany adults to cull the rooks in the far fields of the farm (as they are seen as a pest) and children are offered a supervised turn with a gun. The dead rooks are brought back to be stripped of feathers and the meat is used for food. The younger children are invited to help hand strip the birds of the feathers. This is a yearly ritual and photographs of previous rook culls are included in the photo album that is on display for parents and visitors." (Journal entry, 22 April 2010)

Again, this represented a stark contrast to the perceptions and practices of EEPs in Merseyside captured in the earlier research activities of this study.

The data gathered from this visit provided me with a case example that I could then present to EEPs in the next activity (Activity H). I used this example as a stimulus to get the participants to think more deeply about how knowledge and practical experience of the life of animals (conception, husbandry and care, and slaughter/death) are currently provided in another culture to provide an opportunity to engage EEPs in an alternative way of thinking and different ideas and philosophies of practice.

FIGURE 5.2 ACTIVITY G - SUMMARY OF FINDINGS

Main themes:

Similarities

practice as an outcome of the setting philosophy and values

Contrasts

view on responsibility (continuity and care of animals)

perspective on allergies, asthma and adverse reactions

view on hygiene/zoonosis

perspective on keeping children safe around animals

'time demands' and 'influences' impact less

Core concept (summative code):

'Alternative thinking'

5.3 Activity H findings

The study had previously been predominantly 'school-focus'. I reflected on the possibility that the core category of 'Influence' (arising from Activity A data analysis and considered in subsequent research), the theories of about priorities and structural support, and the descriptions by EEPs about parents, health, safety, and risk might be particular to the school environment. Therefore, a

priority for this research activity became about talking to education practitioners in some of the other ECE settings (for children aged 3–7 years).

I conducted semi-structured interviews with 10 early education practitioners from April to May 2010. The practitioners were in three schools, four private nurseries, and three family centres. A copy of the prepared interview questions are provided in Appendix J. Other ad hoc questions were also asked throughout since the interviews were conducted in a conversational style with experiences, examples, stories, and metaphors being shared. I took notes from the interviews, and after re-reading the notes, I memoed the data. This was followed by a process of open coding and aggregating those codes.   I then used axial coding to make connections with the categories from previous research activities and to identify new categories.

Some categories corresponded across the three types of early education provision settings. These were: *Awareness, Dialogue, Strategy, Skills,* and *Exemplars.*

Awareness

All participants displayed a positive attitude towards the idea of animal-related learning and spoke about a basic awareness of how ARL linked (or could relate) to practice, for example,

"Animals and the environment are usually talked about together. Habitats and mini-beasts are topics covered." (From the interview notes with 'Anna', private nursery EEP)

"Living things include animals. [Name removed] *identifies watching and observing animals as an activity that the children learn from."* (From the interview notes with 'Christine', family centre EEP)

"[Name removed] - *looking after animals teaches children how to care for things.*" (From the interview notes with 'Maureen', school EEP)

None of the participants referred to specific aspects of the EYFS framework. (This is as would be expected as the guidance did not explicitly cite animals until the 2012 revision.)

None of the participants were aware of other ideas associated with animal-related learning: *therapeutics* or *education assistance animals*.

Dialogue

Another category that arose during analysis was about how information, once discovered, is passed from one EEP to another. It was positive dialogue that was seen as a possible way of mediating the external influences that could otherwise restrict animal-related learning, for example,

"[Name removed] - *if activities with animals are talked about more, then staff in settings would naturally do more.*" (From the interview notes with 'Jill', family centre EEP)

"[Name removed] - *when only the bad stories are told to each other about animals hurting children or making them ill then this will lead some teachers wanting to avoid it [animal experiences].*" (From the interview notes with 'Sandra', school EEP)

"*Hearing more about what is happening means that ideas for practice can be used* - [Name removed]." (From the interview notes with 'Sam', private nursery EEP)

Due to these comments, in the final phase of the research process, I included an exploration of how to support and encourage positive and productive dialogue (within-setting and with external organisations).

144

Strategy

One category that emerged was about 'Strategy' - the kind of strategies that would be required to integrate AAL into early education. Some participants felt that a joined-up method incorporating the curriculum framework documentation would be essential for ARL.

"[Name removed] sees the EYFS framework as an important tool for EEPs to guide thinking about animal-related learning." (From the interview notes with 'Chris', school EEP)

"[Name removed] - animal-related learning can happen if there is one staff member with a particular interest in animals, but that most settings would need a strategic approach to feel secure in trying to develop animal-related learning. This is seen as a protective mechanism." (From the interview notes with 'Naomi', family centre EEP)

"[Name removed] *wondered if it would make a difference to have something about animals sent to settings so that every EEP connects with the idea."* (From the interview notes with 'Anna', private nursery EEP)

Based on the suggestions (lobbying, setting up support groups, producing newsletters to send to settings) of EEPs, joined-up working and strategy planning through a variety of methods would appear to be an effective way to raise awareness and instigate dialogue. This knowledge underpinned the choice of activities in Phase Three.

Skills

All the early education practitioners made reference to their skill level and knowledge about zoology, anthrozoology, animal handling, and animal care.

"[Name removed] *– does not feel she has the skills to teach children about animals."* (From the interview notes with 'Chris', school EEP)

"[Name removed] *has many different animals as pets and often brings her own guinea pigs into the setting and says this makes her feel confident in teaching aspects of care and about welfare."* (From the interview notes with 'Erica', private nursery EEP)

"[Name removed] *feels she does not have the skills (she stated that there was no input in training or since) and would want external organisations to manage any animal learning."* (From the interview notes with 'Naomi', family centre EEP)

The early education practitioners' self-perception of their skill level appeared to correlate with their confidence and willingness to be active in the provision of animal-related learning and experiences. This finding related to the theory identified earlier in the research about teacher perspectives and, perhaps, teacher attitudes. Teachers feeling that they have a skill deficit may be one explanation for limited practice with respect to animal-related learning. Training, therefore, seems to have the potential to enable EEPs to consider their own perspectives and to build their confidence, which may then support greater and more effective provision of ARL. From this, a new theory emerged: *Animal-related learning is under-represented in initial training, and specific CPD opportunities are not common*. This became an important new area of inquiry later in Activity I.

Exemplars

Exemplars of animal-related learning were viewed by practitioners to be a useful mechanism for the advancement of animal-related learning in early education.

"[Name removed] *thought that having a model for ideas would be beneficial."* (From the interview notes with 'Maureen', school EEP)

"[Name removed] – *examples of how settings do it would help.*" (From the interview notes with 'Sam', private nursery EEP)

"[Name removed] *mentioned* [local farm name removed] *as a good way of forming a partnership to enable animal experiences.*" (From the interview notes with 'Christine', family centre EEP)

As a result of what these early education practitioners said about models of practice, the idea of researching and collating exemplars to share became a particular focus of the activities in Phase Three.

Some categories were specific to the setting type. A category specific to the private nurseries only was *Business Model.*

Business Model

Private nurseries are businesses. It makes sense that being a commercial operation would impact on how animal-related learning and practice are framed.

"[Name removed] - *a unique selling point for nurseries.*" (From the interview notes with 'Sylvia', private nursery EEP)

"[Name removed] *mentioned that for a job interview they would suggest animals as a way of making the nursery stand out. Or for a new nursery it could be part of the business case.*" (From the interview notes with 'Erica', private nursery EEP)

"The nursery website has a picture of children holding the nursery rabbits and of the outdoors. [Name removed] *explained that this is so that potential parents can see what the children can do here.*" (From the interview notes with 'Anna', private nursery EEP)

Although the 'selling point/business case' idea only related to one type of setting, this category informed the study by providing a rhetoric about how early education settings might be encouraged to engage with animal-related learning. It could be that EEPs and setting managers would respond better to the idea of having animals on site and learning about animals and anthrozoology if they saw it as the setting of a 'vision' or unifying philosophy of the setting, or, perhaps, across ECE.

The categories specific to only the family centres were: *Service Delivery* and *Child Voice.*

Service Delivery

This category concerns a term that has been established in the professional language of family centre staff. Therefore, it was unsurprising that this term emerged when discussing perspectives and practices for animal-related learning as well. In the interviews, the early education practitioners from the family centres all made reference to 'services' and 'across service partnerships'.

"[Name removed] – *it could be an opportunity to work with families about this topic.*" (From the interview notes with 'Jill', family centre EEP)

"[Name removed] *stated that she is not sure whether animal protection organisations, zoos or other animal-related organisations are a service she would normally work with and associate with family centre work.*" (From the interview notes with 'Naomi', family centre EEP)

"[Name removed] *explained that their work involves liaison with lots of different agencies and services but none were to do with animals, although she was aware of the national animal protection organisation.*" (From the interview notes with 'Christine', family centre EEP)

Even though the use of 'Service Delivery' was associated exclusively with family centres, this category informed the study in the final phase by indicating

that attention should be paid to how different services can effectively forge partnerships with early education settings.

Child Voice

The voice of children as stakeholders in matters affecting them is something core to EC, and it emerged as a particular category in the family centres.

"[Name removed] – *voice of children would be strong for learning about animal. There is plenty of talk from children to practitioners about the animals they have at home, and they always pay particular attention to the wildlife when they are playing outside* (from the interview notes with 'Jill', family centre EEP)

"[Name removed*] imagines that the voice of children would place animals as a priority area to learn about."* (From the interview notes with 'Naomi', family centre EEP)

"[Name removed] *now wants to specifically talk to the children and ask them about what they know and then think of ways to do more."* (From the interview notes with 'Christine', family centre EEP)

The EEPs' comments highlighted that children should be consulted about the issue of learning about animals and animal experiences, suggesting that the voice of children could have a huge impact on the degree to which the setting and staff engage with animal-related learning. (This is discussed further in Chapter Seven 'Discussion' alongside a consideration of the findings from Activity E).

The category specific only to schools was *accountability.*

Accountability

There was one category that emerged from the interviews with early education practitioners, which was about EEPs being accountable for their actions.

"[Name removed] would want to wait to see what others are doing or let someone else lead." (From the interview notes with 'Maureen', school EEP)

*"[Name removed] is unsure how animal learning could be promoted whilst still more accountable for assessed outcomes." (*From the interview notes with 'Chris', school EEP)

"[Name removed] felt that the Danish case example was thought provoking but that she would not want to be the first to try anything like it and then be blamed if it caused an issue." (From the interview notes with 'Sandra', school EEP)
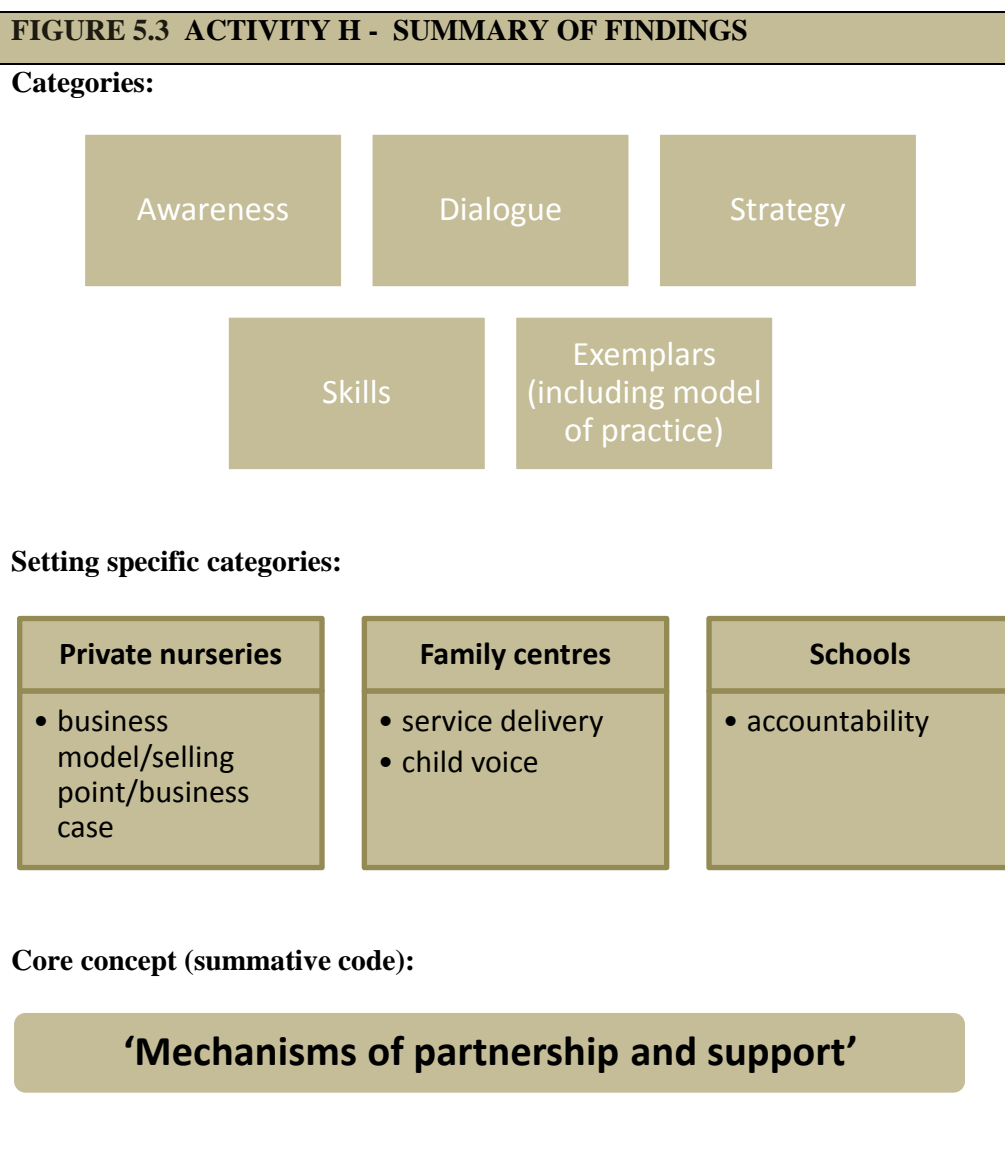
This notion of accountability links to the themes 'support' and 'permissions' as identified in Activity A. It would appear that school-based EEPs are more concerned about being held accountable than staff in other early education settings. This concern also seems in some way to compromise the practitioner's autonomy with regard to whether they integrate animal-related learning and more first-hand experiences.

There was no evidence that reduced autonomy, by itself, has an impact on the provision of animal-related learning in schools. However, it remained a theme to be explored as a second, new theory: *Can autonomy moderate external influences for animal-related learning* (as an individual, collectively as a setting staff or through strong leadership, or broadly as a professional group)?

Collecting this data from across different settings in this way stimulated ideas for me to explore more fully. The ideas I took forward were about the importance of awareness, support, dialogue, and joined-up working in a strategic way. The data also indicated that there may be a gap in the skills of early education practitioners to enable animal-related learning; this was noted as needing further exploration. The suggestion by the early education practitioners

to research and collate exemplars for the purpose of sharing was also taken on board.

The ideas about 'Influence' (core category from Activity A) also progressed during this research activity and remained a focus for the next research activity. In this context, the notion of 'Influence' centred particularly on the development of a) partnerships, and b) a support framework through which to inform and empower the less commanding yet influential stakeholders (namely EEPs, among others) and their voices.

FIGURE 5.3 ACTIVITY H - SUMMARY OF FINDINGS

Categories:

Awareness	Dialogue	Strategy

Skills	Exemplars (including model of practice)

Setting specific categories:

Private nurseries	Family centres	Schools
• business model/selling point/business case	• service delivery • child voice	• accountability

Core concept (summative code):

'Mechanisms of partnership and support'

5.4 Activity I findings

There were two main questions underpinning the final research activity in Phase Two: *Is animal-related learning under-represented in initial training and continuing professional development of early education practitioners,* and *can autonomy moderate external influences on animal-related learning?* I also integrated the ideas brought forward about *awareness, support, dialogue, joined-up and strategic working, skills deficits,* and *models of practice.* In addition, this research activity was a way of exploring the possibilities of partnerships and a support framework through collaboration and communication with EEPs.

I conducted informal interviews with three early education practitioners (school-based) between April and May 2011. I employed the narrative method, listening to the stories of individuals in relation to the topic. I structured the interviews so that they would touch upon the questions and ideas that had emerged in the study thus far. This process involved using conversation and collaborative dialogue in order to explore the interviewees' perspectives in relation to the findings of Activities A–H.

During the data analysis process for Activity H, I had discovered that, in not recording the interviews, I had missed opportunities to capture the exact words and phrases and to quote the participants verbatim. Therefore, I decided that this time the interviews should be recorded and transcribed. However, when listening back to the recordings made for this activity, I encountered the reality of setting-based, informal, collaborative interviewing; the background noise of young children engaged in typical activity whilst talking to the EEPs was frequently captured, making some of the interview data difficult to transcribe. Nevertheless, I transcribed, memoed, and coded the data that was clear enough. I then aggregated the codes and used axial coding to make connections with the ideas brought forward from earlier research activities (awareness, support, dialogue, joined-up and strategic working, skills, and models of practice, plus the possibility of partnerships and a support framework) and to identify new categories.

Initial training and continuing professional development

Participants were asked about whether they remember ARL, AAL or ECEA as being part of their initial training or as a continuing professional development course or activity. One participant did recall some input for teaching and learning as related to Science.

"We did a lot about Science in training. Themes like 'floating and sinking' and how to get children to investigate and measure. No, I don't remember doing anything at all to do with animals…maybe observation of animals actually though." (Mrs B, school-based EEP)

The other participants were unable to recall any animal-related instruction in their initial training or professional development.

"No, I can't recall anything in my training course or since." (Miss K, school-based EEP)

"When I go on a course I am usually sent for something that has to have representation, something for the school. No, it has never been for learning about animals, although I did do one course on outdoor forest school and nature last year." (Miss N, school-based EEP)

It would appear that animal-related and anthrozoological education has been generally omitted from the training experiences of these participants.

This finding then prompted me to consult the current Teachers' Standards for Initial Training and Continuing Professional Development (Department of Education, 2011). These standards are the minimum requirements for teachers' practice and conduct, and the bedrock for teacher educators when designing, validating, and delivering programmes of initial training or continuing professional development. In the standards, the expectations for teachers are

clear, as stated in the preamble of the 'Information about Teachers' Standards' document:

> *Teachers make the education of their pupils their first concern, and are accountable for achieving the highest possible standards in work and conduct. Teachers act with honesty and integrity; have strong subject knowledge; keep their knowledge and skills as teachers up-to-date and are self-critical; forge positive professional relationships; and work with parents in the best interests of their pupils.*

Within this there is a focus on subject knowledge and skills, but a link to ARL and ECEA would not be obvious connection that teacher educators and trainers would make. Also, it is difficult to say for sure whether animal-related teaching and learning is viewed by government officials and advisors as 'subject knowledge' or as a 'skill' and whether the interpretation of it as such would result in a different emphasis and view.

[*Note: No equivalent standards for educators in early education settings before compulsory schooling were available for analysis. At the time of writing, EY Educator standards are being developed*].

Views on support and training

One EEP in particular admitted that she had a basic understanding gleaned from a rudimentary awareness of the terms used.

"About that topic you mentioned - anthrozoology? I just guessed it was something to do with anthropology and zoology?" (Miss N, school-based EEP)

However, the 'time demands' theme from earlier in the research re-emerged as a potential barrier for this EEP accessing support and training.

"I don't know much about animals and I wouldn't be able to find the time to learn with everything else I have to do." (Miss N, school-based EEP)

Participants were also asked about what they perceived their own training requirements to be and the possible directions training could take if a support mechanism was to be developed.

This comment indicated that a broader understanding of the anthrozoology would be beneficial.

"I had not heard of medical assistance dogs…would that be like guide dogs? Where can we find out more about things like assistance animals? Never heard of them." (Miss K, school-based EEP)

Although some stories about assistance animals have appeared in the media, this comment indicated that more work is needed for teachers to be aware of, and to better understand, the role and value of assistance animals; this also applies to therapeutic approaches with animals.

"No, not heard of therapy animals. Oh my goodness…we can do that? How do we get them to come in for the day? Do we have to pay?" (Mrs B, school-based EEP)

Another training essential that emerged was about giving EEPs the opportunity to gain first-hand experiences with a range of animals so as to become familiar and knowledgeable with them and/or address confidence issues.

"I've held a snake and they're quite nice. I'm fascinated and I don't go urgh. We have the bat person and the bug person but I haven't dealt with them and so don't really know much about them." (Miss K, school-based EEP)

This research activity helped to clarify the relevance of having knowledge about anthrozoology, and the comments made by the participants allowed me to identify some areas for training and support, which subsequently became the

focus for the start of Phase Three. The first few activities in Phase Three (Activities J–M) became about trying to locate organisations that liaise with practitioners for ARL already were, or were beginning to, offer similar support.

The role of autonomy

One participant in this research activity explained that she was conscious of the 'Influences' and that her decisions and actions were affected by efficacy and how autonomous she felt.

"But we are the ones that put them in the situation and if anyone can 'do you' [sue] for it then we'd cut back on that or not do it in the first place." (Miss N, school-based EEP)

Yet another participant felt she did have autonomy.

"Do you remember with the bird flu issue and there was hand gel everywhere. I think we are through that phase. But no I've never been one that was so bothered. I am mindful of potential issues and the pressures but it wouldn't prevent me doing something with the children." (Mrs B, school-based EEP)

One participant felt that there could be a way of addressing issues in advance.

"You will always have a parent who will say 'right you know my child's come out in a rash, you've had sheep in the yard' but there are ways of getting around that because all you would have to do is get permission but it can't be a spur of the moment thing. You would have to send letters home to parents and only then would it remove litigation." (Miss K, school-based EEP)

In the data, as with Activity H, there was no evidence that reduced autonomy, by itself, had an impact on the provision of ARL in schools. However, the comments made by the participants indicated that the provision of experience continued when a particular person felt empowered or sufficiently motivated to overcome external influences.

156

"I've been working here now for 12 years and my most vivid memory is when the owl man came and in the hall they had all the owls sitting on the perches and it was just phenomenal. It was going back 8 or 9 years…we've not done anything like it since…it has just been overlooked but it may have been pricey…erm whatever teacher organised that…erm maybe they left." (Miss K, school-based EEP)

The idea that a motivated individual can wield influence is important. This finding suggests that individuals within each school could be targeted as part of a strategic approach. This became an important new area of inquiry later in Activity N.

I also identified three new categories: *what works well, being the model*, and *linking with home.*

What works well

Participants were asked to share examples of models of practice from their experience. Their responses mainly focussed on 'what works well'. One participant explained:

"In my previous job we had an incubator and the nursery nurse took them home if need be. We couldn't leave them…we sort of shared out the responsibilities." (Mrs B, school-based EEP)

From this, it would seem that a shared sense of ownership and view of welfare may enable potential barriers to be avoided.

Another participant saw external accountability as key to enabling on-site experiences.

"It's the cost of the care and the responsibility falling onto somebody. But for our fish there is the initial purchase but there is a contractor who will take care of the tank that's paid for in the contract." (Miss N, school-based EEP)

Two of the participants talked about the partnerships they already have with external organisations.

"We get free tickets to the zoo as part of a schools' initiative. It's happened for five or six years so it means we only have to ask for five pounds towards the cost of the bus." (Mrs B, school-based EEP)

"But every year we hatch eggs religiously but that is the farm in [place name removed] *that sorts it out. He gives us the machine and eggs and literally all we do is hatch them…it is part of the lifecycle focus…and we drop them back off at the farmers but that only happens in Reception maybe there is only one machine they can rent per school."* (Miss N, school-based EEP)

One of the participants also felt that a class-based pet was non-essential.

"I think that the way of getting over the issues is not having a class pet but having lots of other opportunities where animals come into school so that you're still keeping that link with animals but it is not your day to day responsibility." (Miss N, school-based EEP)

Another participant agreed also stated this, but also felt that having a class-based pet could be a special activity.

"It doesn't have to be a classroom pet, does it? Although…when you think…that is quite special." (Mrs B, school-based EEP)

One participant was certain about what would not be acceptable to her on a personal level.

"Actually I remember that there was a school that, for educational purposes, reared a sheep to slaughter it because they wanted to. It was kind of a middle class school in the middle of town and they decided that this was a good opportunity so they bought the sheep and the children were going to learn that they were going to eat it. I draw the line there." (Mrs B, school-based EEP)

Being a model

Another category that emerged was about how animal-related experiences can provide a model for learning and behaviour. This category touched upon the subtleties of the attitudes and perspectives of practitioners and how this can have an impact on children's learning.

"I can't think of anyone who would say 'ew I'm not doing that' but it's like you know a burden. I can see how some teachers would straight away say no I'm not doing that." (Miss N, school-based EEP)

Two participants reflected on their own views.

"I don't see how a hamster in your class is going to tip you over the edge. From my perspective it would be a really nice and the children would see how much I liked it being there." (Miss K, school-based EEP)

"The only thing that worries me is the dangerous dogs not on leads, but otherwise I get really cross when children are scared of an animal. I have no sympathy with that. I don't know…I think that comes from parents. For example I think that children will be afraid of spiders because parents are afraid of spiders. If a spider runs across the room and they call it a lovely little spider…and then the children love them because you don't want to hurt it and they don't want to kill it and then that transfers to all creatures because once you have instilled it in them they take to it in kind of a Buddhist way." (Mrs B, school-based EEP)

The quotation above emphasises the role also played by parents as models.

One participant identified a situation wherein a colleague had been able to address their personal issue with animals, and that, in itself, had been a positive model for children.

"Well, in the previous school I was in there was a teacher who was petrified of dogs and then she went to see someone and then she was ok and she started helping people." (Miss K, school-based EEP)

Another participant provided an example in which older children had acted as positive models for the younger children.

"Two years ago the children said can we have a fish tank because they knew the junior children had one and they wanted to feel grown up by having one."
(Miss N, school-based EEP)

Linking with home

One idea raised in the interviews was that the experiences children bring from home can vary, and that animals can provide a valuable opportunity to bridge between home and school.

"Once a boy's dad raced pigeons and he brought a pigeon in the box in fact I think it was better because it was him…and he brought the pigeon in a little carrier and we all went outside and it was just lovely watching him handle it…and then he was showing us things, checking it and whatever…its number so that was more valuable because it was him. We knew him." (Miss K, school-based EEP)

"One little boy here won a competition with a picture he had taken of his garden with a whole family of foxes. But we only know when they come and tell us things like that." (Miss N, school-based EEP)

In particular, the participants' comments indicated that there was a potential to address a gap in experience that may have occurred prior to children starting in an ECE setting, or to address a discrepancy of opportunities and other disadvantages in childhood.

"They'll be many not just one who are particularly attuned to animals but I would be interested to know who the children are who haven't got pets at home and just how special it would be for them." (Mrs B, school-based EEP)

Active promotion

The interviews were also used as an opportunity to find out whether the participants were aware of any groups or organisations already actively supporting ECE settings at that time. The responses indicated that the participants were unaware of any organisations that were involved in supporting schools to make informed choices about their own animal-related practice.

"I can't really think of anyone who has been in contact with school, except the man who brings the incubator. He is connected to a farm and we do go there. But I imagine that [name of organisation removed] *has a website with information and activities, and* [name removed] *too. But no, there isn't an organisation that I would call up about animals unless it was a welfare issue."* (Miss N, school-based EEP)

"No... no-one contacts schools [about animals]. Not even [animal protection organisation name removed]. *You should think about trying to set something up."* (Miss K, school-based EEP)

"No and I would really like to know more about those animals you mentioned that can come just for the day…the therapy dogs. That is an issue…how do you get to know about these things?" (Mrs B, school-based EEP)

Therefore, the development and piloting of active support became a priority for Phase Three.

FIGURE 5.4 ACTIVITY I - SUMMARY OF FINDINGS

Categories:

what works well
- shared sense of ownership
- shared view of welfare
- partnerships with external organisations

being the model
- the practitioner as role model with animals
- parents as role model with animals
- older children role model for the younger children

linking with home
- animals as a valuable opportunity to bridge between home and school
- setting-led learning about animals to address a gap in experience, or negative experience at home

Identified themes:

animal-related and anthrozoological education in training	broader understanding of anthrozoology	raising awareness of the role and value of assistance animals	raising awareness of therapeutic approaches with animals

first-hand experiences for EEPs to become knowledgeable and/or address confidence issues	raising awareness of organisations that support schools	information about animal-related practice

Varying views:

setting-based animals as non-essential activity

setting-based animals as a problematic endeavor

setting-based animals as a special activity

setting-based animals as an authentic opportunity

Prominent ideas:

efficacy	motivation	discrepancy of opportunity

Core concept (summative code):

'Action towards supporting empowerment'

5.5 Summary of Phase Two findings

In this chapter, I have explained the activities undertaken in Phase Two and the findings. The data was, at times, confirmatory of the findings from previous activities. One main theme running through this phase of inquiry was 'autonomy' and the ability of EEPs to embark on animal experiences regardless of the 'Influences' perceived. Although some of the research about autonomy was inconclusive, an important new area of inquiry emerged (which later became Activity N in Phase Three). This notion was that motivated individuals can wield influence, which is particularly important if there has been a period in which animal-learning has been deprioritised, under-represented, or neglected. This finding suggests that individuals within each school might need to be targeted as part of a strategic approach.

Another topic discussed in this chapter was how knowledge and practical experience have been provided, what has worked well, and the barriers the practitioners have been faced with. Research activities H and I, in particular, helped to clarify the position of animal-related teaching and learning and ECEA in terms of pre-service and post-qualification training. The findings acted in a confirmatory capacity, but also provided an evidence-base supporting the theory that ARL is under-represented in initial training and continuing professional development. The next steps involved finding out ways that this could be addressed.

At the end of Phase Two, the objectives for Phase Three were set. I planned Activities J–M to try to locate organisations that were already providing animal-related and anthrozoological support and training (or were beginning to offer such services). I also became mindful of the fact that participants were reporting the need for strengthened dialogue and communication between ECE settings and third sector organisations. In light of this, I planned to develop and pilot active support for linking up different stakeholders, which required dissemination activities about this inquiry to occur in Phase Three.

CHAPTER SIX

Phase Three Findings

This chapter presents the findings from the final phase of the study. Again, I present the data with the codes, categories, and abstracted themes for each of the qualitative activities. Some quantitative results were also included in this phase (Activity N). This phase was action–orientated with the aim of developing a framework of support for animal-related learning and anthrozoology in early education. In the previous phase, the final two activities gave some confirmation that animal-related learning and anthrozoology has been under-represented in training for early education practitioners. Thus, the activities in this phase were designed to consider the support and training already available (Activities J–M), to begin to develop and pilot an active support mechanism for linking up different stakeholders (Activity N), and to raise awareness through dissemination activities (Activity O) of the need for dialogue and communication across disciplines. The two overarching research questions for Phase Three were: *What information and support systems are available for early education practitioners about animal-related teaching and learning?* And *how might early education practitioners develop their knowledge, competence, and confidence in planning and delivering ARL?*

6.1 Activity J findings

Activity J focused on interpreting the support and training available from a national anthrozoological organisation. I had found out about this organisation during Activity B via a participant I spoke to who worked at a national animal health charity. I had contacted a national animal health charity by email and arranged a telephone interview. The telephone interview with the education officer of the animal health charity took place on 6 November 2009. The purpose had been to find out about that organisation's particular aims and its educational work (related to early education in particular) and some interesting data emerged. During the interview, the officer explained that the organisation

considered the value of animal-related learning and experiences to be for affection, comfort, support, and help with illness, but that they did not advocate pet ownership in all circumstances. The education officer described 'starting young' with children as a key idea within the organisation's objectives, and its educational work was focused on developing programmes around four themes: pet care (physical), care (affective), empathy, and safety. When I shared the early findings of this study with the education officer, she indicated that any research specifically about early childhood educational anthrozoology was unique and that she was unaware of any comparable studies at that time. However, the officer mentioned another charity (a 'sister' charity) that was said to be providing support on a national level surrounding animal-assisted experiences and the human–animal bond (part of which was about the children and animals). I recorded this in my field notes (and it re-emerged later as a line of enquiry when I was seeking out anthrozoological organisations).

The national anthrozoological organisation

At a later point in the study (December 2011) and following Phase Two, I contacted the sister charity (a national anthrozoological organisation) to find out more about its aims and work, and to facilitate a knowledge exchange by disseminating my findings from the inquiry thus far. The organisation had a small team of staff whose roles were assigned to promote the study of human–animal interactions and to raise awareness about companion animals and the importance of pets in society. The work of the organisation was targeted towards: *theories and ideas about the human–animal bond* (theoretical knowledge and understanding) and *animal-assisted interventions* (how animals can be used in interventions in practice).
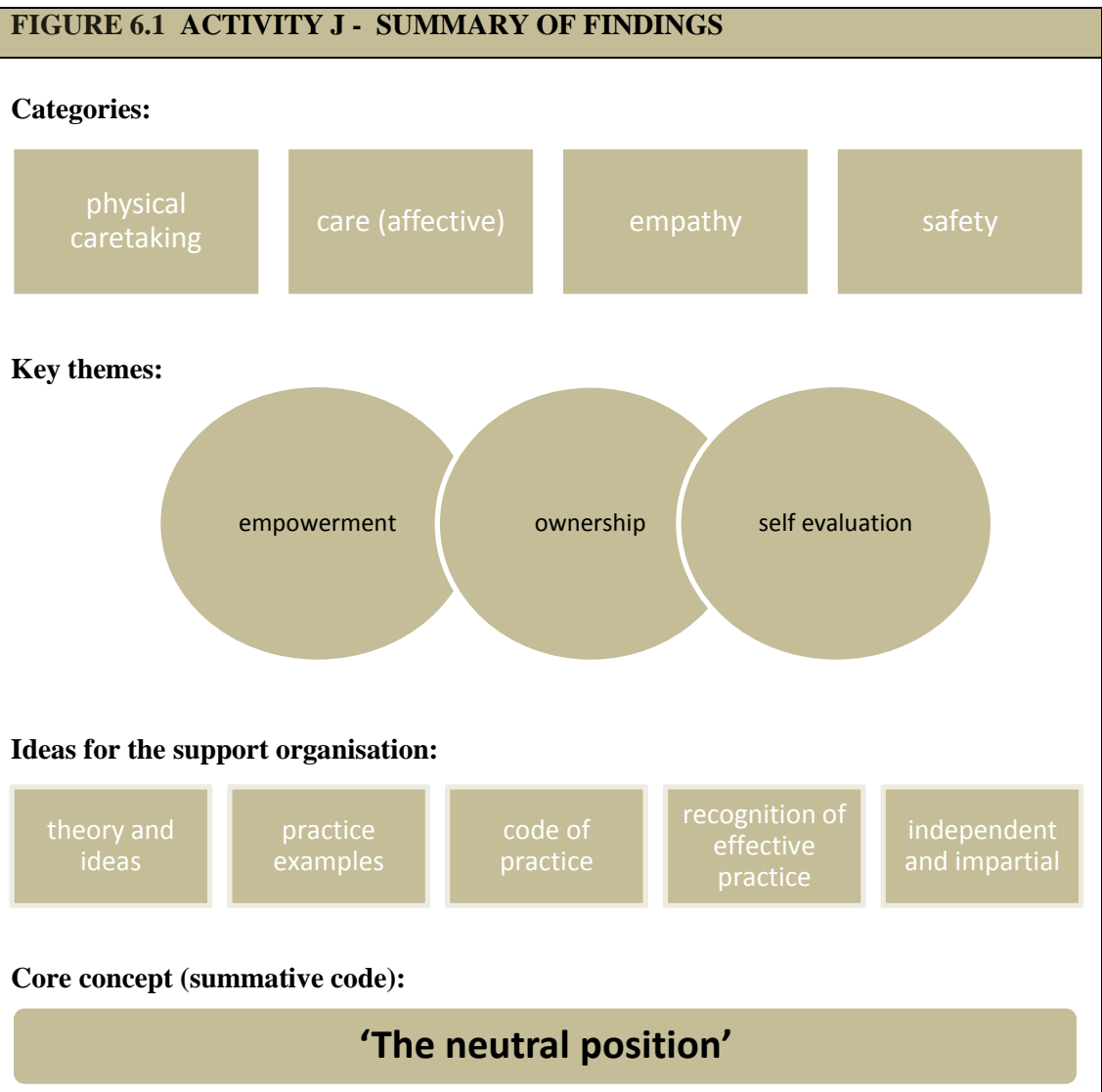
After initial conversations with the director of the national anthrozoological organisation, I was invited to enrol in a newly accredited distance online learning course, *'Introduction to Animal-Assisted Interventions'*. I chose to complete this course in January 2012 so as to gain a better theoretical understanding of anthrozoology and also to learn from the organisation's approach to training and support and animal-assisted intervention (AAI) work.

Following the completion of this short course, I opted to also complete an intensive four-day course, *'Companion Animal Interventions in Therapeutic Practice'*, in June 2012. This course was also organised by the national anthrozoological organisation. Throughout both courses, I had the opportunity to speak to various staff members involved in the organisation and co-participants from various backgrounds (including teaching, counselling, veterinarian, and social care) who were interested in learning more about anthrozoology and how it is applied. The completion of both courses had a dual purpose: (a) my own continuing professional development and (b) a research exercise from which I was able to begin formulating ideas about what was pertinent to EEPs, and how a framework for active support could be structured.

There were three core ideas that emerged from my participation in the training opportunities. Firstly, I realised that a code of practice for ARL, and in particular for organising AAL experiences, would need to be designed. This code of practice would be in line with, and take account of, the code of practice that had been developed by the national anthrozoological organisation. Secondly, I understood that there should be recognition of effective practice in ECE settings and that these exemplars should be acknowledged and celebrated in some way so as to raise awareness as models of good practice. The completion of the AAI courses also showed me that recognition through reward could be a valuable tool (i.e. as a motivational instrument) for encouraging animal-related teaching and learning practice especially among those who respond well to extrinsic motivation. Finally, I recognised that the overarching pilot organisation had to be free from any agenda that other organisations would be bound to by its mission statement. This notion was stimulated by the knowledge that the anthrozoological organisation had begun to separate from its sister charity (the national animal health charity), which had enabled it to forge a distinctly neutral position as a support organisation. I deduced that EEPs would particularly benefit from an informed but independent and impartial organisation to support them. Such an organisation could help EEPs to think through their current practice, to develop ways of enabling children to learn about and understand animals and animal behaviour, and to access affective and therapeutic experiences with animals. This support would allow EEPs to take

ownership of asking themselves if there is more they could or should do. This led to the idea of 'APER' (Animals in Primary Education Reframed) – see later in Activity N.

During my time conducting research with the national anthrozoological organisation, I was asked to contribute an article to its quarterly journal. Through the knowledge exchange activity and training with the national anthrozoological organisation, I was made aware of another organisation focussed solely on anthrozoology, which was providing support on an *international level*. Finding out more about this international organisation was the basis of the next activity (Activity K).

FIGURE 6.1 ACTIVITY J - SUMMARY OF FINDINGS

Categories:

| physical caretaking | care (affective) | empathy | safety |

Key themes:

empowerment   ownership   self evaluation

Ideas for the support organisation:

| theory and ideas | practice examples | code of practice | recognition of effective practice | independent and impartial |

Core concept (summative code):

'The neutral position'
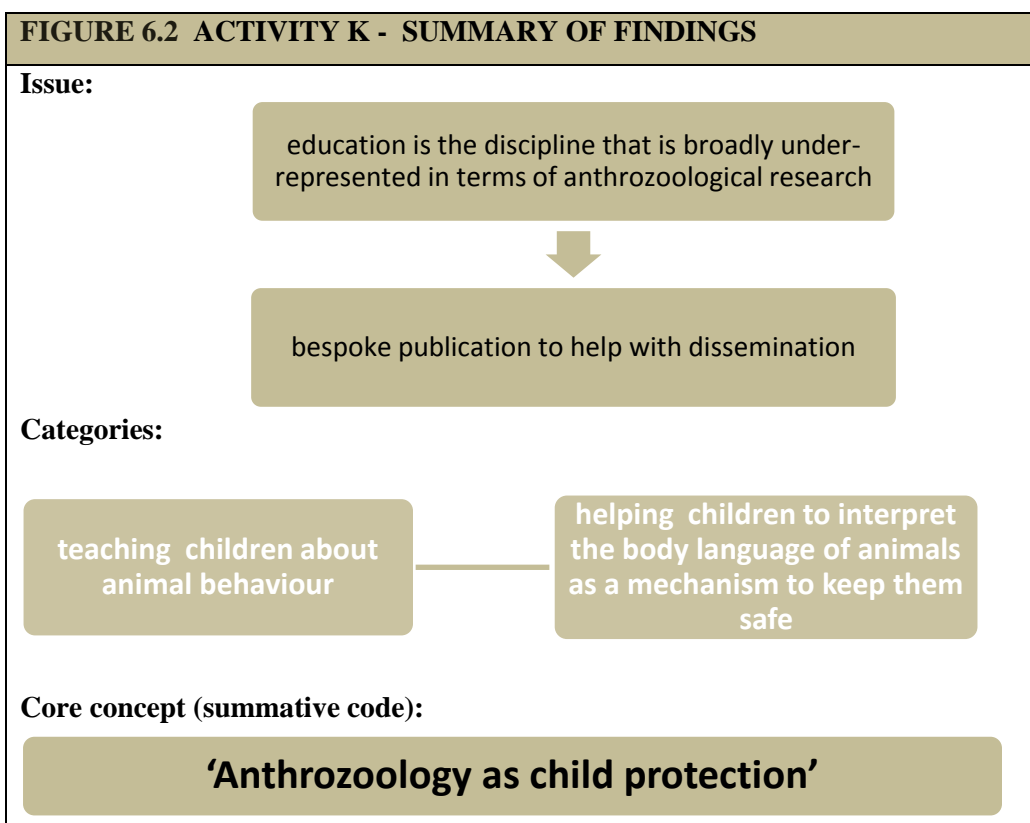
6.2 Activity K findings

Activity K focused on interpreting the support available from the leading
international anthrozoological organisation. This organisation differed from the
national organisation in that it was centred more on the scientific and scholarly
study of anthrozoology as opposed to research, public engagement and
dissemination. I first explored the website of the organisation in order to
understand better its position and I recognised that this was a non-profit, non-
political organisation. I then chose to become a member of the organisation to
be able to conduct an inquiry into their work. (Membership is only available to
those who are currently or have been previously involved in conducting
scholarly research within the broad field of human–animal interactions). As a
member, I was able to access the organisation's quarterly peer-reviewed
publication, and I was made aware of their annual conferences. I opted to
submit abstracts for oral presentations about the research I had conducted to
date with early education practitioners in school settings in 2011 and 2012:
'Animal–child interaction opportunities in English primary schools' (Gallard,
2011) and 'Teacher attitudes to animals in primary education in England'
(Gallard, 2012b). Both of the abstracts were accepted. Due to work constraints,
I was unable to present my research in 2011, but I was able to attend and
present at the annual conference in 2012.

Presentation at the organisation's international conference in 2012

As well as presenting at the 2012 conference, I was also able to listen to a
number of presentations and to network with a group of academics who were
active in scholarly research about anthrozoology, as well as some practitioners
with an interest in animal-related themes and applied anthrozoology. A
presentation that I attended highlighted that, for anthrozoology, education is the
discipline that is broadly under-represented in terms of research (particularly for
early childhood themes), which supports the assertion that this study is novel.
Following my oral presentation, two questions were asked that helped me to
clarify some of my thinking as I prepared to proceed with Activities L, M, N,
and O: *Would a bespoke publication help with dissemination?* And *would*

secondary education reflect the same issues, or if not, could some of the ideas
from secondary practice be transferred to educational practice with younger
children?

Following my own presentation, I was approached by the author of a published
programme for teachers on an anthrozoological topic – children's safety around
dogs and their understanding of dog behaviour. The author explained that the
programme had been developed with a dual purpose: to teach children about
animal behaviour and to help children to interpret the body language of animals
as a mechanism to keep them safe. The author invited me to learn more about
this programme, and this became the focus of the next activity (Activity L)
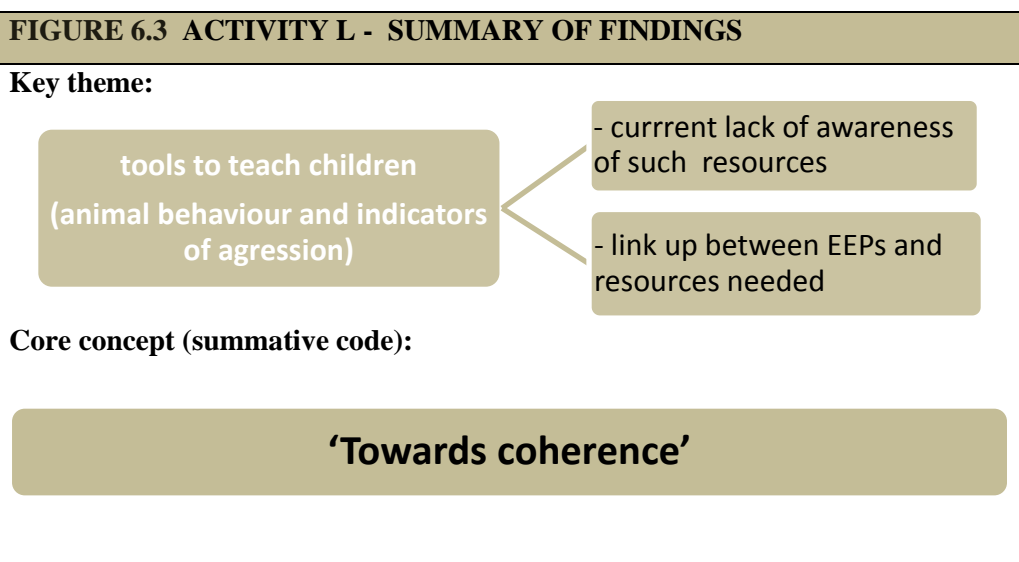

FIGURE 6.2 ACTIVITY K - SUMMARY OF FINDINGS

Issue:

> education is the discipline that is broadly under-represented in terms of anthrozoological research

> bespoke publication to help with dissemination

Categories:

> teaching children about animal behaviour

> helping children to interpret the body language of animals as a mechanism to keep them safe

Core concept (summative code):

> **'Anthrozoology as child protection'**

6.3 Activity L findings

Activity L focused on developing an understanding of the 'Keeping ourselves
safe near dogs' educational resource (Association for the Study of Animal
Behaviour, 2012).

Case study of a tool that EEPs could use

The programme was written by Kendal Shepherd (but adapted for classroom use by Jean Archer). The core goal of the programme is to inform teachers about how they could teach children about dog bite prevention. As a companion to the programme, the author also published a book called *The Canine Commandments* (Shepherd, 2007). Both the programme and the book were devised around a canine 'Ladder of Aggression' (Shepherd, 2002) as a visual tool to teach children about the similarities between dogs and humans in terms of their emotional responses and how the behaviour of others may result in an escalation towards aggression. The discrete programme was an example of a tool that EEPs could use, but it had not become well known enough in the education field. The low awareness of the programme related to an earlier finding about the lack of awareness among early education practitioners with respect to specific tools and resources for anthrozoology and gave further support for the need for a new organisation to link up different professionals and stakeholders.

FIGURE 6.3 ACTIVITY L - SUMMARY OF FINDINGS
Key theme:

tools to teach children (animal behaviour and indicators of agression)

- currrent lack of awareness of such resources

- link up between EEPs and resources needed

Core concept (summative code):

'Towards coherence'

6.4 Activity M findings

As an outcome of the question raised in Activity K –*Would secondary education reflect the same issues, or if not, could some of the ideas from secondary practice be transferred to educational practice with younger children?* I began to investigate whether there were any related models of practice to be found in secondary education. At this time, there was an occurrence whereby an advertisement appeared in a local newspaper promoting an event taking place at a new school farm in my local area. The event had been organised to celebrate the fact that it was the 100th secondary school in England to become a 'school farm'. The advertisement stated that the event had been arranged by an organisation that coordinates a network of school farms. I emailed this organisation and arranged a telephone interview with the assistant CEO, which then took place on 8 March 2013. The assistant CEO shared the data he had collated that demonstrated that there was a 'low point' in 2006 for schools keeping animals (as a school farm). This 'low point' corresponded with the observations I had made about the decline in animal-related learning which also relates to the date of the introduction of the Animal Welfare Act 2006. He also shared that there had been a steady reversing of the trend, with an increase in school farms operating throughout 2012 and 2013, culminating in the 100th school farm in 2013.

During the interview, the CEO also disclosed that when the organisation had been set up in 2004, it had been created jointly with the then Department for Education and Skills (now the Department for Education) and the Federation of City Farms and Community Gardens. The CEO stated that the main objective at that time had been to offer advice to those schools with farms, but also to educators wishing to start new school farms. However, on searching the corresponding government websites (Department for Education, 2015; Department for Environment, Food and Rural Affairs, 2015) I established that it does not currently promote this partnership. The lack of information links to the earlier finding about the lack of awareness among EEPs with regard to the available support systems, tools, and resources for anthrozoology and gave further support for a need for a new organisation to connect up available support and models of practice. If there is a lack of information in the main

dissemination spaces then this is likely to contribute to low awareness in educational professionals about ARL.

Case study of a school farm in secondary education

I attended the 100th school farm opening ceremony and toured the newest school farm. I asked the farm educators questions about;

- the practicalities concerning the care and welfare of the animals
- which children were involved in their care and how this was organised
- the problems that have arisen and how they were dealt with
- the views of parents, senior management, and the community

I found that this secondary school had opted to embed a philosophy of educating children about farming and growing as a feature of the school in order to provide a suitable environment for study towards qualifications in Land Management, Land Based Studies, and Small Animal Care (BTEC Level 3 diplomas) - see Pearson Qualifications (2014). This was an important finding as it indicated that the discrepancy in the provision of on-site animal experiences between secondary provision and ECE settings and primary schools was due to animals being a specific object of study linked to curriculum and associated with particular qualifications.

The secondary teacher who oversaw the farm explained that the senior management team and governors had agreed to the recent step of bringing animals on site, but it had clearly been a particular member of staff who had driven the initiative. In my research journal, I noted that "this member of staff is passionate about the farm and wholly committed to the venture and the value it would bring to the school and its pupils". This farm lead staff member was connected to the Science department, but the other staff members involved in the school farm were based in the Science or Geography departments.

All of the pupils of the school were allowed to visit the farm, but only during timetabled breaks from lessons. Furthermore, rules were in place about not entering animal pens, housing, or fields unless authorised to do so by a staff

member. The problems reported mainly had to do with budget and ensuring that sufficient funds were available for food, medicine, housing, and equipment associated with the animals' care. Animal health concerns meant that systems had been developed in partnership with the local veterinarian, and additional training had been undertaken by staff in order to ensure that first aid could be administered in emergencies.

Parents were reported to be supportive. No parents had objected to the farm or refused their child permission to enter the farm area; in fact, the farm was promoted as a 'selling point' for the school in order to encourage more parents to send their children to that setting. Senior managers were also reported to be supportive, and there were no complaints from the local community.

At the farm school opening, I also met a member of staff from another school farm in the local area. I was invited to tour her setting a few weeks later. There, I asked the same questions as above and similar responses were given. The main parallels drawn were the links to subject teaching in Science or Geography, the main concern being about budget to sustain the farm, the primary consideration was the health and wellbeing of the animals, there were clear rules and guidance, the farm was seen as a 'selling point' as a positive promotion strategy aimed at parents.

School Farms conference

I was also invited by the assistant CEO of the organisation that coordinates a network of school farms to attend a conference on 5–6 July 2013. This conference looked not only at animal-related learning but also at agricultural activities in schools. I was able to listen to a number of presentations and to network with a group of academics and practitioners about school farms and/or applied anthrozoology, including a presentation about learning through school farms (Saunders and Minnitt, 2013). This presentation in particular highlighted an alternative mechanism for early education through which EEPs could access first-hand experiencing of animals, i.e. the development of a partnership with a secondary school operating as a school farm. This wider use of the school farm

has also been reported by Saunders et al. (2011) as one way young children are enabled to learn 'beyond the classroom' and engage with the benefits that this context affords to both educational and social development (for example, consciousness in food production, engaging as a 'practice cluster' in the wider community, promotions of healthier lifestyles, emotional and social gains and knowledge of animals and farms).
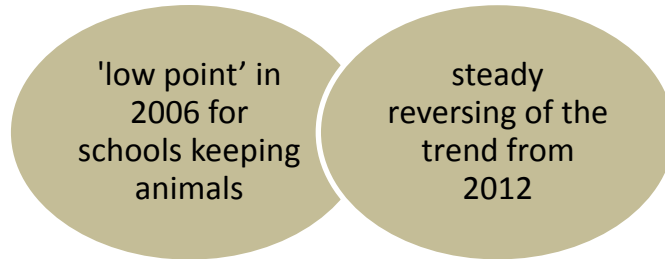
From taking part in this conference, I became aware of how the network supports its members and the mechanisms it uses to raise its profile. I also had the opportunity to ask educators about perceived differences between ECE and secondary education settings, and the potential for ECE settings to embed ARL/AAL. I learned that school-based animals were more easily accepted in secondary education than in EC and primary setting and that it would seem that there is motivation towards providing AAL, such as a School Farm, when AAL is seen as

- a philosophy
- a feature of the school
- a specific object of study linked to the curriculum
- providing a suitable environment for study towards a qualification
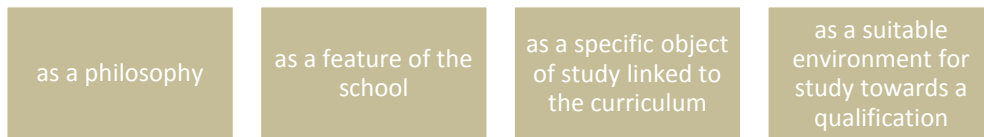
I also identified the key features of successful practice required in order for the practice to take place; a member of staff driving the initiative, supportive senior management team and governors, supportive parents, supportive local community and partnership with the local veterinarian and other key professionals and organisations.
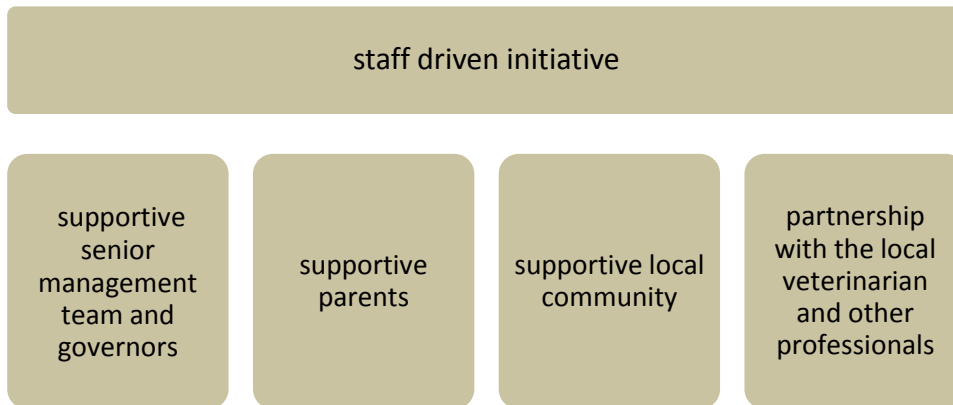
FIGURE 6.4 ACTIVITY M - SUMMARY OF FINDINGS

School Farms Network:

'low point' in 2006 for schools keeping animals

steady reversing of the trend from 2012

Motivation:

| as a philosophy | as a feature of the school | as a specific object of study linked to the curriculum | as a suitable environment for study towards a qualification |

Features:

staff driven initiative

| supportive senior management team and governors | supportive parents | supportive local community | partnership with the local veterinarian and other professionals |

Core concept (summative code):

'Applied anthrozoology'

6.5 Activity N findings

This activity was focussed on the development and piloting of an active support mechanism for linking up different stakeholders and raising awareness about the need for dialogue and communication with respect to early childhood

175

anthrozoology within settings and broadly across the sector. In addition, the aim was to instigate action that would potentially change how EEPs view school-based animals, ARL, and anthrozoology (although not necessarily to the level of secondary education), and empower them to take ownership of asking themselves if there is more they could or should do.

I developed the support scheme into an organisation with the provisional title 'Animals in Primary Education Reframed' (APER), which reflected the initial emphasis of developing a framework of support for school-based early education practitioners. (Support for early education practitioners in other settings would come later.) There was an early phase of development of the support scheme from the mid-point of Phase Two, but piloting did not begin formally until January 2013.

APER (Animals in Primary Education Reframed) organisation

I began with some practical tasks, including the creation of a logo for the organisation. I also set up a website and other social media pages (Facebook, Twitter) in order to ensure that mechanism for awareness and communication were in place. Then, I developed six themes encompassing animal-related learning and anthrozoology in early education.

FIGURE 6.5 THE APER 'SIX THEMES'
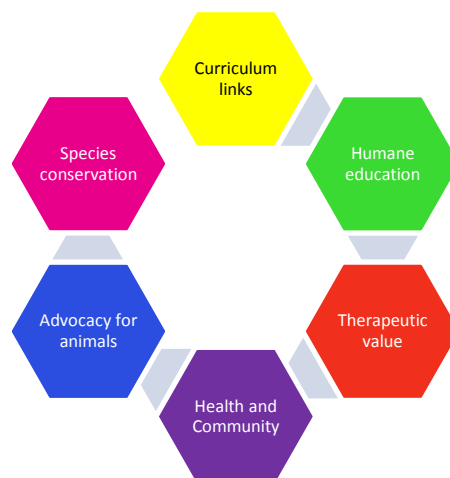
'Animal Aware School' scheme

Next, I began working on a recognition scheme for schools using the six themes (an idea arising from Activity J). I developed a pack for schools to self-evaluate their philosophy and practice, which included three documents: an application form, guidance notes, and a validation form (a copy of each document from the pack is included as Appendix K, L and M). The emphasis of the documents was on self-evaluation as a mechanism for raising awareness and evoking autonomy, rather than on external judgement. However, I decided that a certificate (a recognition award) should be available as a tool to engage those early education practitioners who might respond better to extrinsic motivation. A clean copy of the certificate template is provided in Appendix N.

Active promotion

In addition to the website and social media platforms, I used 'active promotion' (a theme arising from the Activity I analysis) by constructing and sending (by post and by email) a newsletter that was devised to introduce the organisation and the scheme, and to revisit and reframe general attention towards animals and anthrozoology. A copy of the newsletter is provided in Appendix O. I sent the newsletter to the 268 schools that had taken part in the Activity F survey for the same partnership reasons as the original questionnaire; I considered that they may be sufficiently motivated to engage with the new organisation. I postulated that by engaging a group of early education practitioners and settings, a process of exponential growth in awareness and engagement would take place through the oral communication (telling) of information, which would in turn assist in the development of the organisation.
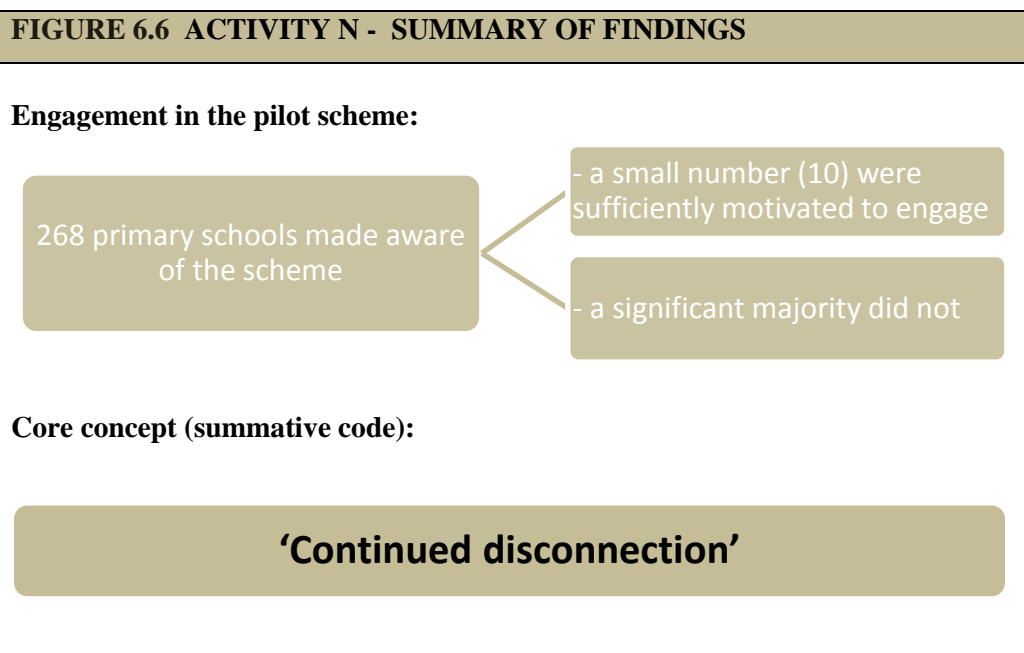
Evaluation

The activity then moved into the evaluation phase. Following the circulation of the newsletter to 268 schools, 10 schools contacted me through the organisation's email address to request more details. The quantitative data about the awareness and response rate is important as it indicated that although

a small number of schools were sufficiently motivated to engage with the organisation (and its focus on animal-related learning and anthrozoology), the majority were still not placing it a priority.

In February 2013, the first recognition award was presented to a primary school in Merseyside. A news item was sent to the university news webpage to continue to raise awareness about the scheme. This news item appeared on the Liverpool John Moores University news webpage on 13 February 2013 (LJMU, 2013).

A success criterion was set as part of the piloting and evaluation process: *at least 57 of the 268 schools sent a newsletter to make a request for more information about the scheme* (57 was the number of schools that were active in completing and returning the questionnaire in Activity F). In relation to this success criterion, the action was unsuccessful, since only 10 schools requested further information and began the process for accreditation.

Some possible explanations for this low response rate are provided in the next chapter (Chapter Seven - 'Discussion').

FIGURE 6.6 ACTIVITY N - SUMMARY OF FINDINGS

Engagement in the pilot scheme:

268 primary schools made aware of the scheme

- a small number (10) were sufficiently motivated to engage

- a significant majority did not

Core concept (summative code):

'Continued disconnection'

6.6 Activity O findings

As a method of triangulating the findings of the research and to fulfil the assurances to participants that feedback and wider dissemination would occur, I organised presentations and prepared publications. Previously, I highlighted two of these dissemination activities: two abstracts submitted for oral presentations at the international anthrozoological research and support organisation's annual conferences (Gallard, 2011, 2012a), an article I wrote for the national anthrozoological organisation's journal, and the publication of the news item on the university news webpage.   However, I also completed other dissemination activities in 2012, 2013 and 2014. These activities were: an internal research seminar presentation for staff at Liverpool John Moores University, a presentation at the Faculty of Education, Community and Leisure Annual Research Conference, an article that was published in the journal produced by 'Early Education' (British Association for Early Childhood Education), a presentation at a teacher educator annual conference and a presentation at the inaugural conference of a new anthrozoological research group at Edge Hill University.

Internal research seminar

A research seminar presentation for staff at Liverpool John Moores University occurred at the request of a senior member of staff who had been made aware of my research through internal processes of this postgraduate research study. The presentation was entitled **'**The value and status of animal-related experiences in English primary schools' (Gallard, 2012a) and included a number of themes associated with the data that had emerged by that point in the research. Following my oral presentation, questions were asked that helped to clarify some of my thinking in this inquiry.

Faculty research conference

I submitted an abstract which was accepted for the LJMU Education, Community and Leisure Annual Faculty Research Conference entitled 'In search of authentic animal-related learning' (Gallard, 2013a). This presentation was also based on the data collected by that point.

Article for the Early Education journal

Following a conversation at an 'Early Education' (British Association for Early Childhood Education) conference, I was invited by the CEO to submit an article about animal-related learning and anthrozoology for the association's journal. The article was accepted and published in autumn 2013 about 'Non-human bonds' (Gallard, 2013b). The article explained the nature of learning with animals and discussed the research I had undertaken to date. A copy of the article is available as Appendix P. As a result of the article appearing in the journal, I received three emails from EEPs asking questions about anthrozoology and/or engaging in dialogue about the article.

Teacher Educator Advancement Network (TEAN) conference presentation

I also gave a presentation at the Teacher Education Advancement Network (4th Annual Conference) entitled 'Reviewing and reframing the status of animal experiences in primary schools' (Gallard, 2013c). This presentation was an opportunity for me to raise awareness about anthrozoology in an educational forum (a space that was centred on education but not anthrozoology). As such, my topic was seen by some conference attendees as novel, yet it was warmly received. One conference attendee was particularly motivated by the topic and considered bringing animal-related learning and anthrozoology to prominence as a 'unique philosophy' in a new early education setting (nursery) that she was opening soon (and that she was due to manage). This indicated that EEPs are able to see the integration of first-hand experiences with animals as a feasible method of practice that could be achieved without reference to, or concern about, external influences or pressures. It was a sign that autonomy could be possible with the correct support.

CfHAS Edge Hill University Conference

At this conference I presented a paper entitled 'Educational Anthrozoology in Early Childhood: An issue of ethics' at Edge Hill University (Gallard, 2014). This was an opportunity to share the study data but also an opportunity to enter a knowledge exchange with a broad audience that included animal activist and critical animal study scholars.

FIGURE 6.7 ACTIVITY O - SUMMARY OF FINDINGS
Core concept (summative code):
'Spaces for EC anthrozoology'

6.7 Summary of Phase Three findings

This chapter has explained the research findings of the activities in Phase Three. I outlined the core examples of support and training already available, explored the development, piloting, and evaluation of an active support organisation, and discussed the dissemination activities that took place. This phase was action-orientated and arose from the ideas that had emerged earlier in the study from discussions with early education practitioners and from investigations into the aims and practical work of national and international anthrozoological organisations. In this phase, I also looked at the specific example of a tool that EEPs could use (the 'Keeping ourselves safe near dogs' educational resource) which demonstrated how resources can be useful but that they are not established enough to be effective in early education at present. There was also a research activity that enabled an understanding of how a network for secondary educators supported its members and the mechanisms it used to raise its profile. This knowledge informed the support scheme that I designed for EEPs in the final part of this phase. The support scheme was evaluated, but the results were inconclusive. Although there was success in awarding the first recognition award to a primary school for being an 'animal aware school' (i.e.,

proactive in teaching and learning about animals and anthrozoology), there remained a lack of broader engagement by the majority of primary schools the scheme was promoted to. There was a distinct lack of interest and drive by EEPs in schools to find out more about the organisation and the recognition scheme.

The activities undertaken during the three phases of the study took several years, and a bricolage was created about animal-related learning and anthrozoology in early education. A fuller account of the meaning I have assigned to these findings, and my overarching perspective, is presented in the following chapter. By considering the data again and explaining the connections I have made, I move from an explanation of the process and presentation of the findings to create a consciously constructed product, which Kincheloe and Berry (2004) indicated should take place in the process of research in order to bring together the 'parts' and to make a more meaningful whole.

CHAPTER SEVEN

Discussion

In the previous three chapters, I have presented the findings of the 'parts' of the study as they emerged through the open, organic inquiry process and continual process of analysis, rational inference, abductive reasoning, reflection, and readjustment of aims. In this chapter, I discuss the findings and, as the bricoleur of this inquiry, bring the parts together to make a more meaningful whole (Kincheloe and Berry, 2004: 2-3). However, because this meaningful whole is related to my personal experience, I reflect upon and also question my own interpretations. In this study I have had a 'readiness' (Shotter, 2011) to respond to seemingly dissimilar elements for which systematic reflexivity has been required. Systematic reflexivity is, according to Finlay (2002, 2008), an explicit methodological self-consciousness which is required of the bricoleur.

7.1 Synthesis

In this section, I focus on articulating my reasoning process through, and following, the analysis of the data. I discuss the strategies for synthesis and my thinking as the 'synthesiser' in this study. The patterns that emerged across the categories and themes were of particular interest to me and in this chapter I explain the connections I made through the use of abductive reasoning. Bateson (1979) described abductive reasoning as involving two levels: a) being carried away by an idea or hunch; and b) an intuitive feeling (of deeper similarity and dissimilar conditions or facts). At the same time, he identified abductive reasoning as being an embodied ability to see relationships between seemingly disparate elements. To some, this process of abduction could be viewed as 'a way of guessing' (Kinn et al. 2013, 1289), but I see it, as Peirce (1970: 48-101) did, as a method of rational inference arising prior to induction and deduction, without which the development of new ideas and theories in science would be impossible. *Peirce saw rational inference as a cognitive process that is based on reasoning rather than speculation. He saw rational inference as a way of*

identifying patterns, at different points and in different way, in the data using
rational discussion and logical arguments that guards against seeing
relationships between the disparate elements. Peirce highlighted the potential
for 'tenacity' (retaining one's own views at the expense of all others) and his
suggestion was that, to avoid becoming 'an ostrich with its head in the sand',
there should be interaction with others to allow us to question our assumptions
and beliefs. Peirce posited that 'the uncriticised' can produce an irrational
consequence and a continued steadfastness to 'what we think we know'. In this
study, there was a rational, logical position grounded in data and ongoing and
consistent interaction with different participants (and their varying and
contradictory views) to pre-empt the development of an irrational system of
belief divorced from the world.

Pure objectivity was never something I was aiming for, although I was conscious that it should be employed in some aspects of the study. Equally, subjectivity could not be avoided as it has fuelled my rational inference, acting as the 'glue' between the various parts of the bricolage. In the process, I found that one of the main complexities in using a mixed methods bricolage approach as a methodology was how to reconcile the tension between objectivity and subjectivity, and how I should navigate the pull towards one or the other. For this, a pragmatic stance was essential, although idealists could struggle to support this methodology due to their compulsion to adopt a more rigid view of objective and subjective truth.
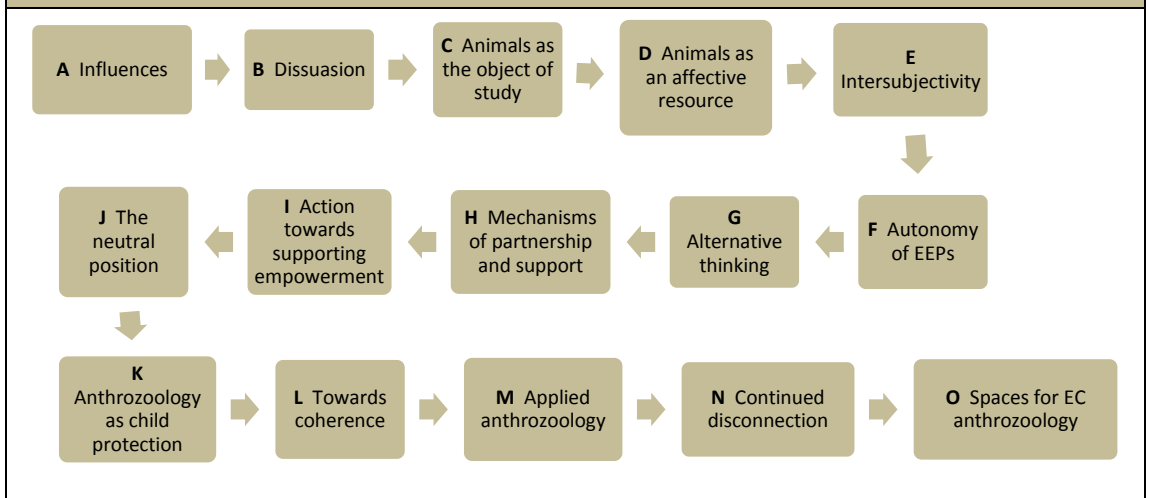
It was difficult to pinpoint the moment of transition from an objective view of the data to the start of synthesis and abduction as there was a continuous cycle of reflection from very early on in the study. The transition to synthesis in the inquiry did eventually become possible because, as Zimmer (2006) suggested, I was finally able to reach a deeper theoretical understanding of the phenomenon. I experienced a turning point when I realised that 'influences' (the core category derived from analysis) perceived by EEPs and affecting the practices in ECE for learning about animals is not restricted to factors external to EEPs. I saw then the significance of personal ethics and of the critical nature of values, and how they contribute to variation in ECE practices.

For synthesis, I used the three methods described by Noblit and Hare (1988): reciprocal translation analysis (a translation of concepts from the individual studies), refutational synthesis (exploring inconsistencies as well as similarities in the data), and the development of a 'line of argument' (LOA). In this chapter, I focus on discussing the findings from the research (Activities A–O) with reference to these three methods of synthesis. First, I present the core concepts derived from each activity using a reciprocal translation analysis, which I present as the 'summative codes' found. I then outline and explain the key connections, as well as the contradictions that arose between individual activities (a refutational synthesis). I use a narrative approach to build up a picture of the whole, or 'line of argument' (LOA), explaining what I have inferred from my analysis of the data. I have kept the LOA narrative sequential, as a sense-making and sense-giving activity that makes use of 'intellectual craftsmanship' (Mills, 2000, p.25). Hammersley (2004) considered such 'craftsmanship' to be a positive feature of bricolage as part of a scholarly, but also creative, approach to research.

7.2 Core concepts - summative codes

In this section, I provide a synopsis of the core ideas from the data, making reference to the 'summative codes' derived from each activity through the reciprocal translation analysis before moving on to the LOA discussion. The presentation of the core concepts ('summative codes') from the activities acts as an abridgement of the findings and as a framework for the narrative account of the bricolage that follows. The summative codes are presented in Figure 7.1.
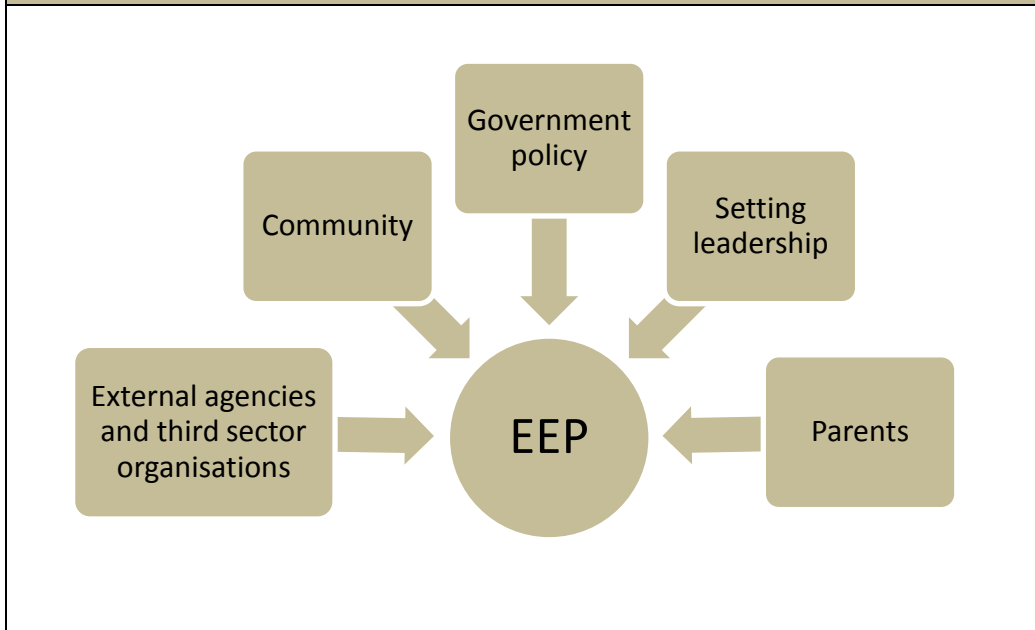
FIGURE 7.1 THE SUMMATIVE CODES FOR THE STUDY

A Influences	**B** Dissuasion	**C** Animals as the object of study	**D** Animals as an affective resource	**E** Intersubjectivity

J The neutral position	**I** Action towards supporting empowerment	**H** Mechanisms of partnership and support	**G** Alternative thinking	**F** Autonomy of EEPs

K Anthrozoology as child protection	**L** Towards coherence	**M** Applied anthrozoology	**N** Continued disconnection	**O** Spaces for EC anthrozoology

7.3 The line of argument

7.3.1 Influences on practice

In Activity A, I identified different 'influences' on children learning about animals in early education settings. This finding was critical to the remainder of the study. The influences are shown in Figure 7.2.

FIGURE 7.2 INFLUENCES ON LEARNING ABOUT ANIMALS IN SETTINGS

Government policy

Community

Setting leadership

External agencies and third sector organisations

EEP

Parents

Of particular importance was an In Vivo Code ('allowed') that appeared frequently in the early data; this term was used by a number of EEPs. The In Vivo Code indicated that EEPs can be vulnerable to the influences, and these influences have an impact on EEPs' perceptions of what they are 'allowed' to do. In attempting to make sense of this issue, I turned to psychological principles to help shed some light on the phenomenon. For example, an EEP's self-efficacy (i.e., the degree to which a person has a belief in his or her own ability to complete tasks and reach goals) (Bandura, 1977) may have an impact. An EEP with high self-efficacy is likely to persist with the effort to provide ARL as the pressure from influences increases. Another idea that is relevant is related to locus of control. EEPs with an *internal* locus of control (i.e., the belief that they can control what and how they teach) are more likely to make choices to enable ARL than those EEPs with an *external* locus of control (i.e., the belief that external influences control what and how they teach). High self-efficacy and internal locus of control have the potential to mitigate the influences that EEPs are subject to.

What also emerged in Activity A was a cluster of ideas around the apparent tensions between the positive aspects of ARL (care, therapeutics, tactile

experience) and the negative aspects (safety of children, risk). EEPs were conscious of the value of ARL and AAL for educating children and enabling them to develop caring attitudes. At the same time, EEPs tended to be unfamiliar with pedagogical approaches for ARL and AAL and how they could bring therapeutic experiences into their setting. For AAL specifically, EEPs viewed children being able to look after animals (custodial responsibility) and take part in sensory activities (hold or stroke animals) as 'special' experiences, yet they did not always provide tactile encounters for the children.

The main factor associated with lower provision of ARL and AAL seems to relate particularly to wider issues of educational safety and risk in education practice. While EEPs may value ARL/AAL, in this study it was identified that prioritisation (see findings of Activity F and N) can lead to a distancing from ARL/AAL. The most frequently described priority was 'safety'. For children, this ideas has already been established in literature about education practice (see Chapter Two, section 2.7.2), most notably in the work of Gill (2010) who observed that England has become a risk-averse culture. He called for risk to be reintroduced into children's experiences in order to better prepare them for adult life with opportunities to learn how to handle risk. Clearly this issue is not exclusive to animal-related learning, but with the added concerns about animal attacks and the potential of zoonosis (human–animal transference of disease) (see Chapter Two, section 2.7.1), it is easy to see why avoiding risky animal-related activities with children may be a particular driver for the reduction of ARL. However, for some EEPs the safety of animals is also a factor, which can stem from a view of animals as sentient being (see Chapter Two, section 2.3.1) or reinforced from the knowledge that they can subject to legal prosecution with possible punishment or penalty if an animal is harmed (see Chapter Two, section 2.4.1).

When initially looking at the data collected from EEPs during the study about perceived *characteristics* and the *severity* of risk and how this has translated to practice, I found it difficult to explain why some practitioners/teachers still chose to take risks with ARL/AAL, while others had become risk-averse. EEPs talked about the physical harm that children (or animals) could incur during

188

their interactions, as well as the emotional/mental harm that could result from learning about the issues and complexities associated with animals and our relationship to them (e.g., animals as a food source or the inhumane treatment of animals). Some EEPs stated that they were prepared and equipped to support this learning, others were far more reticent.

It would seem that how EEPs respond to ARL and whether they support AAL depends on the values they themselves hold about animals and their ethics associated with the use of animals. (As a hypothetical example, consider how a teacher/practitioner who hunts as a leisure activity may approach ARL compared to a teacher/practitioner who is a vegan or an animal rights activist.) It is likely that in larger settings the staff team will be made up of individuals with diverse values and ethics which could moderate extreme views. However, if particular values are imposed by a setting leader or held in common by members of a staff team, this could create the potential for specific directions in ARL. This could explain why some settings end up with distinctive site-specific policies (no animals on site) or school philosophies (becoming a school farm). These outcomes will depend on whether the setting has strong leadership which can steers the setting in the direction ARL, or democratic practices in place where ARL moves forward due to collective and agreed prioritisation. Seeking leader permission and/or support from colleagues can be crucial for some EEPs and the practical planning and delivering of activities within the setting could hinge on the values of the other EEPs and the manager/school leader.

The extent to which ARL topics (for example, the conservation of species, humane education, etc.) also relates to the values and priorities of that individual/setting. From the research data in Activity A, it would appear that, on a whole, some positive ARL practices are taking place, but this is due largely to the involvement of particular individuals or groups of individuals in settings. Other EEPs, however, are susceptible to the influences, which can then lead to ARL avoidance in those contexts. Because there is no statutory or externally set policy to promote ARL's for integration into practice, nor established

inspection procedures with which to evaluate ARL, it then becomes deprioritised.

Furthermore, it would appear that there are no systems in place to initiate an exploration of the particular values of EEPs associated with ARL. The support framework appears to be weak and reliant on input from 'animal-facing' rather than 'child-facing' external organisations and information from the media. Without an effective support framework, EEPs are essentially self-reliant and have to sift through the information and messages fed to them by the different influences (see fig 7.2) and there are mixed message circulating as with the example from Activity A.

> "[There are] *lots of mixed messages about what is acceptable.*"
>
> (Respondent, questionnaire MER/032)

As discussed earlier, personal self-efficacy and locus of control can affect the extent to which EEPs opt to engage in ARL/AAL, but their choice to do so is mitigated by the strength of the influences and whether they feel threatened by the outcomes of risky ARL.

What also surfaced in Activity A was that the impact of ARL is greater when there is a community-led need. In the Merseyside area where much of the research took place, there has been an emerging issue related to dangerous dogs (Merseyside Police and Crime Commissioner, 2014). This was cited by one participant in Activity A,

> "*The only thing that worries me is the dangerous dogs…*"
>
> (Mrs B, school-based EEP)

In activity A, a number of EEPs referred to this issue and it became clear that there is no explicit method of tackling this through education that targets young children and their families aside from the 'Keeping ourselves safe near dogs' educational resource (Association for the Study of Animal Behaviour, 2012) uncovered in Activity L. Education policy must acknowledge that there are ARL-specific needs in different communities, and nationally (i.e., different areas of the UK might have particular animal-related issues) and internationally

(i.e., other countries might have specific animal-related concerns), however it is currently not acknowledged in the contemporary policy dissemination spaces (Department for Education, 2015 and Department for Environment, Food and Rural Affairs, 2015).

The parental perspective also emerged as an important factor in Activity A. Since the Education Reform Act 1988, parents have been encouraged to act as important partner their child's education, which is found to lead to better outcomes (All Party Parliamentary Sure Start Group, 2013; National Children's Bureau, 2013). This promotion of parental choice means that the attitudes of parents should be taken into account and this was evident when speaking to EEPs (in Activity A, F, H and I) of how it impacts on the decisions and choices made for ARL in ECE settings. If parents share similar values with setting staff with respect to ARL/AAL, the EEP may take a particular approach in line with those values. But, then, there is the potential for extreme policies or practices, stemming from strong parental values, to manifest (perhaps as vegan Free School or and nursery that gives children the opportunity to engage in field sports as an early learning experience).

7.3.2 Dissuasion

The research undertaken in Activity B gave insight into the influence of organisations as stakeholders in ARL/AAL. The data provided contextual support for the notion that a decline of some ARL/AAL practices in ECE did take place around the time of the Animal Welfare Act (2006) and that it was not a spontaneous, random occurrence.

For the organisations that advocate for animal needs and rights, a reduction of AAL in settings would be welcomed because it enables a corresponding reduction in the potential for animal harm. What animal protection organisations might not have appreciated, however, is that AAL in settings may decline significantly or cease altogether which would eliminate an opportunity for children to engage in humane education and develop appropriate behaviour

through a 'natural education' (see Chapter Two, sections 2.2 and 2.3). A nature-rich education with opportunities for AAL might ultimately have *aided* their goals of preventing the mistreatment of animals. The findings indicate that this has been a 'ripple effect' which has occurred from viewing ARL exclusively through the organisational lens and following those agendas. While likely to be unintentional, if correct, this effect will have implications - not just for children's early learning and development - for lifelong behaviours of this generation of children, and future generations too.

In Activity B, it became clear that EEPs held assumptions that animals were not permitted in settings, although this view could not be attributed to a deliberate attempt by the national animal protection organisation to dissuade practitioners from ARL/AAL (see Activity B). However, the organisation has been so resolutely focused on preventing animal cruelty (both by adults in charge of caring for setting pets, and by children) that it has paid little attention to the role of EEPs and the developmental benefits of AAL for children, and as a result AAL activities have suffered a considerable setback. The decline of these practices since 2006 is not solely due to the influence of the national animal protection organisation but this one prime example shows how a rigorous message can easily become an act of disengagement in early education. Where there are assumptions that this organisation does not support AAL in early education settings, EEPs have found it considerably more difficult to implement AAL, and consequently have been dissuaded from providing first-hand experiences. This has left a gap in practice for children being able to access consistent and regular opportunities to care for animals or to observe behavioural cues with long-term benefits of both children and animals. Some EEPs seem to have been able to explore and facilitate alternative strategies for themselves, but the majority appear to have chosen to simply discontinue AAL, despite holding on to the belief that it is of value and represents a 'special' experience for young children.

The move from first-hand, nature-related, experiential learning to more distance learning through technology has been the subject of contemporary research (see the Chapter Two, section 2.7.3). In Activity B, it was reported by the animal-

facing organisations that they have now moved ARL into a technological frame, using web-based technology to provide some education services. This shift has been the result of both modernisation and cost-cutting, but the decisions to reconfigure ARL as a virtual activity as a standard method of deliver seems to have been made without a fuller exploration of the potential deficit created by teaching children about animals through the use of online resources that has been discussed in the literature (see Chapter Two, section 2.1).

7.3.3 Animals as the object of study

The research conducted in Activity C elucidated that, despite the influence of organisations, ARL does still has a presence in ECE. The set curricula being applied to ECE at the time of writing (EYFS and NC KS1) indicates that the government still expects ARL practice to be implemented in settings. The key focal points of early education curricula – living things and observation – suggest that ARL is a necessary statutory learning activity. What was less clear is how those aspects should be delivered.

Some examples were uncovered in the research activities (Activity A, G and I) of the different ways that EEPs are delivering ARL. In this study, some EEPs saw animals as the 'subject' and associate ARL in ECE with the development of specific knowledge and skills (e.g., identifying and naming species, their parts, their life processes, their needs, and their habitat requirements). Other EEPs recognised that when children learn about animals it also extends to education that facilitates sensitivity and attunement opportunities. They see that such learning goes beyond cognitive experience to become an embodied one that necessitates animal assistance. On the one hand, EEPs may choose to teach about animals in an indirect way (for example, through stories, visual images, and videos, or through reference to conservation projects or inhumane activity). On the other hand, EEPs can teach about animals in a direct way by facilitating opportunities for children to observe animals expressing normal behaviours or to look after an animal, or to provoke children as a cognitive challenge (e.g., children being shown a slaughter room). However, there is a danger that some

EEPs (teachers in particular) do view ARL as a scientific endeavour only – this is possible due to the explicit references being in the Science Programmes of Study (see Activity C). Yet other EEPs do take an embodied approach to teaching for ECEA, viewing tactile experiences and lived opportunities to co-exist with animals as essential. This inconsistency is a striking feature of ARL in ECE.

Literature and guidance to provide standards or exemplars of curriculum practices for EEPs do not appear to be available. There are limited resources and references to ARL for EEPs to access and this has leads EEPs to approach ARL as either a 'bolt on' activity

> *"The zoo is how we teach about animals and it is much better to see them being looked after and we learn about conservation at the same time"*

> (Mrs C, Reception teacher)

Or a PSHE theme

> *"…if I was able to have many animals in school I would, to enhance elements of PSHE and the curriculum."*

> (Respondent, questionnaire MER/043).

The OFSTED framework is to regulate services that care for children and young people, and services providing education and skills for learners of all ages (Office for Standards in Education, 2015). However, the form and function of teaching about animals are not specifically monitored or evaluated during the inspection process in the same way that subjects are. It could be argued that autonomy for EEPs to choose their methods is a positive thing, enabled by the framework (see Activity C) but explicit guidance would be helpful in practice. However, it would seem that the differences in values found during the inquiry are not addressed because of the lack of monitoring and explicit guidance, which perpetuates the issue of inconsistent practice for ARL. Children may well be receiving different levels and types of input and experience, which means that some children might consequently fall through the gaps in provision and miss opportunities to gain experience with animals and nature. Such

experiences should not only be viewed as 'special', but as a right of all children to be able to access ARL in their education. Moreover, future generations might lose out on the opportunity to engage with anthrozoological ideas and to become knowledgeable and skilled at interacting with, working with, or advocating for animals. Future human behaviour and sustainable practice are increasingly seen as essential features of education as part of the global agenda (UNESCO, 2012; 2014) – and ARL is part of this. Even very young children can engage with this agenda. Engagement in ARL/AAL could be a way of developing the ethics and values children hold about animals, which could, in turn, positively influence their worldview and commitment to wider humanistic and ecological issues.

7.3.4 Animals as an affective resource

During Activity D, it emerged that children are less inclined to see their experiences of learning about and with animals as linked to the curriculum (see Activities D and E findings). This perception could influence children's attitudes towards ARL – for example, animals are not necessarily viewed as a learning activity, but something they naturally engage with. When asked about animals, the participants alluded to four themes: information, humour, emotion, and creative expression. Three of the four themes related to *affect* (i.e., how they respond and process AR experience). This suggested that children's 'knowing' about animals is beyond factual learning, but also that animals can produce a positive affective state (i.e., produce positive feelings such as pleasure, joy, excitement) without children being taught that this is likely to occur. I have assumed that this is what EEPs in the study mean when they talked about ARL/AAL being something 'special'.

The potential for ARL to produce positive feelings, however, does not negate the possibility of neutral or negative affective states (i.e., no noticeable feelings, or even negative feelings such as disgust or anger). Here, the idea of somatic markers (emotional memories) is important for considering these findings. In effect, if children's experiences with animals are linked to negative emotions,

there is the potential for that negativity to translate into lifelong values and to condition behavioural responses in the future. For example, when children become parents themselves, these conditioned responses could colour the experiences of their own children. This relates to the generational theory discussed in Chapter 3 (section 3.7.4) which suggests that if children eventually become parents or EEPs themselves, their negative experiences will determine their motivation for and engagement in providing ARL for their children.

Children who have had positive experiences with animals and thus achieved a positive affective state are more inclined to adopt a positive view of animals (Hinde, 1976) and, perhaps, associated ecological matters (Milton, 2005). This positive affective state is particularly marked for AAL. There could also be therapeutic merit to be gained through first-hand experiences with animals, since being around animals is said to be 'natural' and 'part of being human' (Wilson, 1984). Returning to this ideology in an age when technology is replacing first-hand sensory experience, first-hand and continuous experiences with animals can ground children in what it means to be 'in harmony with nature' and to' know nature for real' (Rolston, 1997) so as to better affiliate with life and become concerned for the well-being of others and not just themselves (see Chapter Two, section 2.2.3).

In Activity D, qualitative comments by children suggested that the affective responses of children towards animals can also act as a motivational tool and that being exposed to animals in a positive way has create an affirmative learning experience, allowing children to extract value from the experience. An example of this is was when a dog is brought into the setting for children to read to. If the children enjoyed the experience, this ignites a desire to read more. Robust research into such experiences and the impact on later learning and on outcomes from ARL is scarce and more is needed to capture the features of the affective relationship and to look more closely at the longer term implications of such activities.

7.3.5 Intersubjectivity

Activity E was not an easy research activity to undertake. For this activity, I used a multi-method approach similar to the mosaic approach (Clark and Moss, 2001) to capture the views of young children with respect to animals. Research with young children is notoriously difficult because of limitations associated with early communication capabilities and because of the assumptions adults make when talking to children in research situations. These challenges were evident in Activity E, particularly in terms of the child who talked about the photograph as if it were his, even though it was not. That particular situation would have been unlikely if the research had been conducted with older children or adults, as they would have had a degree of understanding of the research focus and would not have been inclined to make believe in the same way. It would be unfair to the child to say that his response was a dishonest one; rather, it was more likely a combination of his wishful thinking and imagination!

The second (extension) activity for Activity E was more effective, not because it generated 'better data', but because it revealed an inconsistency that gave value to the study through refutational synthesis. The principle finding from Activity E was related to misaligned intersubjectivity (a theme discussed in Chapter Two, section 2.3.3). My assumption was that children would refer to *live* animals, when in fact many of the children showed just as much interest in inanimate/non-living representations of animals. Until that point, I had held the notion that only live animals could evoke affective responses, but this activity demonstrated that, for young children, the concept of 'animal' is broader than just live animals (i.e., those experienced first-hand or at a distance) and extends to a variety of representations (e.g., toys, cartoons). This finding provided a connection to the idea of 'childhood animism' (Myers, 2007) (see Chapter Two, section 2.3.2). This idea is important since the curriculum for EY (EYFS Specific Area – Understanding of the world) recognises that young children need to be taught what it is to be a 'living thing', and the NC links it to a learning objective for 'life processes' in Science (i.e., 'things that are living' and what is needed to 'stay alive') (See Activity C).

Some children need to be taught that there is a difference between a living thing and something that is not alive but other children can show care, compassion, and sensitivity towards animals in early childhood with very little instruction or experience. Early education should broadly on the needs (and rights) of things that are living because of their sentience. This finding supports the ideas of Kellert (1997) that, although there is a human tendency to affiliate with living nature encoded in our genes, care, compassion and sensitivity to animals is highly dependent on culture for its strength and direction. However, the idea that children must be taught these skills and about sentience is in conflict with Wilson's (1984) 'biophilia hypothesis' (Louv, 1990; Pyle, 1993) which stated that humans have an automatic, innate, evolutionary drive to recognise and care for other living things.

Early in the inquiry, it appeared that the interviews with children had not contributed much to the wider study. But, later it became apparent that there was a refutational synthesis (inconsistencies in the data explored) that has since enabled a richer awareness of ARL to emerge (see Chapter 8, section 8.13).

7.3.6 Autonomy of EEPs

During Activity F, the descriptions given by EEPs led to the development of a new category – 'Autonomy' – to run alongside the along the 'influences' core concept. The continued provision described in some settings demonstrated that it was possible for some EEPs to continue to provide ARL, including AAL These cases were of particular interest and marked a departure from the theory of deprioritisation and ideas surrounding the lack of structural support that had been emerging in the study until that point. The provision indicated that the influences (i.e., policies, setting leaders, parents, health/safety and risk, responsibility, and general time demands – see Activity F) are evidently not insurmountable, which ties into the findings about values that the attitudes and perspectives of some EEPs - as individuals, or as a collective of practitioners in a setting with shared values - can play a role in eliciting positive affective states and positive views of ARL. Some EEPs have chosen to continue offering first-

hand experiences and providing children with opportunities for cognitive and affective experiences. In most cases the continued prominence of ARL in EC settings was related to *two* conditions: a) EEPs regarding animals as appropriate cognitive and affective resources, and b) EEPs having positive affective responses to animals and ARL opportunities. If either of these core factors is missing, the potential for ARL to occur will be less; if both factors are missing, ARL will not occur at all.

What is less clear is whether or not EEPs are conscious of these factors. Are EEPs committed to participating in ARL because they recognised the value of it? Or, do they simply feel compelled to provide ARL without any real conscious awareness or positive valuation of animals? They may simply be making connections with the Science aspects of the curriculum and looking to meet the requisite goals.

7.3.7 Alternative thinking

Activity G provided the opportunity to look at a different approach to ARL in an international setting. It enabled me to reflect on what appeared to occurring at the local level in relation to an international perspective. In the Danish early years setting I visited, there was a strong philosophy that ARL and first-hand experiences were beneficial to young children, and those values were shared jointly by both staff and parents. Influences were less of an issue in this setting, and EEP autonomy appeared to be a key factor (as illustrated in section 7.3.6). My interpretation is that in the setting there was a shared positive affective response to animals and ARL opportunities, and the practitioners were able to connect that value to the curriculum. In effect, both core factors were present; the practitioners saw animals as an appropriate resource for learning and had positive affective responses to them. These factors served to protect the practitioners from influences that might have altered their perspectives or limited their engagement in ARL (e.g., responsibility, potential harm, zoonosis, safety, time demands). The findings led to the questions: *If one setting has*

been able to foster learning about animals in an alternative way, could a wider variety of settings take this approach?

Earlier in the research I found some barriers to ARL from EEPs hearing that other practitioners had be 'hounded' or 'prosecuted' and they indicated that this had led them to avoid similar practices so as not to be criticised, confronted, attacked, or isolated for trying to do something that was on the decline. This suggests that EEPs might need an appropriate level of support in order to tackle this issue and to plan for ARL, and that whilst acknowledging that there may be aspects beyond their own sphere of influence that they may not be able to change, AAL is possible.

In Activity G, it became clear that if support were to be provided to EEPs then it would need to include mechanisms that teach EEPs about the affective and cognitive opportunities for learning associated with ARL and which provide an opportunity to review their personally held beliefs.   By increasing awareness about the impact of positive affective states on practice (i.e., the likelihood of ARL) EEPs may see that the influences they see as challenging are, in actuality, not insurmountable. By being able to access accurate information about ARL, practitioners may be able to make informed choices for themselves about AAL.

7.3.8 Mechanisms of partnership and support

In Activity H, I began to differentiate between the types of ECE settings and explore whether the influences and autonomy vary depending on the organisational context. Analysis of the shared categories (awareness, dialogue, strategy, skills) highlighted that, in general, settings exhibited similar approaches. At the same time, other categories emerged that were specific to the setting type, for example the private nursery as a business, the family centre as a service, and schools as neither but still beholden to accountability (and inspection-driven practice). This indicated that different ECE settings might need different types of ARL support tailored to their needs. For example, private nurseries would be encouraged to place greater emphasis on ARL if they

saw it as a selling point; family centres would need to see ARL as a service benefitting the community (particularly vulnerable or hard to reach groups); and schools would need to see ARL as a criterion in the inspection process.

Another important theme extracted from the interviews was that the EEPs want exemplars that can provide them with a vision to inspire them to make informed choices about their own animal-related practice. I saw a relationship between the current status of ARL activities and a reduction in case examples and how it would be an explanation of why there are insufficient examples of appropriate practice available for EEPs to draw upon. Instead, they must draw upon their own experience and the limited examples known to them (acquired predominantly through hearsay) should they want to reintroduce or increase ARL/AAL in their setting.

As the researcher in this research process I have learned about and noted a number of practices that are being implemented in different settings as I have conducted this inquiry, but it would be wrong to assume that EEPs are also aware of those examples and the opportunities that are available, the methods of practice, and the potential pitfalls. As such, the dissemination and sharing of this type of information is essential for raising awareness about ARL. Part of this process would be the facilitation of a dialogue and a joined-up approach to ARL which EEPs can be part of. For this dialogue to occur, however, EEPs would need to be mindful of discrepancies in values and aware that what may be an appropriate and effective model of practice for one person may be unacceptable for another. An example of this is with a 'farm school/nursery', which is predicated on values that allow animals to be kept and used as a food source. In this case, vegan EEPs (who have made that dietary choice due to being against the slaughter of animals) might not accept this model of practice as 'appropriate' or 'effective'. As such, it is obvious that finding enough common ground to allow for joined-up thinking and partnership will be hard to accomplish.

7.3.9 Action towards supporting empowerment

During Activity I, I explored ARL and the subject of anthrozoology further through the experiences of three individual practitioners. What I found was that the topic of ARL had been omitted from the training experiences and standards of practice of the participants. This suggests that ARL is not valued in initial training and that opportunities for continued professional development are not necessarily provided. The only avenue for individuals to learn more about ARL seems to be through working with external organisations they are aware of and developed a partnership with. A recurrent theme in the interviews was that the documentation that supports the training and development of teachers does not place any emphasis on ARL (See Activity C).

During the research activity, the theme of autonomy (see section 7.3.6) also reappeared. This time, the participants suggested that motivated EEPs could wield their own influence and be a driving force for continuing or reintroducing ARL into a setting, despite the influences. From this, I realised that offering support to settings in terms of ARL might be in vain if the setting lacks at least one motivated individual who is willing and able to carry it forward (as found during Activity I, N and O).

'What works well' was a category that surfaced during Activity H for which the participants identified both a shared sense of ownership, welfare, and partnership, and 'modelling' (i.e., practitioners, parents, and older children acting as role models for young children in their relationship with animals) as being central to ARL. Furthermore, the practitioners perceived home experiences as being of equal value to setting-based experiences in terms of early learning. The participant explanations suggested that ARL has the potential to be a bridging and consolidating opportunity in which children can share stories and experiences with educators and peers, and EEPs can then discuss those stories with children and extend their experiences. This opportunity will be missed, however, if this partnership is not given due attention. The notion of the crucial link between home and school also relates back to the theories associated with intergenerational values (see Chapter Two, section 3.7.4) and how adults' attitudes towards animals and ARL can affect a

child's life. Participants also mentioned that the professional could compensate for the absence of a positive ARL model at home by providing specific experiences, or counteract inappropriate models (e.g., ones that foster a neglectful or inhumane view of animals) with positive ones.

In this study, there were varying views about setting-based animals. As the researcher, my attention was drawn to the possibility that some EEPs might view on-site animals as non-essential or problematic, or alternatively, as 'special' and so reserved for rare occasions, or that animals on site could also be viewed as an *entitlement* for children. The interviews revealed only some EEPs views about AAL, and, therefore, there is likely to be further variation and so there is then the potential for inconsistency in children's educational experiences. Such inconsistencies and divergent approaches in EC practice suggest that further research and the development of a support mechanism are necessary in order to address the discrepancy, especially in situations where ARL/AAL has disappeared entirely.

The findings suggested that support for EEPs would be beneficial in addressing the three main areas that emerged: *EEP self-efficacy, EEP motivation,* and *the context around the EEP* (within the setting and also beyond). In other words, support should focus on the cognitive and affective processes of the individual practitioner and also look to address some of the influences that affect EEPs' decision making and practice.

There was a pivotal moment at this point in the study when the idea of support became practical action (as a pilot study). This represented a departure from the original aim of the research process, which was to remain impartial. The idea of *active* support came to the fore because it was clear that, in some cases, ARL had ceased because of the powerful voice of animal-orientated organisations. I saw that practice was being dominated by the more powerful voices, and my cognitive conflict and dilemma as the researcher in this process was that I felt a moral obligation towards action in response to my own view that the voices of EEPs had been repressed, once I had identified the issue. I felt I had a

professional and civic duty to make the final stage of the study an action-based phase, aimed at empowerment but in a 'neutral' position.

7.3.10 The neutral position

During the research for Activity J, I made a choice to find a way to support EEPs without taking an activist position. I reasoned that empowerment can grow from general support and information that encourages EEPs to use their own voice if they want to reengage with ARL. This approach aligned well with my pragmatism and was informed by my research into the national anthrozoological organisation (see Activity J). This particular research activity had provided me with ideas on how the support could be structured using a developed and agreed upon 'code', celebrating thoughtful practice and with 'freedom from agenda'. These ideas fed into the actions for the remainder of the study.

In forming the pilot support organisation 'APER' in the final phase of this study, I was able to draw upon the categories that emerged from this research activity: physical caretaking, care (affective), empathy, and safety. These categories provided a framework for ARL and made clearer the particular considerations for approaching ARE generally. Moreover, the data revealed three themes for early education settings as part of the process of collaboration and reconsidering practice for ARL: *self-evaluation, ownership, and empowerment*. These themes gave focus to the early development of the support organisation and became the basic topics for dissemination in the field and dialogue when working with settings about ARL.

The constitution for the support organisation 'APER' was derived from the findings of Activity J. I chose to incorporate theory and ideas for dissemination, to collate practice examples, to develop a code of practice, and to focus on recognising effective practice, while remaining independent and impartial. Being independent and impartial was the cornerstone of the final

phase of the study and later dissemination activities. The neutral position was also affirmed as the chosen method of practice for the remainder of the study.

7.3.11 Anthrozoology as child protection

The findings from Activity K revealed four categories (physical, care, empathy, safety), but from the knowledge exchanges and public dissemination activities I have taken part in during this inquiry I have learned that the issue of child safety around animals is the one that gains the most attention from the general public. Using ARL and anthrozoology to help promote child safety is about teaching children how animals behave and helping them to pay attention and to learn to interpret the body language of animals as one way of helping to keep them safe. Indeed, embedding teaching and learning about animals (specifically in terms of their behaviour and body language) could be a way of educating children to be safe even when interactions with animals spontaneously occur. The benefit of such knowledge could be huge, particularly when there is an identified concern, for example, in Merseyside where there are a number of dogs that are a danger to the community (Merseyside Police and Crime Commissioner, 2014) and anxiety exists. There is no suggestion that a child with training in animal behaviour and body language will automatically be able to protect him or herself from an aggressive dog, but teaching children how to recognise the indicators of a dangerous dog might help children avoid dangerous situations and avert problematic interactions, i.e. children might not be able to protect themselves in the event of an attack but they might be able to observe potential aggression from a distance and so chose not approach it. This training would also be helpful in the decision making process of choosing a family pet in the future.

As discussed earlier in this chapter, the focus of the EYFS and NC is on knowledge and skills, but when children learn about animals, it facilitates sensitivity and provides attunement opportunities. The ability to recognise when an animal is stressed, which the Kendal Shepherd dog bite prevention programme describes as a precursor to animal aggression, is an intersubjective

experience for the child and the animal, but also requires rehearsal with a more knowledgeable person who is attentive and willing to scaffold and enable this interaction in a positive way. The argument for ARL is that it allows opportunities to engage with this process; ARL is not something that can be approached entirely as distance learning. Children's being safe around animals is a transactional and reciprocal relationship with the potential for the child to enter into a positive affective state and to develop a positive view of animals. It also offers opportunities for mutuality through which animals can potentially develop greater trust of humans through positive interactions.

During Activity K, I recognised that I had not paid due regard to the question of which animals are suitable for AAL. With a renewed interest in ARL, there might be the potential for EEPs to see animals simply as tools for interaction, without paying attention to the different levels of tolerance and agreeableness of individual animals. Even animals of the same species have different temperaments. EEPs may struggle if they are not educated about species type and behaviour, and if they themselves are not able to read the animals or understand signs of stress in the animals. Problems may also arise if they see animals merely as objects, rather than as sentient beings. The issue of allowing children time and space to interact with animals in order to build cognitive and affective understanding could relate equally to the education of EEPs. EEPs also will be better able to develop the relevant competencies through mechanisms of training that enable these experiences, instead of them being subjected to a sudden push to promote an increase of provision of experience.

7.3.12 Towards coherence

Through the research in Activity L, there was a clear sense that there was no joined-up mechanism in place for connecting EEPs with literature and programmes to help them to build their knowledge and awareness about ARL. Within this study, the status of ARL has been considered, but there needs to be an acknowledgement that, along with support through empowerment, EEPs need *tools* to enable them to feel skilled enough to provide effective practices in

teaching children about animals. It is the tools that can enable EEPs to be creative and confident when providing animal-related experiences in meaningful ways. During Activity L, I discovered one example of a tool (Shepherd, 2012) that could be used either as a training stimulus or as a framework for planning activities. However, the EEPs were unaware of the existence of this tool. The findings showed that although practical resources are accessible in the public domain, EEPs are not familiar with them even though there are some good examples of educational materials developed by third sector organisations. Although these materials centre on the work and agendas of the respective organisations, they can generate ideas and act as a stimulus for planning some aspects of ARL (e.g., conservation or humane education). EEPs have been without a system for disseminating useful resources, and the space for discourse on ARL in education has not been defined to date, and this one of the central conclusions that I have made (see final chapter – Chapter Eight).

7.3.13 Applied anthrozoology

The research in Activity M presented a key example of practices in secondary education. Initially, it seemed as though there was a discrepancy in the study findings; secondary farm schools were found to be on the increase, whereas EC ARL is restricted. Upon further investigation, I found that a decline in secondary education AAL had also been observed around the time of the Animal Welfare Act 2006 (See Activity M). However, whereas secondary schools were able to begin reversing the trend, ECE settings were not. Four characteristics in secondary practice helped to explain the difference; secondary schools have been able to frame ARL as a philosophy, as a feature of the school, as a specific object of study linked to the curriculum, and as a suitable environment for study towards a qualification. Professional autonomy was a key element that could be exercised if those four factors were in place.

By contrast, in ECE settings, ARL continued to be approached either as a 'bolt on' or cross-curricular theme, and thus the influences remained powerful. Also, in the research about secondary practice, in Activity M it was found that each

school had a member of staff who was passionate about ARL and who was in a position to engage in ARL due to his or her specific teaching responsibilities (i.e., Science/Life Cycles and Habitats or Geography/Land Management). The EEP, however, tends to operate as a generalist rather than a specialist, and so even if the EEP is passionate about animals, there is no subject-specific rationale that can be given. In secondary settings, the support of adults around the practitioner role was positive and enabling, giving 'permission' to create the space and facilities for AAL as part of the focus on ARL. Although anthrozoology is not a discrete subject taught in secondary education, it is applied through AAL experiences that facilitate cognitive and affective responses to 'real' situations (for example, the school farm), observations, and caretaking, and to develop an awareness of species and sentience.

7.3.14 Continued disconnection

During Activity N, I had the opportunity to look at the openness of EEPs to (re)engagement in ARL, including AAL. Of the sample of 268 settings (list of schools originally contacted for Activity F), only 10 engaged and were seeking to self-evaluate their current practices. It would be speculative to suggest a reason for the low response rate but, from the information offered by those who did make contact, it seems that there could have been an issue of priorities rather than a total rejection of the concept. This proposition is based on the fact that a small number of settings did demonstrate interest and respond.

Another possible reason for the low response rate was that perhaps the descriptions and explanations in the newsletter sent to settings were not effective, particularly in articulating a neutral position and making clear that the scheme was unrelated to an animal protection agenda. I have also reflected on the possibility that action towards supporting a reengagement with ARL might have been mistimed. Perhaps, some form of pre-action should have been included in order to properly introduce the idea to the settings through less formal means. This could have helped to create more favourable conditions for successful engagement.

It is also possible that using a self-evaluation process too closely mirrored the inspections and formal processes that settings are subject to, which could have made decision makers less inclined to become involved. I have also taken into consideration the notion that the approach might have been viewed as an *intervention,* rather than a participatory activity. If this is the case, my hope is that on receiving the newsletter enabled a triggering of an internal review, and that the settings simply felt that they did not need external validation. As a result, they did not follow through to complete and submit a self-evaluation. From my perspective as the researcher, getting the settings to complete the AAS scheme was not the primary aim. Rather, I wanted this process to be a tool to raise awareness and ignite internal discussions about ARL in settings and within EC, anthrozoology and education spaces. Therefore, if schools ended up self-reviewing informally and conducting a dialogue about the potential for ARL, then that is an important outcome. However, without taking part in the fuller self-assessment process, the opportunity for a deeper reflection on ARL practice might have been missed.

The findings of Activity N stimulated avenues for further investigation, for example: *Are practices in EE naturally increasing, but at a slower rate than in secondary education* (i.e., ARL and AAL will now increase organically regardless of a support framework)? *How can it be evidenced that the action-orientated activities were able to stimulate internal self-review in the settings? Would targeted action focusing on enabling the pedagogical articulation of EEPs at the local level be more effective than a research initiative?*

7.3.15 Spaces for EC anthrozoology

The final activity of this study involved locating spaces to explore the findings of the research and to stimulate dialogue about ARL and AAL in ECE and beyond. It involved accessing forums for education and anthrozoology, as well as the wider academic sphere. Feedback from the presentations and publication of articles about this research has been wholly positive, apart from one situation

in which a more critical response was asserted at a human–animal studies conference presentation; an audience comprised mainly delegates who held particularly strong views against AAL in settings and did not share my pragmatic stance. Even these spaces have been useful for navigating the complex ideas I have been researching. I have been able to share my findings and gain a range of perspectives on the collected data. Some of the points that have emerged in this discussion have come from dialogues that took place in those dissemination spaces; however, other ideas have developed in informal spaces from talking about the research with friends and family. ARL has a very broad audience as it is a topic that resonates with both scholars and non-academics alike.

A bespoke space for discussing ARL/ECEA had previously not emerged. The mainstream education and anthrozoological academic spaces are open to the discourse on ARL, but it is seen as a novel idea at present. In navigating different forums throughout the study it has become evident to me that there is no particular space where academic discussions and debate about ARL/AAL can be fostered and ECEA can be developed and refined. However, this thesis does make a contribution by providing a stimulus piece of work for others, as a catalyst.

An overarching idea that this research has identified is that there is an urgent need for 'common ground' between individual 'stakeholders' in both ECE and anthrozoology to co-create shared understandings about anthrozoology and how it should be framed in early childhood. A sense of 'joined up' or 'shared' identity appears to be currently lacking, exacerbated by the varying and potentially incompatible values at play from those who are fundamentally or predominantly 'animal-facing' or 'child-facing'.
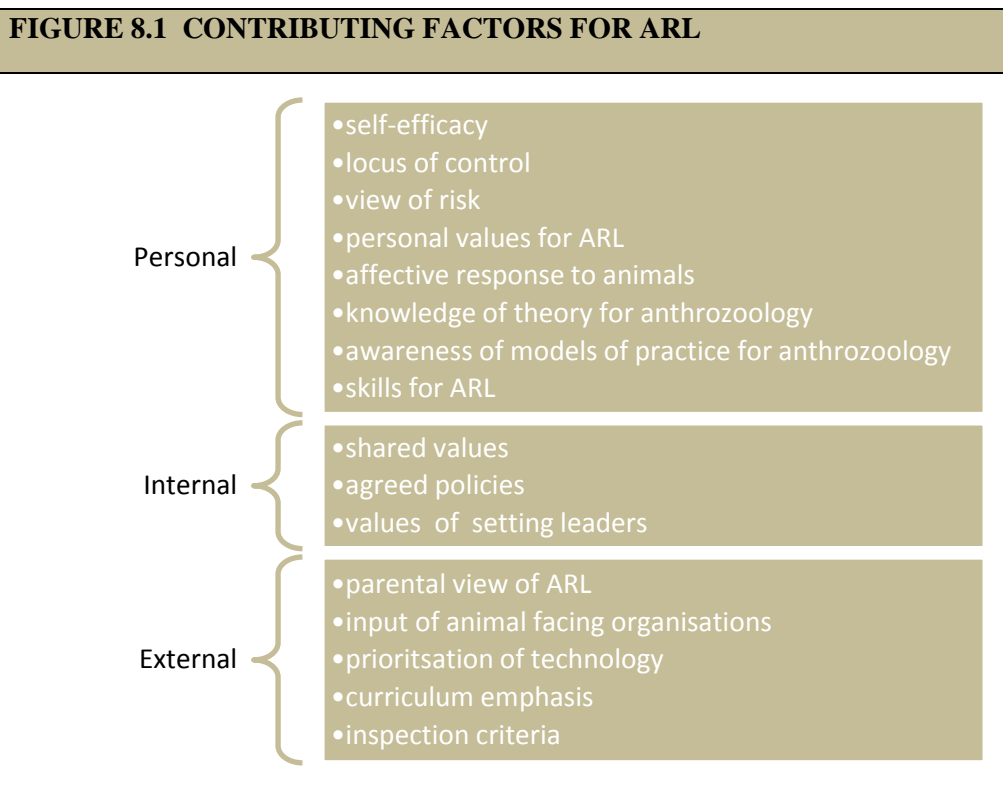
In the next chapter I make conclusions based on the core data and the points raised in this chapter. I also make recommendations for the development of the AAS scheme and for ARL and ECEA more broadly.

CHAPTER EIGHT

Conclusions

8.1 ARL in ECE: a perfect storm?

A major finding in this thesis relates to the nature of ARL and acknowledges
the decline in ARL and AAL in ECE settings from around the time of the
Animal Welfare Act 2006. The data has suggested that ARL is
underappreciated, lacks emphasis and is under delivered by EEPs, but the
decline cannot be attributed to one reason only. The research findings indicate
that this is a multifaceted issue. However, in the study some key contributing
factors were uncovered. The factors that emerged are presented in Figure 8.1
below.

FIGURE 8.1 CONTRIBUTING FACTORS FOR ARL

Personal
- self-efficacy
- locus of control
- view of risk
- personal values for ARL
- affective response to animals
- knowledge of theory for anthrozoology
- awareness of models of practice for anthrozoology
- skills for ARL

Internal
- shared values
- agreed policies
- values of setting leaders

External
- parental view of ARL
- input of animal facing organisations
- prioritsation of technology
- curriculum emphasis
- inspection criteria

The idea of the 'perfect storm' (a combination of circumstances which aggravates a situation drastically) is applied here as a way to explain that particular factors and influences have interacted in recent years to create a situation where ARL in ECE in a deprioritised position. The status does not appear to have been identified previously in research or literature before aside from in my own dissemination and public engagement activities (Gallard, 2011; 2012a; 2012b; 2012c; 2013a; 2013b; 2013c; 2014), therefore ARL in ECE as a discourse needs to be introduced into wider academic and practical spheres. Rather than taking a deficit view, the situation needs reframing as an opportunity to change and transform ARL, to overcome obstacles and seek common ground for the benefit of children and also animals. However, as the internal and external influences remain strong, it is difficult to know whether change is possible, unless positive influences become the defining feature of ARL. Some of the later activities of the study were *action-orientated.* Through the activities a number of barriers for practical action were found. It is not easy to unpick whether, overall, the practical action was 'successful' but, seeing as this was not the objective of the research, that it has contributed to raising awareness is sufficient.

What is clear from the research is that a passion for animals alone does not seem to be enough to address the level of ARL occurring in ECE settings. A desire and action by a few practitioners to provide ARL or AAL may benefit a small number of children in that sphere of influence but it does little for a wider reach. There is a pressing need to address broader issues associated with children's cognitive and affective development or animal care, welfare and conservation, or global and ecological matters. Consistent and coherent approaches to children learning with and about animals would contribute significantly to ECE.

ARL is also hindered in that anthrozoology is not yet fully appreciated as a discrete subject. If it were a subject that EEPs became more knowledgeable about it might help to create the rational for a comprehensive focus on ARL and AAL in settings. Unless anthrozoology is promoted and prioritised it may be

that ARL continues to be an ad hoc aspect in childhood, at best to be approached as a scientific or cross-curricular theme or as a charitable action.

The study has uncovered that EEPs are subject to cultural and political influences and so the promotion of anthrozoology needs to be addressed at that level in particular. The idea of lobbying was disregarded during the research process and it was decided that the 'neutral positon' was important for interactions with EEPs and in dissemination. However, it would now appear that lobbying may be a vital part of the elevation of anthrozoology as a next step to raise its awareness as a valuable aspect of ECE, aimed particularly at government ministers and advisors.

8.2 Link up to the issue of dangerous dogs

One way of helping policy makers recognise the wide ranging value of ARL, and anthrozoology as a subject, is through making explicit the potential for using education for a particular community focussed need (with reach to family education as well as children). There have been some actions towards protecting the public from dangerous dogs in the legislation and the amendment of the Dangerous Dogs Act 1991 recently. An alternative way of using ARL as vehicle for child protection has been offered in this study. The suggestion is that dog bite prevention programmes (for example, the one developed by Kendall Shepherd) could be considered as a child protection strategy alongside and complementary to the wider legal framework that is focussed on tackling the issue. This connection between AAL and facilitated experience could go some way to promote the skills associated with children properly reading danger signs and generally being aware of breeds and trait expression as 'normal' behaviour of animals. The 'Five Freedoms' (Rogers Brambell, 1965) will have particular value for enabling young children to see cause and effect, impact and custodial responsibility for animals. Also, ARL/AAL is potentially a way of targeting families about dangerous dog ownership which could help pre-empt inappropriate breed selection and therefore prevent the seizure and destruction of dogs.

8.3 Reaching out beyond the ECE setting

ECE has a tradition of seeing the importance of partnerships between setting and home. EEPs work closely with families as a mechanism to enable consistent experience and meaning for young children, and strong partnerships lead to better outcomes (All Party Parliamentary Sure Start Group, 2013; National Children's Bureau, 2013). Within the study it was found that EEPs consider the worth of ARL at home as equal to setting based experience, and that positive experiences disclosed by children can be shared and used as examples and as a focus for work with a child's peers in the setting. What EEPs are less secure with is what to do when it is discovered that the child has had a problematic or inappropriate model for ARL provided at home. Neglectful or inhumane attitudes can be reported by EEPs to the police but subsequent follow up and intervention programmes are currently seen as beyond the remit of the ECE professional. As discussed in Chapter 3 (section 3.7.4) intergenerational bias for animal-related values is then left largely unchallenged and there isn't a defined responsibility for any adult or professional to target inhumane attitudes (viewed as the pre-cursor to later psychopathy). ARL has the potential for addressing this type of animal-associated theme. ECE can approach the issue through a philosophical lens – engaging education professionals, parents, policy makers, and children – as a mechanism to facilitate positive personal development and attitudes in children and families.

8.4 Shifts towards virtual and online technologies for ARL

The use of technology appeared as a specific theme in the study research. It emerged in the research activity looking at the national animal protection organisation (Activity B). The purpose of the increased use of online technology was said to originate from the process of modernisation and as a cost cutting exercise at a time of austerity. The organisation's board had authorised a focus on technology and it was viewed as an effective use of finances to provide educational tools and information. The organisation is not unique in this respect. There has been a movement more broadly in modern life towards virtual and online education as 'Technology Enhanced Learning' (TEL)

which is said to offer *'...authentic learning experience based on experimentation and action'* (Lombardi & Oblinger, 2007: 2). For ARL, TEL is a useful mechanism to support inquiry and problem solving about animal-related themes and ideas but I have some concerns about its use as a primary and exclusive way of educating children about animals. A focus on online information and simulated (digital) animals reduces the potential for children to be exposed to, and learn to be sensitive to, the nuances of real animal behaviour. The efficiency of online learning would provide a tempting option for EEPs but it would potentially discharge a need for the practitioner to organise and deliver AAL and first hand experiences which, as discussed earlier, offer a positive affective state and affirming experience that could impact on lifelong values and attitudes.

For ARL, TEL is a useful mechanism to support inquiry and problem solving about animal-related themes and ideas but I have some concerns about its use as a primary and exclusive way of educating children about animals. A focus on online information and simulated (digital) animals reduces the potential for children to be exposed to, and learn to be sensitive to, the nuances of real animal behaviour. The efficiency of online learning would provide a tempting option for EEPs but it would potentially discharge a need for the practitioner to organise and deliver AAL and first hand experiences which, as discussed earlier, offer a positive affective state and affirming experience that could impact on lifelong values and attitudes.

8.5 The future role of animal- facing organisations in ECE

ARL continues to be made available by various third sector organisations that have a remit for protecting or education about animals or animal-related themes (for example, conservation, ecology, and farming). Some of these organisations retain educational work with children and settings within their constitution and provide curriculum support and enrichment. However, their education agenda will be precise to their aims which is *animal-facing* and the underlying principles they follow. Therefore, it is important that EEPs have opportunities

to work with a broad range of animal-related organisation so as not to become conditioned to adhere to one set of principles.

Practitioners should, in doing so, seek partnerships that are built on shared values, but there should be openness to working with organisations with values that are different to their own. This links to the issue of 'common ground' - that conflictions should be challenged by attempting to understand better the context and frame that different organisations and stakeholders operates from. In many cases these differences will not be resolved but it would be a step towards mediating extremity.

A more joined up way for animal-facing organisations to work with ECE settings is required but there is no overarching body that facilitates and supports this at present, aside from the pilot organisation developed for the purpose of this study (APER). A next step would be to approach stakeholders - including practitioners from settings, representatives of animal-facing organisations as well as the government departments (DfE and DEFRA) – to consider the issues identified in the research and look to develop a coherent approach to ARL in ECE.

8.6 Animals and the curriculum

The starting point for reconsidering ARL would be that practitioner awareness needs to be raised (and reinforced) for learning and teaching about animals. Aspects and links are already present in the current curriculum but to deliver ARL more effectively practitioners should recognise its distinct features; it is not only a cognitive but also an affective aspect of learning and development. This is essential to help transition the position of ARL from 'deprioritised' to 'acknowledged' within the education community, and it should be made explicit in documentation, training and in continuing professional development.

Knowledge of the concepts of animalism (about being human, being part of nature and what it is to be one animal species alongside others), animality (the

differences animals have from humans) and animism (animals as things that are living' and what is needed to 'stay alive) is an aspect of ARL in ECE which should be rethought, in particular in terms of ecological and sustainability education and the positioning of the 'self' as a human alongside other sentient beings. Even very young children can be taught about the aspects of animalism, animality and animism as part of an ECE experience to be revisited later as conceptual awareness is raised in primary, secondary and further education.

A suggested first step could be a revisiting of the curriculum framework for ECE to draw out the learning goals and areas of study for ARL that relates to animism so to provide guidance for EEPs to accompany the statutory curriculum framework. This guidance should incorporate models and ideas including those highlighted in this study (for example, the AAS scheme 'six themes' - curriculum links, human education, therapeutic value, health and community, advocacy for animals, species conservation). The guidance would need to be flexible enough to enable EEP to choose their methods and be creative in their delivery, and it should take account of the range of views and values of EEPs for ARL, but with an emphasis a moral obligation to allow children to see ECEA issues from different perspectives rather than just the practitioner's own.

8.7 Core factors

Arising from this study there are two core factors for enabling ARL - a) positive affective response to animals by practitioners, and b) seeing animals as an appropriate cognitive and affective resource for children. It has been difficult to draw out from the study findings whether EEPs are conscious of these factors, through a metacognitive awareness, and whether an unconscious omission of ARL is taking place. The indications from the interview data is that;

- ♦ there remains value placed on ARL but, through external attributions, ARL and AAL has reduced or (in some cases) ceased,

♦ where connections to the curriculum are made, ARL and AAL continues and EEPs more actively seek to meet those goals.

The main conclusion drawn from a consideration of these core factors it that there are three directions for future practical action and support for ARL – training for EEPs focussed on locus of control, explanation of legislation for the EEP audience and curriculum support guidance for ARL in ECE.

8.7.1. Training for EEPs focussed on locus of control

EEPs would benefit from understanding better their professional self-efficacy and the factors relating to internal and external locus of control relating to ARL, i.e. those aspects that can be addressed and where reassurance can be provided, separate to those that are external and beyond their control. This training could be provided through various forms as either broad information or targeted support. The use of medical assistance animals needs to be flagged and confidence and willingness by the educator to support and manage this in practice should be developed.

8.7.2. Explanation of legislation for the EEP audience

Centralised literature needs to be developed that explains the Animal Welfare Act 2006 and associated legislation for the EEP audience using an ECE rather than animal-facing/protection lens, so that EEPs are not reliant on the information provided by animal-facing organisations. This would encourage autonomous rather than dependant behaviour for planning and delivering ARL, especially AAL.

8.7.3 Curriculum support guidance for ARL in ECE

Documentation should be constructed to accompany the EYFS and NC statutory documents which indicates and highlights the 'six themes' (curriculum links, human education, therapeutic value, health and community, advocacy for animals, species conservation), and makes clear the links that can be made in EE about the fundamental animal-related themes.

8.8 Values

The assumption I have made, for the suggested action and support described above, is that EEPs are open and flexible in their thinking about the issue for ARL and that they do not hold rigid or extremist views. Animal-related activism is an important subject to consider when researching ARL as it can provide an alternative lens for how AAL in settings can be viewed. Activists would view AAL as contentious because it would mean that animals were being 'used' for the benefit of humans and that the rights of animals are being compromised from a restriction on their freedom (see Chapter Two, section 2.2.1). The ethics of using animals for the purpose of educating children would be raised by some, and as a response to this thesis. Thus, ARL can be problematic and the promotion of ARL (in particular AAL) is an issue of ethics. It is reliant on personal ethics and the way that the individual views animals and the place of humans and animals in society.

My suggestion is that EEPs should be introduced to the ideas and debates and be allowed to make professional and considered (and therefore defensible) decisions themselves based on the body of literature and discourse made available to them. This suggestion is made as an extension of my pragmatism, and my standpoint is one that comes from being aware of different values and understanding different arguments associated with ARL practices. I do not condone the harming of animals, but also I question the idea of what 'harm' is. My perspective is that animals are sentient beings, and should have the freedom to express normal behaviours, but with an acceptance that no being is ever truly 'free' except to mean that we are free to express 'normal' behaviour (Grandin and Johnson, 2009) given that our existence is mediated by having to share our existence with other beings.

8.9 Finding common ground

The most difficult aspect of ARL is to find common ground for is AAL. I would suggest that it would be hard to gain consensus, acceptance and compromise for the provision of setting based or controlled experience.

However, for ARL there is potential to join up thinking about the knowledge that should be enabled and supported in ECE. In the previous chapter I have extracted ideas that could be the basis of a meeting place for discourse about ARL in ECE that takes account of the diverse values, for example,

- learning about animals is an important cognitive and affective experience for the child,

- care and compassion for animals can be facilitated by learning about them through experience.

The first idea could be the stimulus for creating a discussion space and opportunity for collaboration, the second could be the focus for a knowledge exchange (see below).

8.9.1 The space for discussion and collaboration

A literary space (academic journal) could be developed to facilitate a respectful discussion drawing on the evidence base about the ways that young children take value from ARL as a cognitive and affective experience. This would be an opportunity to focus more on the fundamental learning attributes rather than the methods which create the tension associated with personal values for ARL.

8.9.2 Knowledge exchange

A forum could be created that shares different ways of viewing alternative experience, i.e. where robust debate can take place and where values can be conceptualised and challenged. This forum may not be specific to ECE, but it would be a general mechanism to exchange ideas for practices that are based on providing experience, with the long term view of developing caring and compassionate behaviours by children for animals and animal-related themes.

The potential for common ground may be limited but there is potential for advances in ARL to be made. This study has looked at some of the features of

educational experience in early childhood linked to animals, with a particular emphasis on EEPs (their role and their perspectives). However, the aspects which emerged about influences, priorities, locus of control, values and ethics could be applied to some degree to other phases and types of education.

In this study, it is the early experience in childhood that has been considered with an acknowledgement that the quality of early experience will reverberate and have a cumulative impact for the lifespan (Field, 2010). The idea that ARL is an optional aspect of EE has to be addressed as it is a form of deprivation if ARL and AAL are missing, omitted or withheld. This may mean that EEPs need to link up with external partners (for example, secondary school farms) or third party organisations that are animal-facing rather than child-facing, and to do so they need to be informed and equipped so as to be able to do so appropriate as protective factor, so that they are not dominated or dictated to by those of strong, opposing values and viewpoints.

8.10 The 'special' experience

The overarching need for EEPs to be empowered is associated with the notion that ARL and AAL are of value for young children. Provision of ARL is the opportunity to allow young children to gain experience in knowing animals; learning about them and achieving a positive affective state (production of positive feelings such as pleasure, joy, excitement) through first hand experiences. Focussed ARL also has the potential as a life affirming opportunity allowing children the chance to become skilled at animal-related activity (interactions and custodianship) stimulated through early and consistent AAL. However, the idea that first hand experiences are 'special' does create a tension with regards to its position as a mainstream educational experience. Being termed 'special' gives a sense that these opportunities can be a 'one off', rather than an ongoing educational endeavour. It is important that the EEPs who took part in this study identified ARL/AAL as special (aligns with some of the theoretical ideas discussed in Chapter Two about the child's 'special' relationship to nature), but in actuality 'special' can easily become a disclaimer for reduced provision, whereas there has been an argument provided here that it

is essential for children's learning. It is essential for the positioning of the 'self' as a human alongside other sentient beings and for broader ecological and sustainability matters that are at now viewed as a significant aspect of education due to the call for all nations to implement the Global Action Programme on Education for Sustainable Development (UNESCO, 2012).

The role of ARL in ECE perhaps needs to be reframed as an entitlement for children to gain access to ARL. But, it could be argued that the choice to host AAL or provide ARL is a professional, setting-based decision. Nevertheless, there should be an evaluation process in place or mechanism for settings to demonstrate that ARL has been considered and that staff are aware how and why it is should feature in their practice.

8.11 Targeted support

As well as for the broader provision of ARL, the potential for targeted support has been an important part of this study. There have been two aspects of targeted support identified;

- for the voice of EEPs,

- for community-led needs.

For targeted support, there was a pilot activity undertaken in this study as a counteraction to influences and deprioritisation, after it was observed that there was a dominating animal-facing voice from a national animal protection organisation. There is a responsibility for targeted support to be made available for settings or individual EEPs whose voice is being overpowered or repressed by setting leaders or external influences, but some question remains – who should be responsible is it for providing this targeted support? Should it be an internal, local or national responsibility?

ARL and anthrozoology as a subject also has potential for being used as a mechanism for emerging issues in communities - the example given earlier was relating to dangerous dogs but there are other contexts that this can be applied to. Education needs to be the tool to look at animal-related issues in the

community, for example, protection of local species, improvement of habitats that may be unique to an area or have relevance as a national or global concern.

8.12 Connecting to the global agenda for a sustainable future

The local, national and global relevance indicates that there is an association between ARL and the agenda for a sustainable future (SF), and there is a role for EEPs within this (Pramling Samuelsson and Kaga, 2008). UNESCO's agenda for education globally after 2015 has made this link between education and sustainability explicit – for 'global citizenship' and towards establishing equity - and ARL is a feature of this. In line with the global agenda for SF, the expectation that countries will focus on children developing their inquiring minds, seeking relevant information and to be creative to find innovative solutions (UNESCO, 2012), these are themes which ARE and ECEA can contribute towards. ARL can be used as a method of educating children to be responsible and responsive citizens with a caring attitudes and respect towards nature, therefore allowing children opportunities to learn that humans are part of the vast and intricate ecological system (in line with the aims of SF). Therefore, the linkup between SF and ARE/ECEA could be mutually supportive for

- enabling values such as empathy, sharing, respect for others are developed through ARL.
- promoting children's contact with nature, taking account of the sensitive periods for social, emotional, cognitive and physical development.

AAL in particular could ensure that first-hand experience with local animals and their habitats takes place (to be extended to opportunities to gain experience of non-indigenous species) to cement the relationship between anthrozoology and SF, and to meet the global agenda that is a priority for the Department for Education (Department for Education, 2007: section 8.37). ARL could then be given the prominence it deserves in future legislation and documentation, particularly in relation to ECE.

8.13 The main findings of the inquiry

The main findings of this inquiry provide a contribution to knowledge in four domains (theory, policy, practice and research).

The **theoretical** ideas arising from the research are that;

- In ECE, there has been a 'perfect storm' where ARL (AAL particularly) is underappreciated, lacks emphasis and appears to be under delivered.
- The facilitation of experience in ECE *builds knowledge* and can have a pre-emptive function for both child development and animal protection.
- Digital/simulated experiences are not sufficient to enable children to pick up on nuance of animal behaviour and form positive attitudes and connection to nature. It is cost effective and of value for cognition but it is not an embodied approach focussed on lived experience.

The ideas arising that can inform **policy** are that;

- There is room for improvement in the knowledge held by EEPs about anthrozoology.
- There are associated training needs and there needs to be clearer explanation of legislation and curriculum notes (particular guidance).
- EEPs need to be more involved in discussions about the ethics of ARL/AAL to; a) uncover personal values, and b) educate EEPs about the impact of their *personal values* about animals and anthrozoology on the learning and development of the children they teach.
- ARL should be reframed as an entitlement of children.
- EEPs/settings should have a choice to host AAL without fear or intimidation from the politics of animal-facing organisations or animal rights activists. But this has to be an *informed* choice arising from better developed anthrozoological knowledge.

For these ideas, lobbying for government attention and action might be appropriate.

The ideas that apply to **practice** are that;

- Through addressing philosophical issues of young children and animals and educating children about animals, there will be a wider reach to the home and community.
- The animal-facing and child-facing organisations need to find common ground to develop anthrozoology in ECE.
- There needs to be a meeting place to address diverse values to move towards consensus of approach.
- Support for EEPs should focus on empowerment rather than a neutral perspective when considered in light of ideas about power (i.e. oppression and marginalisation)
- Targeted support is important as a mechanism for those EEPs who do not feel able to engage for whatever reason, however *whose responsibility it is* to do this needs to be further considered.

The main **research** idea that has emerged from this inquiry relates to;

- The ways in which there could be a clearer link up of anthrozoology in ECE to the global agenda for a sustainable future.

8.14 Concluding remarks

This inquiry was an opportunity to reconsider ECE, to revisit the ideas of ECE theorists about the nature and notions of education in childhood and look at the practices of early educators and their views on ARL. The multiphase, mixed methods study took place over several years and it has resulted in a bricolage that has enabled a 'mapping' of the current status and potential of ECEA. I had the opportunity to collect the views of EEPs and children, academics, and the general public. The dialogue and discussions have enabled me to see how multifaceted and complex ARL in ECE is.

I have been amazed by how receptive and interested participants have been about the topic and it has been a process characterised by co-operative inquiry and contemplative moments when new understanding emerged, not just for me but for the participants as well. The narratives of EEPs in particular were

225

powerful because, as a consequence of my efforts to build up a trust and honesty in the research relationship, EEPs were able to be reflective and aware of issues they had in practice which were often not just for ARL/AAL. A number of the EEPs who participated were also sufficiently inspired to make remarks indicating that, as a consequence of what they have become aware of, they would be looking to renegotiate space for ARL, AAL and ECEA in their pedagogy and practice.

I have valued the moments where I have been able to consider the possibilities beyond the practicalities in ECE. I acknowledge that there were times of 'blue sky thinking' and the reality is that some of the ideas and suggestions emerging from dialogue with participants would not be possible at this time given the current educational and political context, and tension with some animal-facing organisations and animal rights activists. However, I hope that I have the courage and stamina to be the one to continue to present views that may be challenging for some, and also the resolve to represent what I have come to recognise; the child's right to access to ARL as a continuous experience which should be promoted, in spite of the dominant voices of those who place children's rights secondary to the rights of animals.

On reflection, a pragmatic stance has been essential for this inquiry. I would not have come to recognise the reach of the topic to ideas such as creating space, redefining support, influence and empowerment, and the link to SF, and I credit the bricolage approach for enabling me to uncover these findings which have resulted in the data and knowledge breadth that I see as a particular strength of this thesis.

Although the process of research for this study has been long and exhausting, it has been rewarding to recognise that this unique area of research is now getting the attention it deserves. Other researchers can now embark on further evaluation of ARL in ECE practices (as case studies or large scale projects) now that the inspiration and the discursive space, hopefully, has been created to do so.

A framework to support EEPs has been piloted and a next step would to develop it further. I still see the Animal Aware School scheme as having potential, but through a cumulative impact. The more schools engage and share their practice, the more models of practice there would be to share, and so on, and the greater the EEPs and setting managers' confidence will be in planning and delivering ARL in the future. It could be that the effect from APER and the AAS scheme will never be obvious and I am willing to accept that. The scheme does have potential but how it does need to be developed is to make it more in line with the SF agenda. A new objective for the organisation will be a linkage to the theme of 'biodiversity' and the Department for Education's aim for children learning about living things on the planet and the use of this as an inspiration for life - beginning with **'noticing nature and animals'** - leading to the 'building of a biodiverse future' (Department for Education, 2012a: 25-26). If EEPs can ignite this 'noticing' then the educators of older children and adults will be able to build on this, to support and challenge learners to creatively and imaginatively think of ways to come up with solutions to future challenges in sustainability, global citizenship and human equity. In particular, human-animal-related issues in the community, which may also be animal-related concerns unique to a local area, or have national or global relevance, can be addressed more effectively this way.

During this study I have been led to 'notice animals', or '(re)notice animals' in my case, and bricolage has helped me to do this. I have noticed aspects in ARL, in ECE and for the development of ECEA – and the notion of 'animal noticing' would now appear to me to be essential for addressing Kahn's (2002) concerns about the 'forgetting of nature', and for guiding children to be responsible and responsive humans with a caring attitudes and respect towards people and nature - as a state of being and as an intergenerational protective factor – which should be a core priority in ECE going forward.

REFERENCES

Adair, J. (1969) *Training for decisions*. Surrey: Ashgate Publishing Limited.

Agnew, R. (1998) The causes of animal abuse: a social-psychological analysis. *Theoretical Criminology,* 2 (2), pp.177-209.

Alexander, R. J. (2004) Still no pedagogy? Principle, pragmatism and compliance in primary education. *Cambridge Journal of Education*, 34, 1, pp.7-33.

All Party Parliamentary Sure Start Group. (2013) *Best practice for a sure start: the way forward for children's centres: report from the All Party Parliamentary Sure Start Group*. LondIon: 4children.

Anderson, W.P., Reid, C.M. and Jennings, G.L. (1992) Pet ownership and risk factors for cardiovascular disease. *Medical Journal of Australia,* 157 (5), pp.298-301.

Animal Health Act 1981 [online].
Available at: http://www.legislation.gov.uk/ukpga/1981/22
Accessed: 22nd July 2014.

Animal Welfare Act 2006 [online].
Available at: http://www.legislation.gov.uk/ukpga/2006/45/contents
Accessed: 28th July 2014.

Arnett, J. (1992) Reckless behaviour in adolescence: a developmental perspective. *Developmental Review*, 12, pp.339-373.

Ascione, F.R. (1993) Children who are cruel to animals: a review of research and implications for developmental psychopathology. Anthrozoös, 6, pp.226–247.

Athey, C. (1990) Aims and findings of the Froebel Educational Institute project. In: *Extending thought in young children: a parent-teacher partnership*. London: SAGE Publications Ltd, pp.61-112.

AtKisson, A. (2013). *Sustainability is for everyone*. Marston Gate: ISIS Academy.

Avis, J. and Harris, P.L. (1991) Belief-desire reasoning among Baka children: evidence for a universal conception of mind. *Child Development*, 62, pp.460-467.

Axinn, W. G. and Pearce, L, D. (2006) *Mixed Method Data Collection Strategies.* New York, NY: Cambridge University Press.

Ball, B., Gill, T. and Spielgal, B. (2012) *Managing risk in play provision: implementation guide* [online].
Available at: http://www.ncb.org.uk/news/revised-guidance-for-play-providers-explains-the-benefit-of-managing-risk
Accessed: 12th December 2014.

Bandura, A. (1977) Self-efficacy: towards a unifying theory of behavioural change. *Psychological Review*, 84 (2), pp.191-215.

Barker, S. B. and Dawson, K. S. (1998) The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services*, 49 (6), pp.797–801.

Bateson, G. (1972) *Steps to an ecology of mind*. New York, NY: Ballantine.

Bateson, G. (1979) *Mind and nature*. New York, NY: Bantam Books.

Bekoff, M. and Meaney, C.A. (1998). *Encyclopedia of Animal Rights and Animal Welfare*. Westport, CT: Greenwood Press.

Bergman, M. M. (2011) The good, the bad, and the ugly in mixed methods research and design. *Journal of Mixed Methods Research*, 5 (4), pp.271-275**.**

Bergold, J. and Thomas, S. (2012) Participatory research methods: a methodological approach in motion. *Forum: Qualitative Social Research* [online],13 (1).
Available at: http://nbn-resolving.de/urn:nbn:de:0114-fqs1201302
Accessed: 22nd August, 2014.

Berry, J. and Anstey-Holroyd, A. (2010) Hi, my name is Robyn. *Aquila Magazine*, Feb, p.22.

Bhaskar, R. (1975) *A realist theory of science*. Leeds: Leeds Books.

Bocock, R. (2002) *Sigmund Freud*. New York, NY: Routledge.

Bound, M. (2012) *Ethical considerations with gatekeepers*. Doctoral dissertation, Nova Southeastern University.

Bowlby, J. (1969) *Attachment and loss: Vol. 1. Attachment.* New York, NY: Basic Books

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: sadness and depression.* New York, NY: Basic Books.

Bronfenbrenner, U. (1979) *The ecology of human development: experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bruner, J. (1966) *Toward a theory of instruction*. Cambridge, MA: Harvard University Press.

Bruner, J. S. (1978) The role of dialogue in language acquisition. In: Sinclair, R., Jarvelle, J. and Levelt,W. J.M. (eds.). *The child's concept of language.* New York, NY: Springer-Verlag, pp.241-256.

Bryman, A. (2008) Why do researchers integrate/combine/mesh/blend/mix/merge/fuse quantitative and qualitative research? In: Bergman, M. (ed.). *Advances in mixed methods research.* Thousand Oaks, CA: SAGE Publications, Inc., pp.87-100.

Burbules, N. and Beck, R. (1999) Critical thinking and critical pedagogy: relations, differences, and limits. In: Popkewitz, T. and Fendler, L. (eds.). *critical theories in education.* New York, NY: Routledge, pp.45-66.

Burke Johnson, R. and Onwuegbuzie, A. J. (2004) Mixed methods research: a research paradigm whose time has come. *Educational Researcher*, 33 (7), pp.14-26.

Burke Johnson, R., Onwuegbuzie, A.J. and Turner, L. (2007) Toward a definition of mixed methods research. *Journal of Mixed Methods Research*,1 (2), pp.112-133.

Carey, S. (1985) *Conceptual change in childhood.* Cambridge,MA: MIT Press.

Chawla, L. (1990) Ecstatic places. *Children's Environments Quarterly,* 7 (4), pp18-23.

Chawla, L. (2009) Growing up green: becoming an agent of care for the natural world. *Journal of Developmental Processes*, 4 (1), pp.6-23.

Chesney, T. and Lawson, S. (2007) The illusion of love. *Interaction Studies*, 8 (2), pp.337-342.

Clark, A. and Moss, P. (2001) *Listening to young children: the mosaic approach.* London: National Children's Bureau Enterprises Ltd.

Cohen, L, Manion, L. and Morrison, K. (2011) *Research methods in education.* (7th ed.). Oxon: Routledge.

Crabtree, B. F. and Miller, W.L. (1992) Primary care research: A multimethod typology and qualitative road map. In: Crabtree, B. F. and Miller, W.L. (eds.). *Doing qualitative research: Methods for primary care.* Thousand Oaks, CA: SAGE Publications, Inc., pp. 3-28.

Creswell, J.W. (2011) Controversies in mixed methods research. In: Denzin, N. K. and Lincoln, Y. S (eds.). *The Sage handbook of qualitative research.* Thousand Oaks, CA: SAGE Publications, Inc., pp.269-284

Creswell, J. W. (2013) *Qualitative inquiry and research design: choosing among five approaches* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Creswell, J. W. (2014). *Research design: qualitative, quantitative and mixed methods approaches.* Thousand Oaks, CA: SAGE Publications, Inc.

Creswell, J. W. and Plano Clark, V.L. (2011) *Designing and conducting mixed methods research (2nd ed.).* Thousand Oaks, CA: SAGE Publications, Inc.

Crotty, M. (1998). *The foundations of social science research: meaning and perspective in the research process*. New South Wales: Allen and Unwin.

Dahlberg, G. and Moss, P. (2005) *Ethics and politics in early childhood education.* Oxfordshire: RoutlegeFalmer.

Dangerous Dogs Act 1991 [online].
Available at: http://www.legislation.gov.uk/ukpga/1991/65/contents
Accessed: 22nd July 2014.

Daston, L. (2004) Attention and values of nature in the enlightenment. In Daston, L. and Vidal, F. (eds.). *The moral authority of nature.* Chicago, IL: University of Chicago Press, pp.100-126.

Data Protection Act 1998 [online].
Available at: http://www.legislation.gov.uk/ukpga/1998/29/contents
Accessed: 23rd August, 2014.

DeGrazia, D. (1996) *Taking animals seriously: mental life and moral status.* Cambridge: Cambridge University Press.

Deleuze, G. and Guattari, F. (2004) *A thousand plateaus*. London: Continuum.

Denzin, N. K. (ed.). (1970) *Sociological methods: a sourcebook.* Chicago, IL: Aldine.

Denzin, N. K. and Lincoln, Y. S. (2000) Introduction: The discipline and practice of qualitative research. In: Denzin, N. K. and Lincoln, Y.S. (eds.). *Handbook of Qualitative Research* (2nd ed). Thousand Oaks, CA: SAGE Publications, Inc., pp.1-28.

Denzin, N.K. and Lincoln, Y. S. (2011) *The SAGE handbook of qualitative research.* Thousand Oaks, CA: SAGE Publications, Inc.

Department for Children, Schools and Families. (2008) *Statutory framework for the early years foundation stage (EYFS). Nottingham: DCSF.

Department for Education and Employment/QCA. (1999) *The national curriculum handbook for primary teachers in England.* London: HMSO/QCA.

Department for Education. (2007) *Planning for a sustainable future: White Paper* [online].

Available at: https://www.gov.uk/government/publications/planning-for-a-sustainable-future
Accessed: 1st December 2014.

Department for Education. (2010) *The importance of teaching: the schools white paper 2010 [online].*
Available at https://www.gov.uk/government/publications/the-importance-of-teaching-the-schools-white-paper-2010
Accessed: 19th August 2014.

Department for Education. (2011) *Teachers' standards [online].*
Available at: https://www.gov.uk/government/publications/teachers-standards
Accessed: 15th July 2014.

Department for Education. (2012a) *Top tips for sustainability in schools [online].* Available at: https://www.gov.uk/government/publications/top-tips-for-sustainability-in-schools
Accessed on 5th December 2014.

Department for Education. (2012b) S*tatutory framework for the early years foundation stage: setting the standards for learning, development and care for children from birth to five (Revised EYFS)* [online].
Available at: https://www.gov.uk/government/publications/early-years-foundation-stage-framework
Accessed: 20th February 2014.

Department for Education. (2012c) *Foundations for quality: the independent review of early education and childcare qualifications final report (Nutbrown Review) [online].*
Available at: https://www.gov.uk/government/collections/nutbrown-review
Accessed: 2nd November 2014.

Department for Education. (2013) *The national curriculum in England framework (draft National Curriculum 2014)[online].*
Available at: https://www.gov.uk/government/publications/national-curriculum-in-england-framework-for-key-stages-1-to-4
Accessed: 24th August 2012.

Department for Education. (2015) *Department for Education government website.*
Available at: https://www.gov.uk/government/organisations/department-for-education

Department for Environment, Food and Rural Affairs. (2015*) Department for Environment, Food and Rural Affairs government website [online].*
Available at: https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs

Dewey, J. (2009) *Democracy and education: an introduction in the philosophy education.* New York, NY: WLC Books.

Education Reform Act 1988 [online].
Available at:
http://www.legislation.gov.uk/ukpga/1988/40/contents
Accessed: 25th August 2014.

Elms, S., Stagnitti, M., Adamson, L., Stagnitti, K. and Jenkins, R. (2014) *Report on the Delta Classroom Canines™ Program in Schools in Geelong/Bellarine Region.* Summer Hill, NSW: Delta Society Australia Ltd.

Field, F. (2001) *The foundation years: preventing poor children becoming poor adults. The report of the independent review on poverty and life chances [online].*
Available at:
http://webarchive.nationalarchives.gov.uk/20110120090128/http:/povertyreview.independent.gov.uk/news/101203-review-poverty-life-chances.aspx
Accessed: 20th December 2014.

Fien, J. (1993) *Education for the environment: critical curriculum theorising and environmental education*. Geelong: Deakin University Press.

Findlay, J. N. (1970) *Logical Investigations.* New York, NY: Humanity Books.

Fine, A. (ed.). (2010) *Handbook on animal-assisted therapy: theoretical foundations and guidelines for practice* (3rd ed.). San Diego, CA: Academic Press.

Finlay, L. (2002) Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative Research*, 2 (2), pp.209-230.

Fishman, S. M. and McCarthy, L. (1998) *John Dewey and the challenge of classroom practice.* New York, NY: Teachers College Press.

Freisen, L. (2010) Exploring animal-assisted programs with children in school and therapeutic contexts. *Early Childhood Education Journal*, 37 (4), pp.261-267.

Freshwater D. (2007). Reading mixed methods research contexts for criticism. *Mixed Method Research,* 1 (2), pp.134-146.

Fromm, E. (1964) *The heart of Man*. New York, NY: Harper and Row.

Furrer, C. and Skinner, E. (2003) Sense of relatedness as a factor in children's academic engagment and performance. *Journal of Educational Psychology,* 95, pp.148-162.

Gallard, D. (2011) Animal-child interaction opportunities in English primary schools (abstract). *20th Annual Conference of the International Society for Anthrozoology*, Indianapolis, USA, 4-6th August 2011.

Gallard, D. (2012a) The value and status of animal-related experiences in English primary schools (seminar). *Faculty of Education, Community and Leisure Research Seminar,* Liverpool John Moores University, Liverpool, 26th April 2012.

Gallard, D. (2012b) Teacher attitudes to animals in primary education in England (presentation). *21st Annual Conference of the International Society for Anthrozoology*, University of Cambridge, Cambridge, 11-13th July 2012.

Gallard, D. (2013a) In search of authentic animal-related learning (presentation). *Faculty of Education, Community and Leisure Annual Research Conference,* Liverpool John Moores University, Liverpool, 28th June 2013.

Gallard. D. (2013b) Non human bonds. *Early Education*, 70, pp.10-11.

Gallard, D. (2013c) Reviewing and reframing the status of animal experiences in primary schools. *4th Annual C*o*nference of the Teacher Education Advancement Network*. Aston University, Birmingham, 17th May 2013.

Gallard, D. (2014) Educational Anthrozoology in Early Childhood: An issue of ethics (presentation). *Inaugural Conference of the Centre for Human-Animals Studies*. Edge Hill University, Liverpool, 25th October 2014.

Garrett, D. and Forrester, G. (2012) *Education policy unravelled*. London: Continuum International Publishing Group.

Gill, T. (2009) Now for free-range childhood. *The Guardian* [online]. 3rd April 2009.
Available at: http://www.theguardian.com/commentisfree/2009/apr/02/children-safety
Accessed: 10th December 2014.

Gill, T. (2010). *Nothing ventured…balancing risk and benefits in the outdoors* [online].
Available at: http://www.englishoutdoorcouncil.org/publications
Accessed: 25th August 2014.

Ginsburg, K.R. (2007) The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics[online]*, 119 (1). Available at: http://www.aap.org/pressroom/playFINAL.pdf
Accessed: 21st October 2014.

Glaser, B. G. and Strauss, A. L. (1967) *Discovery of grounded theory: strategies for qualitative research*. Chicago, IL: Aldine.

Glesne, C. (2006) *Becoming qualitative researchers: an introduction* (3rd ed.). Boston, MA: Pearson Allyn, & Bacon.

González, R. C., Biever, J. L. and Gardner, G.T. (1994) The multicultural perspective in therapy: a social constructionist approach. *Psychotherapy: Theory, Research, Practice, Training,* 31 (3), pp.515-524.

Gopnik, A., Meltzoff, A. N. and Kuhl, P. K. (1990) *The scientist in the crib: what early learning tells us about the mind.* New York, NY: HarperCollins.

Grandin, T. and Johnson, C. (2009). *Animals make us human*. New York, NY: Houghton Mifflin Harcourt Publishing Company.

Green, J. M. (2009) Pluralism and deliberative democracy: a pragmatist approach. In: Shook, J.R. and Margolis, J. (eds.). *A companion to pragmatism.* Oxford: Blackwell Publishing Limited, pp.301-316.

Greene, J. C., and Caracelli, V. J. (1997) Defining and describing the paradigm issue in mixed-method evaluation. In: Greene, J.C. and Caracelli, V. J. (eds.). *Advances in mixed-method evaluation: the challenges and benefits of integrating diverse paradigms.* San Francisco, CA: Jossey-Bass, pp.5-18.

Gullone, E. (2012) *Animal cruelty, antisocial behaviour, and aggression: more than a link.* London: Palgrave McMillan.

Habermas, J. (1975) *Legitimation crisis*. Boston, MA: Beacon Press.

Habermas, J. (1984) *The theory of communicative action: volume 1 - reason and the rationalization of society* (translated by Thomas McCarthy). Boston, MA: Beacon Press.

Hall, R. (2012) *Mixed methods: in search of a paradigm [online].* Available at: www.auamii.com/proceedings_Phuket_2012/Hall.pdf. Accessed: 21st August, 2014.

Hammersley, M. (2004) Teaching qualitative method: craft, profession or bricolage? In: Seale, C., Gobo, G., Gubrium, G. F. and Silverman, D. (eds.). *Qualitative research practice.* London: SAGE Publications Ltd, pp. 549-560.

Hammersley, M. and Atkinson, P. (2007) *Ethnography: principles in practice* (3rd ed.). Oxon: Routlege.

Henry, G.T., Julnes, G. and Mark , M. M. (eds.). (1998) *Realist evaluation: An emerging theory in support of practice*. San Francisco, CA: Jossey-Bass.

Herzog, H. (2010) *Some we love, some we hate, some we eat*. New York, NY: HarperCollins.

Kidd, A. H. and Kidd, R.M. (1987) Reactions of infants and toddlers to live and toy animals. *Psychological Reports*, 61, pp.719-729.

Hinde, R. A. (1976) Interactions, relationships and social structures. *Man*, 11, pp.1-7.

Hultqvist, K. and Dahlberg, G. (2001) *Governing the child in the new millennium*. New York, NY: Routledge.

Hurn, S. (2012) *Humans and other animals: cross-cultural perspectives on human-animal interactions*. London: Pluto Press.

International Association of Human-Animal Interaction Organisations (2014) *IAHAIO white paper 2014* [online].
Available at: http://www.iahaio.org/new.
Accessed: 30th November 2014.

International Society for Anthrozoology. (2015) *International Society for Anthrozoology website [online]*.
Available at: http://isaz.net/

Isaacs, S. (1966) *Intellectual growth in young children*. New York, NY: Schocken Books.

Jenlink, P. M. (2009) *Dewey's democracy and education revisited: contemporary discourses for democratic education and leadership*. Lanham, MD: Rowman and Littlefield Education.

Jensen, P. and Toates, F. (1993) Who needs behavioural needs? Motivational aspects on the needs of animals. *Applied Animal Behaviour Science,* 37, pp.161-181.

Jick, T. D. (1979). Mixing qualitative and quantitative methods: triangulation in action. *Administrative Science Quarterly*, 24 (4), pp.602-611.

Jolley, N. (2005) *Leibniz.* Oxon: Routledge.

Kahn, P. H. (1997) Developmental psychology and biophilia hypothesis: children's affiliation with nature. *Developmental Review*, 17, pp.1-61.

Kahn, P.H. (1999) *The human relationship with nature: development and culture*. Cambridge, MA: MIT Press.

Kahn, P.H. (2002) Children's affiliations with nature: structure, development, and the problem of 'generational amnesia'. In: Kahn, P. H. and Kellert, S. R. (eds.). *Children and nature: psychological, sociocultural, and evolutionary investigations*. Cambridge, MA: The MIT Press, pp.93-116.

Kahn, P. H. and Kellert, S. R. (2002) Introduction. In: Kahn, P. H. and Kellert, S. R. (eds.). *Children and nature: psychological, sociocultural, and evolutionary investigations*. Cambridge, MA: The MIT Press, pp.i-xix.

Kellert, S. R. (1996) *The value of life: biological diversity and humans*. Washington, DC. Island Press.

Kellert, S. R. (1997) *Kinship to mastery: biophilia in human evolution and development.* Washington, DC: Island Press.

Kemmis, S. (2001) Exploring the relevance of critical theory for action research: emancipatory action research in the footsteps of Jürgen Habermas. In: Reason, P. and Bradbury, H. (eds.). *Handbook of action research: Participative inquiry and practice.* London: SAGE Publications Ltd, pp. 91-102.

Kincheloe, J.L. and Berry, K. (2004) *Rigour and complexity in educational research: conceptualizing the bricolage.* London: Open University Press.

Kincheloe, J.L. (2007) Research in educational psychology: the bricolage and educational psychological research methods – part 2. In: Kincheloe, J. and Horn, R.A. (eds.). *The Praeger Handbook of education and psychology - volume 4.* Westport, CT: Praeger Publishers, pp.950-959.

Kinn, L.G., Holgersen, H., Ekeland, T.J. and Davidson, L. (2013) Metasynthesis and bricolage: an artistic exercise of creating a collage of meaning. *Qualitative Health Research*, 23 (9), pp.1285-92.

Kuhn, T. S. (1962) *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.

Laurendeau, M, and Pinard, A. (1962). *Causal thinking in the child: a genetic and experimental approach*. New York, NY: International Universities Press.

Lee, S., Evans, R. and Jackson, P. (1994) Fröebel and Christianity. *Early Child Development and Care,* 100 (1), pp.1-42.

Leech, N. L. and Onwuegbuzie, A. J. (2009) A typology of mixed methods research designs. *Quality and Quantity: International Journal of Methodology*, *43*, pp.265-275.

Leslie, A. (1991). The theory of mind impairment in autism: evidence for a modular mechanism of development? In: Whiten, A. (ed.). *Natural theories of mind: evolution, development and simulation of everyday mindreading*. Oxford: Blackwell, pp.63-78.

Levinson, B. M. (1969) *Pet-oriented child psychotherapy*. Springfield, IL: Charles C. Thomas.

Levinson, B. M. (1972) *Pets and human development.* Springfield, IL: Charles C. Thomas.

Lyotard, J. (1984) *The postmodern condition: a report on knowledge* (translated by Geoff Bennington and Brian Massumi). Manchester: Manchester University Press.

Lévi-Strauss, C. (1966). *The savage mind*. Chicago, IL: University of Chicago Press.

Lincoln, Y. (2001). An emerging new bricoleur: promises and possibilities - a reaction to Joe Kincheloe's 'describing the bricoleur'. *Qualitative Inquiry,* 7 (6), pp.693-705.

Lipscomb, M. (2011) Critical realism and realist pragmatism in mixed methods: problematics of event identity and abductive inference (evolving paradigms in mixed methods research)**.** *American Educational Research Association Annual Meeting [online]*, New Orleans, Louisiana, USA, 8th - 12th April, 2011.
Available at: http://eprints.uwe.ac.uk/14188
Accessed: 2nd April 2014.

Liverpool John Moores University. (2013) *LJMU awards first 'Animal Aware School' as part of national scheme* [online].
Available at: http://www.ljmu.ac.uk/NewsUpdate/viewarticle/494
Accessed: 20th February, 2013.

Locke, J. (1996) *An essay concerning human understanding* (Abridged and Edited by Kenneth P. Winkler). Indianapolis, IN: Hackett Publishing company, Inc.

Lodico, M. G., Spaulding, D. T. and Voegtle, K. H. (2010) *Methods in educational research: from theory to practice*. San Francisco, CA: John Wiley & Sons.

Lombardi, M.M. and Oblinger, D.G. (2007) *Authentic learning for the 21st century: an overview* [online].
Available at: http://net.educause.edu/ir/library/pdf/ELI3009.pdf
Accessed: 2nd September 2014.

Louden, R. B. (2006) *Kant: anthropology from a pragmatic point of view*. Cambridge: Cambridge University Press.

Louv, R. (1990) *Childhood's future: listening to the American family. New hope for the next generation.* Boston, MA: Houghton Mifflin.

Louv, R. (2005) *Last child in the woods*. Chapel Hill, NC: Algonquin Books.

Macauley, B.L. (2006) Animal-assisted therapy for persons with aphasia: a pilot study. *Journal of Rehabilitation Research and Development*, 43 (3), pp.357-366.

Mader, B, Hart, L.A. and Bergin, B. Social acknowledgements for children with disabilities: effects of service dogs. *Child Development*, 60, pp.1529-1534.

Malekpour, M. (2007) Effects of attachment on early and later development. *The British Journal of Developmental Disabilities*, 53 (2), pp.82- 87.

Manney, D. (2010). Making the familiar strange: can visual research methods render the familiar setting more perceptible? *Qualitative Research*, 10*,* pp.**91-111.**

Mariti, C., Papi, F., Mengoli, M., Moretti, G., Martelli, F. and Gazzano, A. (2011) Improvement in children's humaneness toward nonhuman animals through a project of educational anthrozoology, *Journal of Veterinary Behavior: Clinical Applications and Research*, 6 (1), pp.12-20.

Martin, F. and Farnum, J. (2002) Animal-assisted therapy for children with pervasive developmental disorders. *Western Journal of Nursing Research*, 24 (6), pp. 657-670.

Maxcy, S. J. (2003) Pragmatic threads in mixed methods research in social sciences: the search for multiple methods of inquiry and the end of philosophical formalism. In: Tashakkori, A. and Teddlie, C. (eds.). *Handbook of mixed methods in social and behavioural research.* Thousand Oaks, CA: SAGE Publications, pp.51-89).

Maxwell, J. A. and Mittapalli, K. (2010). Realism as a stance for mixed method research. In: Tashakkori, A. and Teddlie, C. (eds.). *Handbook of mixed methods in social and behavioural research.* Thousand Oaks, CA: SAGE Publications, Inc., pp. 145-167.

Mayes, S., Calhoun, S.L. and Crowell, E.W. (2000) Learning disabilities and adhd: overlapping spectrum disorders. *Journal of Learning Disabilities*, 33 (5), pp.417-424.

McCardle, P., McCune, S., Griffin, J.A., Esposito, L. and Freund, L. S. (2011) *Animals in our lives: human-animal interaction in family, community and therapeutic settings*. Baltimore, MD: Paul H. Brooks Publishing Co.

McCullcock, S.P. (2010) Critique of FAWC's five freedoms as a framework for the analysis of animal welfare. *Journal of Agricultural and Environmental Ethics*, 26, pp.959-975.

Meadows, D. (2008) *Thinking in systems: a primer.* White River Junction, VT: Chelsea Green Publishing.

Melson, G.F. (2001) *Why the wild things are: animals in the lives of children.* Cambridge MA: Harvard University Press.

Merseyside Police and Crime Commissioner. (2014) *Dangerous dogs in breach of court orders seized by force*.
Available at:
http://www.merseysidepcc.info/36/section.aspx/35/dangerous_dogs_in_breach_of_court_orders_seized_by_force
Accessed: 1st September 2014.

Miles, M.B. and Huberman, A.M. (1994) *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Miller, T., Birch, M., Mauthner, M. and Jessop, J. (eds.). (2012) *Ethics in Qualitative Research* (2nd Edition). London: SAGE Publications Ltd.

Mills, C.W. (2000) *The Sociological Imagination*. New York, NY: Oxford University Press.

Milton, K. (2005) Anthropomorphism or egomorphism? The perception of nonhuman persons by human ones. In: Knight, J. (ed.). *Animals in person: cultural perspectives on human-animal intimacies.* Oxford: BERG, pp.255–271.

Montessori, M. (1912/1964) *The Montessori method.* Cambridge, MA: Robert Bentley Inc.

Morgan, D. L. (2014) *Integrating qualitative and quantitative methods: a pragmatic approach*. Thousand Oaks, CA: SAGE Publications, Inc.

Morrison, M. L. (2007) Health benefits of animal-assisted interventions. *Complementary Health Practice review*, 12 (1), pp.51-62.

Morse, J.M. (1991) Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40 (1), pp.120-123.

Moss, P and Pence, A. (1994) *Valuing quality in early childhood services: new approaches to defining quality.* London: Paul Chapman Publishing.

Moss, S. (2012) *Natural Childhood* [online].
Available at: http://www.nationaltrust.org.uk/document-1355766991839
Accessed: 14th October 2014.

Moustakas,C. (1994*) Phenomenological research methods*. Thousand Oaks, CA: SAGE Publications, Inc.

Myers, O. E. (1998) *Children and animals: social development and our connection to other species*. Bouder, CO: Westview Press.

Myers, O. E. (2007). *The significance of children and animals: social development and our connections to other species (2nd ed.).* West Layfayette, IN: Purdue University Press.

Nafsted. P., Magnus. P., Gaader P.I. and Jaakola J.J.K. (2001) Exposure to pets and atopy-related diseases in the first 4 years of life. *Allergy, 56*: pp.307-12.

Nagengast, S. L., Baun, M. M., Megel, M. and Leibowitz, J. M. (1997). The effects of the presence of a companion animal on physiological arousal and behavioral distress in children during a physical examination. *Journal of Pediatric Nursing*, 12, pp.323–330.

National Children's Bureau. (2013) *Partnerships for a better start: perspectives on the role of children's centres.* London: NCB.

Noblit, G. W. and Hare, R. D. (1988) *Meta ethnography: synthesizing qualitative studies.* Newbury Park, CA: Sage.

Office for Standards in Education (2015) *About us: what we do [online].* Available at: https://www.gov.uk/government/organisations/ofsted/about Accessed: 4th January 2014.

Ownby, D.R., Johnson, C.C. and Peterson, E.L. (2002) Exposure to dogs and cats in the first year of life and risk of allergic sensitization at 6 to 7 years of age. *Journal of the American Medical Association*, 288 (8), pp.963-72.

Pace, M. (2014) *I love forest school.* Leicestershire: Featherstone Education.

Parish-Plass, N. (2013) *Animal-assisted psychotherapy: theory, issues, and practice.* West Layfayette, IN: Purdue University Press.

Parslow, R.A. and Jorm, A.F. (2003) Pet ownership and risk factors for cardiovascular disease: another look. *Medical journal of Australia*. 179 (9), pp.466-468.

Patton, M.Q. (1980) *Qualitative evaluation methods* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Pawson, R and Tilley, N. (1997) *Realistic evaluation*. Thousand Oaks, CA: SAGE Publications, Inc.

Pearson Qualifications (2014) *Welcome to BTEC [online].* Available at: http://qualifications.pearson.com/en/about-us/qualification-brands/btec.html

Pedersen, H. (2010) *Animals in schools: processes and strategies in human-animal education.* West Layfayette, IN: Purdue University Press.

Pierce, C.S. (1982) Definition and description of pragmatism. In: Thayer, H. S. (ed.) *Pragmatism: the classic writings*. New York, NY: New American Library, pp.48-60.

Piaget, J. (1928) *The child's conception of the world.* London: Routledge and Kegan Paul Ltd.

Piaget, J (1952) *The origin of intelligence in children.* New York: International University Press, Inc.

Pickering, J. (1999) The self is a semiotic process. *Journal of Consciousness Studies*, 6 (4), pp.31-47.

Plano Clark V.L. (2005) *Cross-disciplinary analysis of the use of mixed methods in physics education research, counselling psychology, and primary care*. Doctoral dissertation, University of Nebraska-Lincoln.

Plano Clark, V. L. (2010) The adoption and practice of mixed methods: U.S. trends in federally funded health-related research. *Qualitative Inquiry*, 16 (6), pp.428-440.

Postman, N. (1982) *The disappearance of childhood.* New York, NY: Vintage Books.

Preissle, J. (2006) Envisaging qualitative enquiry: a view across four decades. *International Journal of Qualitative Studies in Education*, 19 (6), pp.685-95.

Pyle, R.M. (1993) *The thunder tree: lessons from an urban wildland*. Boston, MA: Houghton Mifflin.

Pyle, R. M. (2002) Eden in a vacant lot: special places, species, and kids in the neighbourhood of life. In: Kahn, P. H. and Kellert, S. R. (eds.). *Children and nature: psychological, sociocultural, and evolutionary investigations*. Cambridge, MA: The MIT Press, pp.305-329.

Pyle, R.M. (2003) Nature matrix: reconnecting people and nature. *Oryx,* 37, pp.206-214.

Public Health England (2013) *List of zoonotic diseases (guidance)[online].* Available at: https://www.gov.uk/government/publications/list-of-zoonotic-diseases/list-of-zoonotic-diseases
Accessed: 12th December 2014.

Raver, C. (2002) Emotions matter: making the case for the role of young children's emotional development for early school readiness. *Social Policy Report of the Society for Research in Child Development*, 16 (3), pp.1-20.

Reams, P. and Twale, D. (2008) The promise of mixed methods: discovering conflicting realities in the data. *International Journal of Research & Method in Education*, 31 (2), pp.133-142.

Redefer, L. A. and Goodman, J. F. (1989) Brief report: pet-facilitated therapy with autistic children. *Journal of Autism and Developmental Disorders,* 19 (3), pp.461-467.

Richards, D.D. and Siegler, R.S. (1984) The effects of task requirements on children's life judgments. *Child Development*, 55, pp.1687-1696.

Richardson, F. C. and Woolfolk, R. L. (1994) Social theory and values: a hermeneutic perspective. *Theory and Psychology*, 4, pp.199-226.

Rinaldi, C. (2006). *In Dialogue with Reggio Emilia: listening, researching and learning: contextualising, interpreting and evaluating early childhood education.* Oxon: Routledge.

Rogers Brambell, F.W. (1965) *Report of the technical committee to enquire into the welfare of animals kept under intensive livestock husbandry systems (the Brambell Report).* London: HMSO.

Rogoff, B. (1990) *Apprenticeship in thinking: cognitive development in social context.* Oxford: Oxford University Press.

Rolston, H. (1997) Nature for real: is nature a social construct? In: Chappell, T. (ed.). *The philosophy of the environment*. Edinburgh: Edinburgh University Press, pp.38-64.

Rorty, R. (1999) *Philosophy and social hope*. London: Penguin Books.

Rosenthal, R. H. and Allen, T.W. (1978) An examination of attention, arousal, and learning dysfunctions of hyperkinetic children. *Psychological Bulletin*, 75, pp.689-715.

Rousseau, J. (1979) *Émile, or on education* (Introduction, translation and notes by Allan Bloom). New York, NY: Basic Books.

Royal Society for the Prevention of Cruelty to Animals. (2011) *Animal-friendly schools: How can schools be animal friendly? (Animal-friendly schools guidance PDF) [online]*
Available at:
http://education.rspca.org.uk/education/teachers/animalfriendlyschools/details/-/articleName/TEACH_AnimalFriendlySchoolsHowcanSchoolsBeAnimalFriendly Accessed: 18th November 2009.

Ryder, R. (1989). *Animal Revolution: Changing Attitudes Towards Speciesism*. Jefferson, NC: McFarland & Co Inc.

Samuelsson, I. P. and Kaga, Y. (eds.). (2008) *The contribution of early childhood education to a sustainable society* [online].
Available at: http://portal.unesco.org/geography/en/ev.php-URL_ID=11591&URL_DO=DO_TOPIC&URL_SECTION=201.html
Accessed: 1st October 2014.

Sandelowski, M. (1995) Sample size in qualitative research. *Research in Nursing & Health, 18*, pp. 179-183.

Saunders, M. S. (2006) The 'presence' of evaluation theory and practice in educational and social development: toward an inclusive approach. *London Review of Education, 4* (2), pp. 197-215.

Saunders, M., Minnitt, M., Egginton-Metters, I. and Gelston, A. (2011) *The Living Classroom. School Farms in the UK: a mapping survey.* School Farms Network and Lancaster University.

Saunders, M. and Minnitt, M. (2013) Improving the quality of student learning through school farms. *Growing Schools Conference,* Phoenix Canberra Schools Federation, 5th-6th July 2013.

Sayer, A. (2000) *Realism and social science*. London: SAGE Publications Ltd.

Schwandt, T. A. (1994) Constructivist, interpretivist approaches to human inquiry. In: Denzin, N. K. and Lincoln, Y.S. (eds.). *Handbook of Qualitative Research* (2nd Ed.). Thousand Oaks, CA: SAGE Publications, Inc., pp. 118-137.

Scott, K., Haseman, J., and Hammetter, R. (2005) Kids, dogs, and the occupation of literacy. *OT Practice*, 10 (3), pp.16-20.

Semali, L. and Kincheloe J.L. (1999) *What is indigenous knowledge? Voices from the academy.* New York, NY: Falmer Press.

Serpell, J. and McCune, S. (eds.). (2012) *Waltham pocket book of human-animal interactions.* Leicestershire: Beyond Design Solutions Ltd.

Shepherd, K. (2002) Development of behaviour, social behaviour and communication in dogs. In: Horwitz, D. F., Mills, D.S. and Heath, S. (eds.). *BSAVA Manual of Canine and Feline Behavioural Medicine.* Quedgeley: BSAVA, p.8.

Shepherd, K. (2007). *The Canine Commandments.* Bristol: Broadcast Books.

Shepherd, K. (2012) *Keeping ourselves safe near dogs resource pack* [online]. Available at: http://asab.nottingham.ac.uk/education/ASAB_dog_worksheets.pdf Accessed: 2nd July 2012.

Shotter, J. (2011). Embodiment, abduction, and expressive movement: a new realm of inquiry? *Theory & Psychology*, 21, pp.439-456.

Sigman A. (2007) Visual voodoo: the biological impact of watching television. *Biologist. 54* (1), pp.2-17.

Singer, P. (1975) *Animal liberation.* London: Random House.

Soëtard, M. (1994) Johann Heinrich Pestalozzi (1746–1827) *Prospects: the quarterly review of comparative education (Paris,UNESCO: International Bureau of Education), XXIV* (1/2), pp.297–310.

Sorbel, D. (2004) *Play-based education: connecting classrooms and communities.* Great Barrington, MA: The Orion Society.

Sobel, D. (2008) *Childhood and nature: design principles for educators.* Portland, ME: Stenhouse Publishers.

Sparkes A. C. (2002) Autoethnography: self-indulgence or something more? In: Bochner, A. P. and Ellis, C. (eds.). *Ethnographically speaking: auto-ethnography, literature and aesthetics*. Oxford: Altamira Press, pp.209-232.

Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T., and McCormick, L. (1992) Toward integrating qualitative and quantitative methods: an introduction. *Health Education Quarterly*, 19 (1), pp.1-8.

Steiner, R. (1907) *Animal, soul and human individuality. A lecture given by Dr. Rudolf Steiner [online].*
Available at: http://wn.rsarchive.org/Lectures/19070316p01.html
Accessed: 1st December 2014.

Stern, D. N. (1985) *The interpersonal world of the infant.* New York, NY: Basic Books.

Strayer, J. (1987) Affective and cognitive perspectives on empathy. In Eisenberg, N. and Strayer, J. (eds.). *Empathy and its development.* New York: Cambridge University Press, pp.218–244.

Stufflebeam D.L. *Evaluation Models: a new direction for evaluation*. New York, NY: Jossey-Bass.

Tashakkori, A. and Teddlie, C. (1998) *Mixed methodology: combining qualitative and quantitative approaches (applied social research methods).* Thousand Oaks, CA: SAGE Publications, Inc.

Tashakkori, A. and Teddlie, C. (2003) Major issues and controversies in the use of mixed methods in the social and behavioural sciences. In: Tashakkori, A and Teddlie, C. (eds) *Handbook of mixed methods in social and behavioural research.* Thousand Oaks, CA: SAGE Publications, Inc., pp.3-50.

Taylor, A. (2013*) Reconfiguring the natures of childhood*. Oxon: Routledge.

Teddlie, C. and Yu, F. (2007) Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1 (1), pp.77-100.

The Steiner Waldorf Schools Fellowship. (2009) *Guide to the Early Years Foundation Stage in Steiner Waldorf early childhood settings.* East Sussex: Steiner Waldorf Schools Fellowship Ltd.

The Telegraph. (2011) *Clever dog smells diabetic emergencies* [online]. 7th February 2011.
Available at:
http://www.telegraph.co.uk/news/newstopics/howaboutthat/8309298/Clever-dog-smells-diabetic-emergencies.html
Accessed: 20th December 2014.

Tovey. H. (2012) Adventurous and challenging play outdoors. In: Bruce, T. (ed.). *Early Childhood Practice: Froebel Today*. London: Sage Publications Ltd, pp.43-56.

UNESCO. (2012) *A place to learn: lessons from research on learning environments* (Technical paper No. 9). Montreal, Canada: UNESCO-UIS.

UNESCO. (2014). *World Conference on Education for Sustainable Development calls for renewed commitment by all countries* [online].12th November 2014 Available at:
http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/dynamic-content-single-view/news/world_conference_on_education_for_sustainable_development_call s_for_renewed_commitment_by_all_countries/#.VKqvs2CzWP9
Accessed: 5th December 2014.

Vygotsky, L. S. (1934/1986) *Thought and language* (Translation by A. Kozulin). Cambridge, MA: MIT Press.

Vygotsky, L. (1978) *Mind in society: the development of higher psychological processes* (Edited and translated by Michael Cole, Vera John-Steiner, Sylvia Scribner and Ellen Souberman). Cambridge, MA: Harvard University Press.

Warden, C. (2010) *Nature kindergartens: An exploration on naturalistic learning within nature kindergartens and forest school*. Crieff: Mindstretchers Ltd.

Weller, M. (2011) *The digital scholar: how technology is transforming scholarly practice*. London: Bloomsbury Academic.

Wheeldon, J. (2010) Mapping Mixed Methods Research: Methods, Measures, and Meaning. *Journal of Mixed Methods Research, 4* (2), pp.87-102

Wilson, R.A. (2008) *The wonders of nature: honoring children's ways of knowing* [online].
Available at:
http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleI D=70.
Accessed 18th October 2014.

Wilson, R.A. (2011) *Becoming whole: developing an ecological identity [online]*.
Available at: http://www.worldforumfoundation.org/working-groups/nature/newsletter
Accessed on 18th October 2014.

Wibberley, C. (2012) Getting to grips with bricolage: a personal account. *The Qualitative Report*, 17 (50), pp.1-8.

Wicks, P. G. and Reason, P. (2009) Initiating action research: challenges and paradoxes of opening communicative space. *Action Research, 7* (3), pp.243-262.

Wiggins, D. (1968) *Identity and spatio-temporal continuity.* Oxford: Blackwell.

Wiggins, D. (1980) *Sameness and Substance.* Cambridge, MA: Harvard.

Wilson, E.O. (1984) *Biophilia: The human bond with other species*. Cambridge, M.A: Harvard University Press.

World Health Organisation. (2014) *Zoonoses and the human-animal-ecosystems interface* [online].
Available at: http://www.who.int/zoonoses/en/
Accessed: 12th November.

Young Epilepsy (The National Centre for Young People with Epilepsy). (2012). *Primary school teachers' guide* [online].
Available at: http://www.youngepilepsy.org.uk/for-professionals/education-professionals/resources-for-schools/primary-schools.
Accessed: 2nd December 2014.

Zimmer, L. (2006) Qualitative meta-synthesis: a question of dialoguing with texts. *Journal of Advanced Nursing*, 53 (3), 311–318.

Zins, J. E., Bloodworth, M. R.., Weissberg, R. P. and Walberg, H. J. (2004). The Scientific Base Linking Social and Emotional Learning to School Success. *Journal of Educational and Psychological Consultation*, 17 (2-3), pp. 191-210.

APPENDICES

A	Copy of the competition article
B	Copy of the questionnaire to schools
C	Copy of the interview protocol – teachers
D	Highlighted section of the EYFS
E	Highlighted section of the NC
F	Highlighted section of the Draft NC for 2014
G	Table of favourite animals
H	Table of selected animals by children for the journal
I	Table of on-site animals named by schools
J	Copy of the interview protocol (EEPs)
K	Copy of the AAS application form
L	Copy of the AAS guidance notes
M	Copy of the AAS validation form
N	Copy of the AAS Certificate
O	Copy of the APER newsletter
P	Copy of the Early Education article

APPENDIX A

Copy of the competition article

Competition

Hi, my name is Robyn. If you love animals as much as me I would love to hear about it!

Enter this competition and you could win a digital camera!

Plus there's a free annual subscription for your school, a friend of your choice, or even for you, for the runner up.

How to enter:
Draw a picture or take a photograph of your favourite animal. Write a little bit about your favourite animal and also about any fun animal activities at school – no more than 300 words.

Send your picture and writing to:

AQUILA Animals Competition, PO Box 2518, Eastbourne, East Sussex BN21 2BB
Don't forget to include your name, age and address.
The closing date is 9th March 2010.

Please note: the information you provide may be used as part of a research project, but your personal details will remain confidential.

APPENDIX B

Copy of the questionnaire to schools

I am looking to build up a better picture of whether schools are choosing to include or exclude animals at this present time. I am very keen to hear your views and opinions regarding animals within the primary school setting. I have enclosed *a short questionnaire that I hope you will consider completing and returning in the SAE provided*. I would be most grateful if you could do this. This area of research has not been fully explored and, with widening media attention on animals around young children, it is vital that a wide range of views and opinions are sought and are represented. This research is not being conducted with any third party organization and so you can be assured that any information you provide will not be shared.

If you would like further information, or you would be interesting in being included as a case study then please do contact me.

This questionnaire is part of a small scale study looking at whether schools currently have **animals within the classroom or the wider school setting.** It is for research purposes only.

Information provided by you within this questionnaire will not be disclosed to a third party.

SECTION 1

Does your school currently have animals on the premises?

☐ Yes - *please go to Section 2...*
☐ No - *please go to Section 3...*

✓ tick

SECTION 2

You indicated in Section 1 that you have animals within the school setting.

Please could you list the animals that are currently within school and the year group they are linked to..

_____   _____

_____   _____   _____

_____   _____   _____   _____

Please go to Section 4...

SECTION 3

You have indicated that you do not have animals within the school setting. Is this because...

☐ Individual class teachers have chosen not to
☐ The school policy is that animals are not allowed on site
☐ You have guest visitors who bring in animals as an educational experience instead
☐ There have been negative experiences associates with classroom pets in the past
☐ The potential problems outweighs the potential benefits
☐ There could be issues relating health and safety
☐ There could be issues relating to safeguarding children
☐ Other

Any additional comments?

_____   _____

_____   _____

Please go to Section 4...

SECTION 4

Do you have general concerns regarding children being with or around animals?

❑ Yes

If yes, please could you expand on what the issues are...

_____

_____

❑ No

SECTION 5

Do you see any benefits regarding children spending time with or around animals?

❑ Yes

If yes, please could you expand on what the issues are...

_____

_____

❑ No

SECTION 6

Do you think your view of whether children should be with or around animals is influenced by any of the following...

❑ media stories
❑ charitable groups
❑ prior events
❑ personal affinity with animals

If you ticked any of the above, please could you expand on how you feel they influence you...

_____

_____

_____

Thank you for your time in completing this questionnaire
(please return in the Freepost envelope provided)

[email enquiries to d.c.gallard@ljmu.ac.uk]

APPENDIX C

Copy of the interview protocol

Interview schedule – teachers

[informal interviews with three early education practitioners (school-based) between April and May 2011]

The purpose of the interview is to gather information about Animal-Related Education (ARE), Animal-Related Learning (ARL), Animal-Assisted Learning (AAL) and educational anthrozoology in early childhood education from practitioners. The interview is semi-structured only and you are encouraged to talk broadly about the interview questions and themes. The interview will be recorded but the researcher will also make notes. Confidentiality is important in this study and your anonymity is protected unless you indicate that you wish to waive it.

1. Are you aware of 'anthrozoology' and what it is?
2. Should a Primary teacher include ARE/ARL and AAL focus in their work?
3. Is anthrozoology for young children 'non-essential'?
4. Are animal-assisted activities necessary, or are distanced activities enough?
5. Are there likely to be children who are particularly attuned to animals and would derive significant positive outcomes from a curriculum rich in anthrozoology?
6. Would greater inclusion bring value or burden?
7. What are your experiences of:
    - school trips to zoos and farms and other animal related experiences
    - visiting speakers bringing animals into the school
    - wildlife conservation and protection of animals
    - medical assistance animals
    - therapy animals
    - the use of animals for support/motivational assistance for learning (for example, READ – Reading Education Assistance Dogs)?
8. What are your views on risk and safety in ARL?

For consideration:

[Larger photograph to be provided]

Please contact me if you would like to discuss the study more at a later date (see contact information shared with you). Information about the findings of inquiry will be available in the final report and I am happy to make this available to you if you would like a copy.

Thank you for your time.

APPENDIX D

Highlighted section of the EYFS

Revised Statutory Framework for the Early Years Foundation Stage (2012)
The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes. **This section has been reproduced in full under the terms of the Open Government Licence** Available at https://www.education.gov.uk/publications/standard/AllPublications/Page1/DFE-00023-2012

APPENDIX E

Highlighted section of the NC

Highlighted references to animals in the NC Programme of Study for Science (Key Stage One) (Sc2 'Life and Living Processes')

Life processes

1. Pupils should be taught:

a. the differences between things that are living and things that have never been alive

b. that animals, including humans, move, feed, grow, use their senses and reproduce

c. to relate life processes to animals and plants found in the local environment

Humans and other animals

2. Pupils should be taught:

a. to recognise and compare the main external parts of the bodies of humans and other animals

b. that humans and other animals need food and water to stay alive

c. that taking exercise and eating the right types and amounts of food help humans to keep healthy

d. about the role of drugs as medicines

e. how to treat animals with care and sensitivity

f. that humans and other animals can produce offspring and that these offspring grow into adults

g. about the senses that enable humans and other animals to be aware of the world around them

---

Green plants

3. Pupils should be taught:

a. to recognise that plants need light and water to grow

b. to recognise and name the leaf, flower, stem and root of flowering plants

c. that seeds grow into flowering plants

Variation and classification

4. Pupils should be taught to:

a. recognise similarities and differences between themselves and others, and to treat others with sensitivity

b. group living things according to observable similarities and differences

Living things in their environment

5. Pupils should be taught to:

a. find out about the different kinds of plants and animals in the local environment

b. identify similarities and differences between local environments and ways in which these affect animals and plants that are found there

c. care for the environment

APPENDIX F

Highlighted section of the Draft NC for 2014

Highlighted references to animals in the draft NC consultation document for Primary Science (Key Stage One)

Y1 Science PoS Animals, including humans

Pupils should be taught to:

- identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates

- identify and name a variety of common animals that are carnivores, herbivores and omnivores

- describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, and including pets)

- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Non-statutory guidance:

Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of birds, fish, amphibians, reptiles, mammals and invertebrates, including pets. Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair,

mouth, teeth) through games, actions, songs and rhymes.

Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

Y2 Science PoS   All living things and their habitats

Pupils should be taught to:

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including micro-habitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Non-statutory guidance:

Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'micro-habitat' (a very

small habitat, for example for woodlice under stones, logs or leaf litter).
They should raise and answer questions about the local environment that
help them to identify and study a variety of plants and animals within
their habitat *and observe how living things depend on each other, for*
example plants serving as a source of food and shelter for animals.
Pupils should compare animals in familiar habitats with animals found
in less familiar habitats, *for example, on the seashore, in woodland, in*
the ocean, in the rainforest.

Pupils might work scientifically by: sorting and classifying things
according to whether they are living, dead or were never alive, and
recording their findings using charts. They should describe how they
decided where to place things, exploring questions such as: 'Is a flame
alive? Is a deciduous tree dead in winter?' and talk about ways of
answering their questions. They could construct a simple food chain that
includes humans (e.g. grass, cow, human); describing the conditions in
different habitats and micro-habitats (under log, on stony path, under
bushes); finding out how the conditions affect the number and type(s) of
plants and animals *that live there.*

Y2 PoS Animals, including humans

Pupils should be taught to:

- notice that animals, including humans, have offspring
  which grow into adults
- find out about and describe the basic needs of animals,
  including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the
  right amounts of different types of food, and hygiene.

Non-statutory guidance:

Pupils should be introduced to the basic needs of animals *for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of* reproduction and growth in animals*. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs. The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.*

Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow*; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.*

Y3 PoS   Animals, including humans
Pupils should be taught to:

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some animals have skeletons and muscles for support, protection and movement.

Non-statutory guidance:

Pupils should continue to learn about the importance of nutrition (including a balanced diet) and should be introduced to the main body

parts associated with the skeleton and muscles, finding out how different parts of the body have special functions.

Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.

This section has been reproduced in full under the terms of the Open Government Licence

Available at

http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary/b00199179/science/ks1/sc2

APPENDIX G

Table of favourite animals

Favourite Animals		
Named animal	**Frequency**	**Gender distribution**
Dog	10	8 females, 2 males
Cat	3	2 females, 1 male
Rats	2	2 females
Guinea pig	2	1 male, 2 females
Dolphin	2	2 females
Panda	2	1 male, 1 female
Pig	1	1 female
Tamarin	1	1 female
Horse	1	1 female
Starfish	1	1 male
Chimpanzee	1	1 female
Tiger	1	1 male
Parrot	1	1 female
Otter	1	1 female
Zebra	1	1 female
Polar bear	1	1 male
Orangutan	1	1 female
Frog	1	1 male
Penguin	1	1 female
Cheetah	1	1 female
Elephant	1	1 female
Giraffe	1	1 female
Monkey	1	1 female

APPENDIX H

Table of selected animals by children for the journal

Selected animals by children for the journal		
Selected animal	**Frequency**	**Gender distribution**
Dog	4	2 girls, 2 boys
Leopard	1	1 girl
Cat	2	2 girls
Bird	2	1 boy, 1 girl
Rabbit	1	1 boy
Hamster	2	2 boys
Guinea pig	2	1 girl, 1 boy
Fish	2	2 girls
Group of jungle animals	1	1 boy
Tortoise	1	1 boy
N.B. In some cases the children took more than one photograph of the same thing (which is why there are more photos than journal entries).		

APPENDIX I

Table of on-site animals named by schools

On-site animals named by schools	
Named animal	**Frequency**
Fish	6
Guinea Pig	4
Giant African Land Snail	3
Hamster	3
Gerbil	2
Chicken	1
Lizard	1
Rabbit	1
Snake	1
Terrapin	1

APPENDIX J

Copy of the interview protocol (EEPs)

Interview schedule – practitioners

[semi-structured interviews with 10 early education practitioners from April to May 2010]

The purpose of the interview is to gather information about Animal-Related Education (ARE), Animal-Related Learning (ARL), Animal-Assisted Learning (AAL) and educational anthrozoology in early childhood education from practitioners. The interview is semi-structured so you are encouraged to talk more broadly and beyond the questions asked. The interview will not be recorded but the researcher will make notes. Confidentiality is important in this study and your anonymity is protected unless you indicate that you wish to waive it.

1. Do you think that a child having experiences with animals will impact on their development?
2. Can you recall a situation where a child benefited greatly from an animal? Why might a child not wish to spend time with an animal?
3. Would you consider the provision of experiences with animals to be part of your work?
4. Does your core planning include a focus on children's experiences with animals?
5. Do children talk about their experiences with animals in your setting?

Please contact me if you would like to discuss the study more at a later date (see contact information shared with you). Information about the findings of inquiry will be available in the final report and I am happy to make this available to you if you would like a copy.

Thank you for your time.

APPENDIX K

Copy of the AAS application form

APPLICATION FORM (F1)

Name of school:

Name of nominated member of staff:

This form is the basis of your application for recognition as an 'Animal Aware School'. Please note that you will also need to provide validation (Forms F2) – see 'Guidance Notes' for further information.

You can opt to word process or hand write your application but APER recommends that you make and retain a copy of the application for your records.

Core to your application is knowledge of the **'status themes'**. The six status themes are
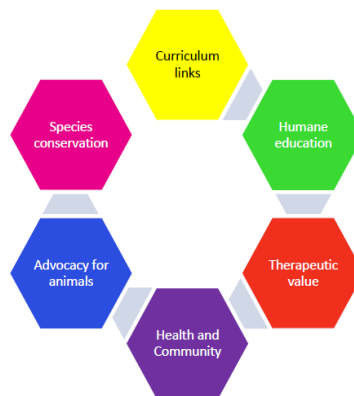
Please provide a narrative account of teaching activities and events for each status theme (the corresponding *criteria* has been provide for you to consider)

Status theme 1 – **Curriculum links**

Criteria:

1.1 How the school delivers the non-human animals elements of Primary Science
1.2 Ways in which the school integrates animals into literacy and numeracy teaching and learning
1.3 The cross-curricular links the school makes relating to animals

Status theme 2 – **Humane Education**

Criteria:
2.1 The methods used by school in raising empathy and attunement to animals
2.2 How the school supports positive behaviour towards animals

Status theme 3 – **Therapeutic Value**

Criteria:
3.1 How the school provides children with first-hand experiences of animals (non-directive)
3.2 Ways that direct experiences are provided to the children on the school premises or as a field trip
3.3 Staff awareness of the different animals-assisted approaches

Status theme 4– **Health and Community**

Criteria:
4.1 How the school supports children in developing age appropriate knowledge and understanding of zoonosis
4.2 The school policies and procedures in place to safeguard children when they are interacting with animals
4.3 The partnerships made with animals organisations and animal handlers/workers
4.4 Staff awareness of the role of different working animals/animals in society

Status theme 5 – **Advocacy for Animals**

Criteria:
5.1 How the school develops awareness of the welfare needs of animals
5.2 How the school informs about and promotes high quality pet ownership and livestock management
5.3 How the 'very able with animals' children (also known as 'gifted and talented') are identified and supported
5.4 How children with 'difficulties around animals' (harming, phobia, detachment) are identified and supported

Status theme 6 – **Species Conservation**

Criteria:
6.1 How children are taught about ecology and species diversity
6.2 How the school develops children's awareness of endangered species
6.3 How the school supports children in their animal guardianship/animal protection

Declaration

I confirm that this is _____(school name)'s first application for recognition.

I hereby declare that internal validation procedures (within school) have been completed for this application.

This is a true and accurate account of school processes and practices relating to 'Animal Awareness' within _____(school name).

_____(your signature)

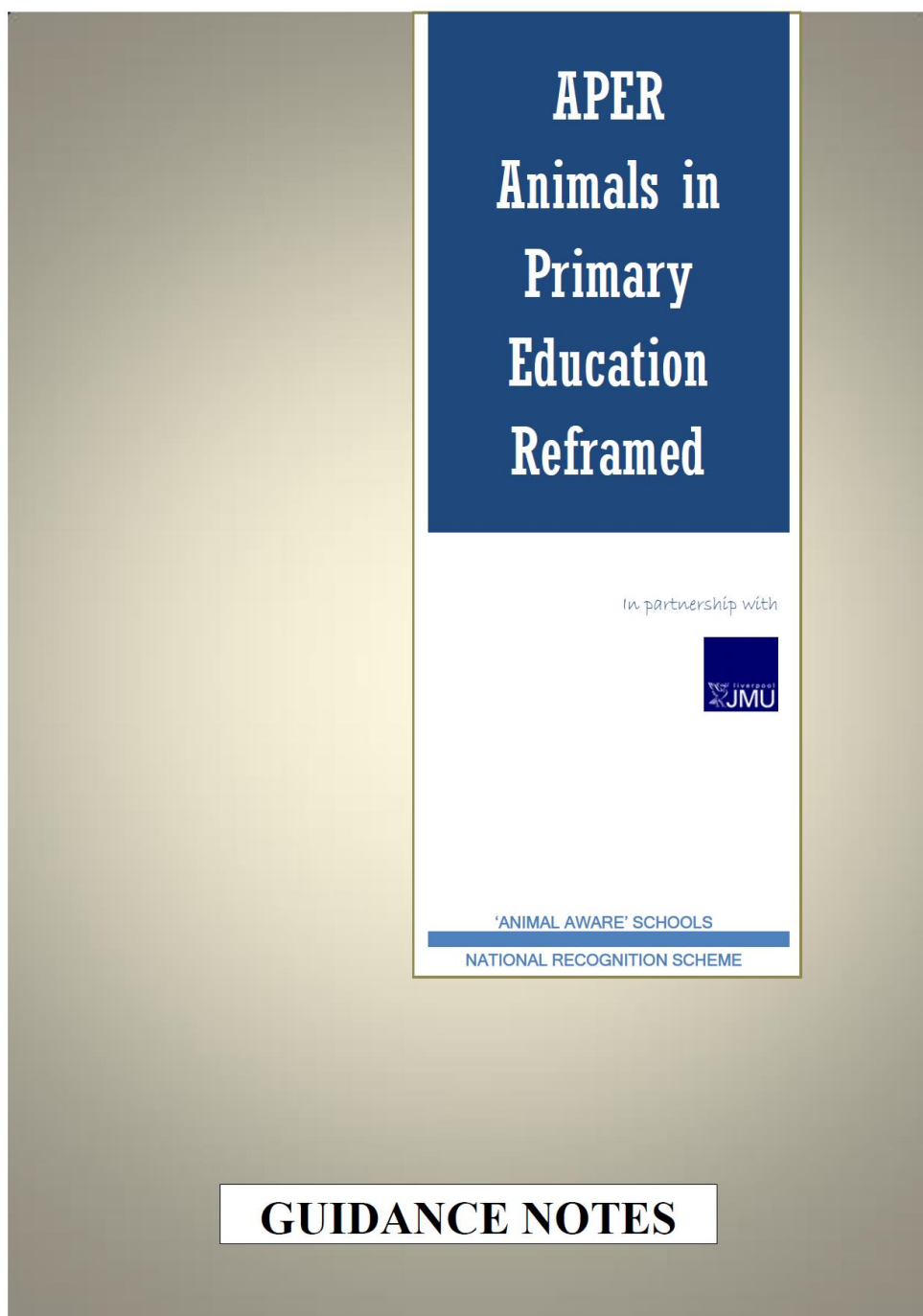_____(your name in block capitals)

_____(date)

Please also indicate

Name of school as it should appear on the certificate:

Full postal address of where certificate should be sent:

APPENDIX L

Copy of the AAS guidance notes

Animals in Primary Education – is <u>your</u> school 'Animal Aware'?

There recognition scheme focusses on six status themes.

In order to apply for 'Animal Aware' national recognition you will need to identify the activities and practices within school that fall within these categories.

All status themes need to be covered for the school to apply for 'Animal Aware' status.

Guidance Notes

Please read these **Guidance Notes** for full details of how to complete your application. The notes outline the requirements for your application to be successful.

APER currently provides a *free* information service plus guidance events to help schools prepare their submission for 'Animal Aware School' recognition (*please contact APER for further details* *enquiry@animalsreframed.co.uk*).

ABOUT THE PROCESS

Applications may be made at any time. The APER review team will need approximately three weeks to consider applications fully and you will be informed of the outcome within one month of APER receiving your application.

The application should be completed by **a nominated member of staff**. We suggest that this person has some personal or professional knowledge, interest or experience with animals. It is recommended, but not essential, that this person is a qualified teacher.

HOW TO APPLY

To apply for recognition, the nominated person will need to

- **complete the enclosed application form** (Form F1)
- ask the **headteacher or a senior manager to validate the internal process** (Form F2)

You can either

1. Post your completed application to
APER Animals in Primary Education Reframed
C/O Tam O'Shanter Urban Farm
Boundary Road
Bidston
Wirral
CH43 7PD

or

2. Scan and email your completed application to enquiry@animalsreframed.co.uk

MAKING AN APPLICATION

Please use the application form provided (Form F1). Each section relates to the **six status themes** and you should aim to match your points to the criteria provided for each. On the application form you should use a narrative style of writing and reflect on the teaching activities and events that take place in your school (current and in the recent past). Please ensure that you include specific examples as your *evidence* for recognition.

You should aim to keep your total word count to ***under 2,500 words***.

Be explicit about

- how the school engages with the status themes
- the quality and appropriateness of the teaching activities
- internal support and training mechanisms that have enabled effective practice

Consider carefully

- your explanation of the school's engagement with animals
- the supporting evidence you choose to provide

If you are encountering difficulties in completing the application, please email APER for further advice and support.

enquiries@animalsreframed.co.uk

Checklist for your application

completed application form (Form F1)	
completed and signed validation from the headteacher or a senior manager (Form F2)	

APPENDIX M

Copy of the AAS validation form

HEADTEACHER/SENIOR MANAGER VALIDATION FORM (F2)

Name of school:

Name of nominated member of staff:

Please give this form (and a copy of your completed application form and the guidance notes) to the headteacher or a senior manager to enable them to validate the application.

FOR THE ATTENTION OF THE HEADTEACHER/SENIOR MANAGER

If you are happy to validate the application, please complete the following declaration:

I have read the application form completed by the nominated member of staff.

I have read the guidance notes within the application pack.

I confirm that this is _____(school name)'s first application for recognition.

To the best of my knowledge, this is a true and accurate account of school processes and practices relating to 'Animal Awareness' within _____(school name).
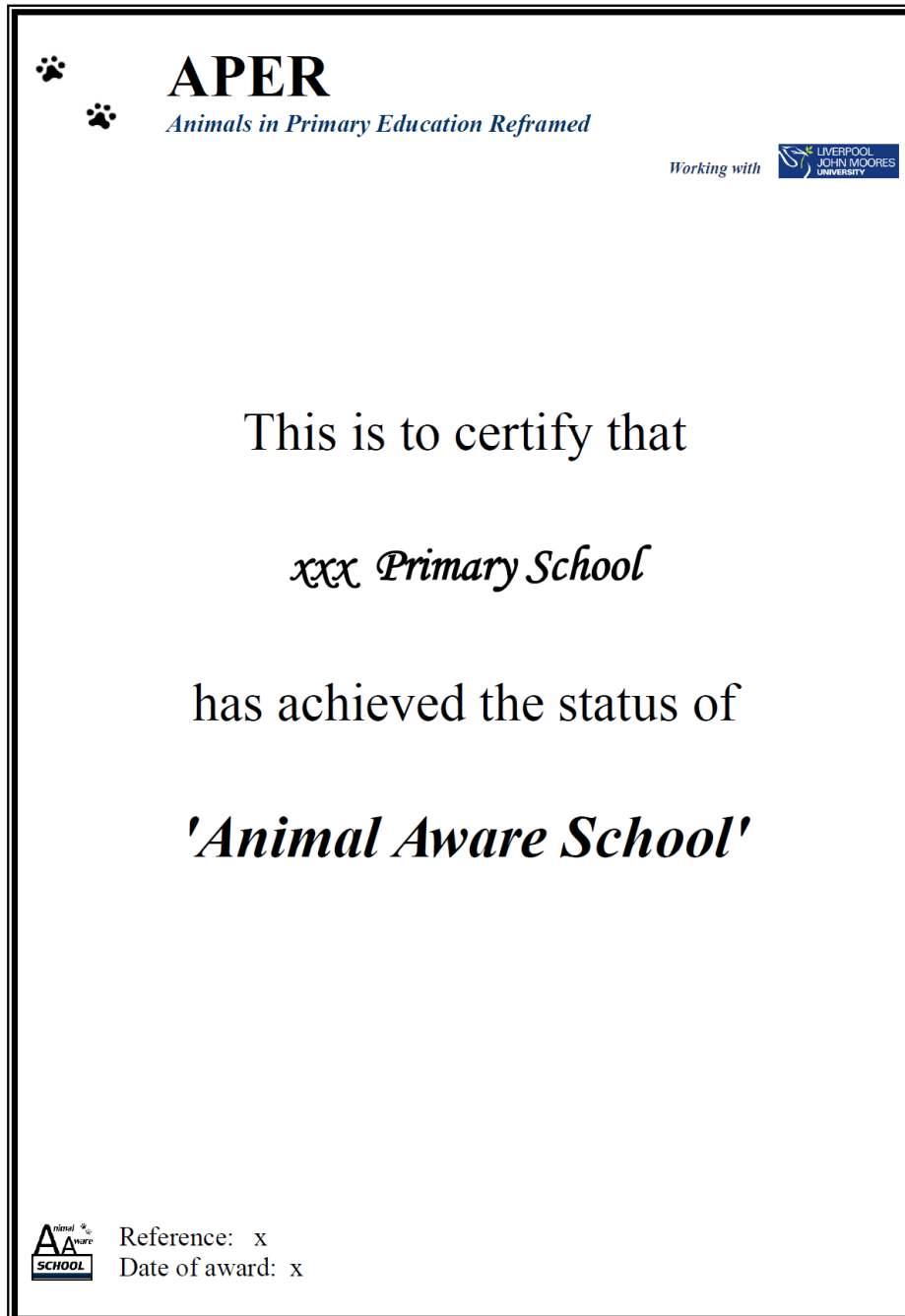
_____(your signature)

_____(your name in block capitals)

_____(date)

APPENDIX N

Copy of the AAS Certificate

APER

Animals in Primary Education Reframed

Working with LIVERPOOL JOHN MOORES UNIVERSITY

This is to certify that

xxx Primary School

has achieved the status of

'Animal Aware School'

Reference: x

Date of award: x

APPENDIX O

Copy of the APER newsletter

APER Animals in Primary Education Reframed

NEWSLETTER

Autumn 2012 - Merseyside

Is your school 'Animal Aware'?

What is the 'Animal Aware School' recognition scheme?

Schools who are 'Animal Aware' are more likely to deliver high quality experiences which are recognised, celebrated, promoted and shared.

The core purpose of the scheme is to encourage schools to self-evaluate their current practice with regard to how they educate children about animals. Those schools who can provide examples of good practice will receive formal recognition ('Animal Aware School' status).

What is the value to schools holding 'Animal Aware' status?

It provides national recognition for those schools who are integrating anthrozoology into their planned education programme.

It promotes the value of effective interactions between children and animals as a fundamental life experience and skill to be learned.

It generates a forum for communication and knowledge exchange to foster collaboration between schools.

What are the Status Themes?

These are a set of six key characteristics of schools that are embedding anthrozoology into their educational practice.

Status themes for 'Animal Aware' schools recognition:
- Curriculum links
- Humane education
- Therapeutic value
- Health and Community
- Advocacy for animals
- Species conservation

For an information pack, please email
enquiry@animalsreframed.co.uk

Have you visited Tam O'Shanter Urban Farm lately?

Tam O'Shanter Urban Farm on Bidston Hill in Wirral is home to a variety of animals including pigs, sheep, goats, chickens and geese. It's a great opportunity for children of all ages to meet and learn about farm animals up close.

http://www.tamoshanterfarm.org.uk

Workshops at Doolittle's Place
Animal-Assisted Learning Centre at Tam O'Shanter

We are organising workshops for groups of Primary pupils. There is no charge to attend but booking is essential. Activities can include

- *Small animal handling*
- *Animal art and design*
- *Creative writing about animals*
- *Animal stories, poems and rhymes*

For more details, email - **enquiry@animalsreframed.co.uk**

Would your school like

- *support or advice about how to enable animal-assisted activities?*
- *to develop a policy regarding animal-assisted learning?*

Do you have

- *identified children that you think would benefit from animal-assisted therapy or learning sessions?*
- *an interest in animals and Anthrozoology and would like to attend a short professional development course ?*

Contact **APER (c/o Tam O'Shanter Urban Farm)**
Email: **enquiry@animalsreframed.co.uk**

"Every dog bite, however minor, is an avoidable tragedy." Kendal Shepherd
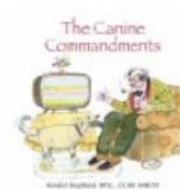
All about...dog aggression

Do you teach children about being 'dog safe'?

'The Canine Commandments' by Kendal Shepherd sets out twelve simple rules for children to help them understand the 'language' of dogs .

Kendal has teacher resources to share for **'Keeping ourselves safe near dogs'**.
For more information you can contact Kendal via email: **kendal@lindenarts.co.uk**

Spotlight on....   **Butterfly hatching**

Raise LIVE butterflies then release them to nature! Watch and learn as your tiny caterpillars turn into beautiful Painted Lady Butterflies... and watch them fly away!

Available from Insect Lore (http://www.insectlore-europe.com) and other suppliers

APER Animals in Primary Education Reframed
c/o Tam O'Shanter Urban Farm
Boundary Road
Bidston
Wirral
CH43 7PD
Telephone: 0151 653 9332
Email: **enquiry@animalsreframed.co.uk**

APER is an organisation that

- *supports Primary schools in allowing children first-hand and continuous experiences with animals*
- *promotes Anthrozoology as a distinct subject for study in Primary schools*
- *co-ordinates animal experiences (onsite and field trips)*
- *provides training for school staff*

APER also provides the 'Animal Aware' schools national recognition scheme.

APPENDIX P

Copy of the Early Education article