

Tails from the Classroom



**Learning and teaching through
animal-assisted interventions**

Helen Lewis and Russell Grigg

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Contents

<i>Acknowledgements</i>	v
List of figures, tables and boxes	ix
Introduction	1
Chapter 1: Tales from the past: human-animal relationships in history	11
Chapter 2: Tales of friendship: animals and their impact on children’s social development and behaviour	29
Chapter 3: Tales with feelings: animals and their impact on children’s emotional development	47
Chapter 4: Literary tales: animals and their impact on children’s language, literacy and communication skills	67
Chapter 5: Tales of adventure: animals and their impact on children’s physical well-being and development	87
Chapter 6: Tales of all creatures great and small: animals and the curriculum	99
Chapter 7: Tales of snails, wolves and teddies: animals as starting points for cross-curricular approaches	127
Chapter 8: Cautionary tales: considering the practicalities and ethics of animal-assisted education	145
Chapter 9: Tales of ‘the dog in the playground’: making the most of dogs in schools	173
Conclusion	197
<i>Appendix 1: Example of a weekly planning sheet to enhance provision for young children’s learning about the life cycle of birds</i>	203
<i>Appendix 2: Example risk assessment form</i>	206
<i>References and further reading</i>	213
<i>Index</i>	235

Introduction

Clearly, animals know more than we think, and think a great deal more than we know. (Pepperberg, 2013: 214)

One of the Internet sensations of recent years is the remarkable story of Tyler and Beaker in Texas. The story began when 9-month-old Tyler spotted a little duckling called Beaker in the local pet store. Tyler's father bought Beaker there and then. And over the last four or so years the remarkable intimacy between Tyler and Beaker has been recorded in photographs and videos.¹ When Tyler cries, Beaker quacks and runs over to him. Tyler's first reported word was 'duck'.

One of the things that most children around the world have in common is their love of animals. Studies show that even when presented with attractive toys to play with, given the choice, young children opt to interact with live animals. Remarkably, Lobue et al. (2013) found that toddlers aged 18–36 months even prefer to interact with potentially harmful animals, such as a black tarantula and a California mountain kingsnake, rather than their favourite toys. For research purposes, these particular creatures were placed in a cage; the outcomes may have been very different if the children had encountered them in the backyard. Psychologists suggest that most children love animals for a combination of reasons. They are attracted by their appearance, noise, movement, visibility and unpredictability, but they also see animals as 'good listeners' and comforters. More fundamentally, humans are biologically disposed to care for others, especially those in a vulnerable state. Children naturally stretch out to touch, fondle, cuddle or play with kittens and puppies that are only a few weeks old.

Animals certainly play a prominent part in children's lives. Around one in two homes in the UK has a pet.² In another survey covering 4,300 children in the UK, 42% were reported to have more fun playing with their pets than their siblings or friends (Pets at Home, 2015). As soon as children open their eyes, they see

1 See <https://youtu.be/5VcxRepz7TY>.

2 See <https://www.pdsa.org.uk/get-involved/our-campaigns/pdsa-animal-wellbeing-report/uk-pet-populations-of-dogs-cats-and-rabbits>.

animal mobiles, toys, pictures, motifs and objects, and they soon hear animal-related fables, stories, songs and rhymes. On average, around a third of a baby's earliest vocabulary is animal words or sounds. Interestingly, one study of 900 English- and Chinese-speaking children found that even though babies in the United States were unlikely to have ducks living in their immediate families, as compared with children in Beijing, 'ducks' still featured in their top twenty words (Tardif et al., 2008).

Of course, there are animals who instil fear and anxiety among humans. More than one in three children (and adults) are reported to strongly dislike spiders and snakes (Muris et al., 1997). Some researchers suggest that over time humans have inherited a hardwired fear of such animals (New and German, 2014). In one recent study, children aged 4 were shown images of spiders and snakes on white backgrounds for five seconds. The children sat on their parents' laps, but to prevent parents from seeing the images and inadvertently influencing their children's reactions they were given opaque sunglasses. When the children saw pictures of the snakes and spiders, their pupils consistently dilated more than when they were shown control images of flowers and fish. The dilation of pupils is widely accepted as a sign of stress. It is difficult to overcome the irrational fear of certain creatures. In the children's book *I'm Trying to Love Spiders* (Barton, 2015), an arachnophobe tries to overcome her fear. In so doing, she learns about spiders' impressive web-spinning talents and their habit of consuming insects that are harmful to humans. Education clearly has a key role in helping children to manage their animal phobias.

The western attitude towards animals largely stems from the notion that, as 'inferior creatures', they are subservient to humans. After all, humans could tame animals and therefore were superior to them. Historically, legal and religious systems have permitted humans to use animals to meet their needs, even when this might result in the animal's pain and suffering. Sadly, there is a very long, dark history of the way humans have treated animals, even among those professing to be a nation of animal lovers. For example, it is not widely known that 750,000 pets were destroyed in Britain within one week in the summer of 1939. Pet owners took this decision on the advice of the newly formed National Air Raid Precautions Animals Committee, which urged householders to take their pets to the country for safety or, if they could not do so, 'it really is kindest to have them destroyed' (Campbell, 2013: xi).

Unfortunately, as Horowitz (2019) observes, in the last fifty or so years, despite scientific advances which show that animals feel pain, are capable of rational thinking and (in some cases) demonstrate self-awareness, such knowledge is not universally reflected in the laws of the land.³ Neither is it reflected in practice. For every animal which enjoys human affection, there are myriads more victims of brutality at the hands of humans or machines. Each year, organisations who try to care for and protect animals around the world report unspeakable cases of neglect and cruelty. On average, the Royal Society for the Prevention of Cruelty to Animals (RSPCA) reports that someone rings their 24-hour cruelty line every thirty seconds. In 2019, it received more than 1.2 million telephone calls and each year typically investigates more than 185,000 cases of neglect and cruelty.⁴ We hope that education can support the development of young people's understanding and compassion, the need for which features highly in this book.

Throughout this book we use animal-assisted interventions (AAI) as an umbrella term to cover various schemes and initiatives which feature animals for the broad purpose of improving human behaviour in an ethical way. Within the field there are different types of intervention. The American Veterinary Medical Association distinguishes between animal-assisted therapy (AAT), animal-assisted education (AAE), animal-assisted activities (AAA) and AAI resident animals. The differences mainly relate to who provides the intervention and the intended goals (Table I.1). In AAA sessions focusing on reading, children read to a dog mainly on a one-to-one basis, with the dog handler present to ensure safety for all parties while also occasionally offering supportive prompts. In AAE sessions, where there is always an educational goal, the teacher or education expert provides small groups of students with explicit reading strategies and discusses what they have read with them, while the role of the animal is to make the setting more informal and relaxed, thereby motivating the students. Animals can also be actively involved in the sessions, even distributing resources. The use of service animals, such as those which support people with disabilities or those handled by the police, are not considered to represent an AAI.

3 In 2007, however, the Animal Welfare Act became law in England (already passed in Wales). It places a legal obligation on owners and keepers of animals to care for them properly. In 2019, the case of a police dog called Finn, who was stabbed while pursuing a suspect, highlighted the need for changes in the law to protect service animals who were harmed, and led to the Animal Welfare (Service Animals) Bill.

4 See <https://www.rspca.org.uk/whatwedo/latest/facts>.

Table I.1. Different types of animal-assisted interventions

Intervention	Main provider	Goals
Animal-assisted therapy	Health services	Physical, social, emotional or cognitive
Animal-assisted education	Schools, colleges and other educational providers	Educational
Animal-assisted activities	Specially trained professionals or volunteers	Mainly motivational or recreational
AAI resident animals	Owners of particular facilities such as residential care homes	Social

Source: Adapted from <https://www.avma.org/KB/Policies/Pages/Animal-Assisted-Interventions-Definitions.aspx>

Anthrozoology describes the study of human-animal interactions. As an academic field, it has experienced significant growth over the last twenty-five years. Scholarship has consistently revealed the strong emotional bonds that exist in human-animal relationships, as well as highlighting the broader health benefits humans derive from companion animals for therapeutic purposes.

One of the premises behind AAI is that stress is a significant variable in learning and that it can be mediated through interactions with animals (Sroufe, 2017). The emphasis is very much on fostering students' self-management skills through AAIs, such as learning to handle stress and self-motivation, as well as building self-confidence and positive attitudes. These social and emotional aspects of learning are discussed further in Chapters 2 and 3. Despite the growing body of literature on AAIs, the theoretical basis is often overlooked. Geist (2011) suggests there is a lack of a coherent, unified conceptual framework, which presents problems for professionals seeking a scientific evaluation of the effectiveness of AAIs and possible funding.

A less studied but equally valid line of enquiry is the impact such interactions have on animal welfare (Hosey and Melfi, 2018). Becky Bishop owned a dog therapy business in Washington state and took her dogs to visit hospices. She noticed that while people felt better after the visits, her dogs seemed depressed. After hearing about the Reading Education Assistance Dogs (READ) programme, in 2000 Bishop started her own Reading with Rover programme in her local library. She found not only that parents reported gains in their children's reading, but also that the dogs appeared much happier. On the basis of such stories, there is a need to conduct more systematic and rigorous research on the impact of AAls on all participants, including the animal.

From an educationalist's perspective, it is possible to discern the application of various learning and developmental theories to AAls. Biophilia (literally 'love of the living world') suggests that humans have an innate tendency to connect with nature and other forms of life (Wilson, 1990; Kruger and Serpell, 2006). In Chapter 3, we discuss the theory of attachment (Bowlby, 1953, 1969), which posits that learning requires a sense of emotional and physical security gained through 'attachment' to another person or, in the context of this book, an animal. Behaviourism emphasises learning through repetition and responding to external stimuli. Ivan Pavlov's famous experiments on dogs in the 1920s revealed how their behaviour could be conditioned by ringing bells to signal the arrival of food (see McSweeney and Bierley, 1984). The American psychologist John Watson (1930) argued that humans differed from other animals only in the behaviour they demonstrated, and such behaviour could be modified, whereas B. F. Skinner (1965) argued that animal and human behaviour was shaped through positive and negative reinforcement, such as giving rats food pellets or mild electric shocks. Constructivism sees learning as an active process of constructing meaning through interacting with others and their environment. When children interact with animals, they 'read' cues and begin to make sense of their surroundings. Jean Piaget's theory of cognition suggests that children see animals as peers (Piaget, 1929), while, in line with Jerome Bruner's theory, there are suggestions that 'play with pets might well have the "horizontal" and symbolic properties shown to be developmentally beneficial' (Melson, 2001: 11). It is possible to see the influence of these theories when observing AAls.

'Learning by doing' is not so much a theory but a philosophy advocated by John Dewey (1938), who valued first-hand, real-life experience as a basis for learning. Similarly, David Kolb (1984) advocated experiential learning in which students

engaged in 'concrete' experiences, observing and reflecting on these and then abstracting conceptual understanding from them. Through the direct acts of feeding and caring for animals, students acquire knowledge, skills and values that would not be possible through reading about animals or hearing what others have to say.

Motivation has attracted several theories which seek to describe why people behave the way they do. Abraham Maslow (1954) suggested that there is a hierarchy of needs, from basic ones (e.g. food, shelter, love) which must be met before an individual can fulfil his or her talents or potential (a state of self-actualisation). David McClelland (1988) theorised that each of us are motivated by the need for achievement (and the recognition this brings), affiliation (to be with others) and power (to control others). Carol Dweck's (1986) work on mindsets suggests that some students attribute success to innate talent (fixed) rather than effort and repeated practice (growth). These theorists are relevant to AAls because motivation is often reported to be a key factor in their success, and is a recurrent theme in this book. Students are intrinsically motivated by their love of animals to interact with them, and learning is optimised when students enjoy the companionship of animals.

The book follows a straightforward structure. Chapter 1 provides a historical overview of human-animal interactions. It highlights how animals have played a central part in humans' social, spiritual and cultural development, featuring in rituals, ceremonies and customs. While human attitudes towards animals and their treatment of them has always attracted the interest of historians, a growing number of scholars are challenging the notion that only humans make history (e.g. Kean and Howell, 2018). For example, a recent exhibition at the Museum of London called 'Beasts of London' explored how animals such as elephants, horses, rats and pigeons have shaped the city and its beastly history. The curators were inspired by the museum's collection of animal artefacts. Chaline (2011) lists fifty animals - including horses, dogs, rats, beavers, fleas and falcons - that have dramatically changed the course of history.

Chapters 2, 3, 4 and 5 focus on particular dimensions of well-being. This is a complex, overarching concept relating to the quality of people's lives. The Children's Society definition of well-being is a useful starting point: 'It is about

how well we are, and how our lives are going.⁵ And so one way of reading this book is to see it as a commentary on how children's love of animals can contribute to their all-round development or well-being: social (Chapter 2), emotional (Chapter 3), intellectual (Chapter 4) and physical (Chapter 5). These are naturally interrelated dimensions and should be viewed holistically. For example, when a child physically stretches out and smooths an animal, this action releases endorphins in the nervous system, which can reduce anxiety and form the basis of social attachment to animals (Levinson, 1962). It is only out of structural convenience that we examine the physical, social and emotional aspects in isolation.

Chapters 6 and 7 discuss how AAls can contribute towards learning in different subject areas and across the curriculum. We have not explored the potential of AAls in every subject; rather, examples are chosen to illustrate possible starting points for teachers in a range of subject and thematic contexts. In some cases, such as science, it should be fairly obvious that learning about animals can develop children's subject-specific knowledge (e.g. of habitats and life cycles) and skills (e.g. observation, questioning). But animals also feature strongly in less obvious areas, such as the arts, literature, and religious and moral codes.

Chapter 8 addresses the general ethical and practical challenges of managing animals in school. As with any learning experience, careful planning and organisation increase the likelihood of anticipated gains being realised. Finally, given that dogs are the most popular of pets and the growing body of literature surrounding their presence in educational settings, Chapter 9 focuses on maximising the learning potential associated with school dogs. Any intervention that involves animals raises questions about ethical and welfare considerations. As Serpell et al. (2010: 497) point out: 'the use of animals for animal-assisted activities and therapy imposes a unique set of stresses and strains on them that the "industry" has only recently begun to acknowledge'. The ethical standards underpinning AAls have not been subjected to any systematic review. Moreover, there are concerns over a lack of standardised training for handlers and practitioners, the absence of regulations regarding working conditions, such as breaks and age restrictions, and the impact such interventions have on the animal's psychological and physiological condition.

5 See <https://www.childrengsociety.org.uk/what-we-do/research/what-is-child-wellbeing>; see also Rees et al. (2008).

However, researchers should always adhere to established ethical protocols, with university-based staff expected to follow the respective university's ethical procedures. Writers themselves also have to make ethical decisions over what to include in their publications based on their own personal convictions. For example, we have not referred to any of the research involving children and dolphins because we believe that the latter should not be kept in aquariums, notwithstanding questions over whether these animals were captured from the wild. Similarly, we have not referred to specific examples of school farms where animals enter the food chain.

Despite the growing interest in AAls, a running theme throughout the book is the shortage of longitudinal studies to confirm whether the short-term gains which are widely reported are sustainable. However, while longitudinal research provides a stronger evidence base for the benefits or otherwise of AAls, conducting such research is time-consuming and expensive. An over-reliance on small-scale case studies makes generalisations in a range of educational contexts more difficult. Many such studies rely on personal experiences which are prone to bias because those who are 'treated' successfully are naturally inclined to share their stories, raising doubts in the wider scientific community in which hard empirical evidence is sought.

This is not to say that we should dismiss such anecdotes. For example, when 9-year-old Jefro's autism disrupted the family Christmas, his mum found support through Pawsitive Squad CIC, a non-profit organisation dedicated to helping families of autistic children through the use of dogs (Montague, 2019). The provision of a puppy proved a lifeline in teaching Jefro to handle his stress and anxiety. While they lack the universality that researchers may crave, anecdotes are often more impactful than substantial data. Individual stories leave more of an impression on people than a mass of figures. They are immediate and appeal to the emotions, rather than more abstract and remote statistics which take time to gather, digest and analyse. Nonetheless, more systematic and large-scale studies in diverse settings, which draw on multiple disciplines, will help to enhance our understanding of how, when, where and why animals influence human thinking, emotions and behaviour. Such research will also place AAls on a more rigorous scientific footing than at present.

Stepping aside from academic questions about research methodology and ethics, it is not surprising that almost all the evidence presents a positive picture of

Introduction

interventions. There is a deep-seated attraction to animals embedded in the human psyche. Arguably, there is no need for scientific research to confirm that the mere act of gazing at animals is beneficial to people of all ages. And just in case you had any doubts, scientists have proven that staring at fish lowers people's blood pressure and reduces heart rate (Knapton, 2015). Perhaps this is why fish tanks are to be found in dental waiting rooms and doctor's surgeries.

Chapter 1

Tales from the past: human–animal relationships in history

We are not animals. We are not a product of what has happened to us in our past. We have the power of choice. (Covey, 2013: 305)

The special relationship between humans and animals, particularly dogs, has a very long history. Deep in Chauvet Cave in southern France archaeologists have found two sets of prints preserved in the soft clay. One set belongs to a child aged between 8 and 10 and the other is the paw prints of a wolf or large dog. Archaeologists think the child was carrying a torch and had stopped during the walk, probably to clean a torch and look at the wall paintings or bear skulls. This is the first recorded dog walk in history and it is estimated to have happened around 26,000 years ago (Harvey, 2019).

This chapter sketches the development of human–animal interactions to provide historical context to the themes discussed in subsequent chapters. While the term ‘animal-assisted interventions’ is a modern one, the basic idea of using animals to improve aspects of human life is very old. Through the ages, animals have provided us with sources of food, clothing, security, entertainment, companionship, wealth and status. They have been worshipped and abused, though not in equal measure. Animals were the main victims of the first agricultural revolution (c.10,000 BC), when humans began the long process of settling and farming the land. Sheep, donkeys, chickens and other animals supplied food (meat, milk and eggs), raw materials (wool and skins) and muscle power. As Harari (2011) points out, the domestication of chickens and cattle was based on brutal practices which included premature slaughtering, mutilation and castration.

Dogs were the first animals to be domesticated by humans. They were used for hunting and fighting, effectively acting as an alarm system against intruders. Over generations, dogs’ keen sense of smell coupled with humans’

A fascinating exploration of the use of animal-assisted interventions (AAIs) in educational settings and how they can inspire and support learners' all-round development

There is growing interest in the idea of bringing animals into the classroom, but it is only recently that researchers have gathered clear data to show the impact of AAIs on the behavioural, emotional, physical and cognitive development of children and young people.

Tails from the Classroom brings together this research in a highly accessible way, illustrated with real-life case studies from a range of classroom contexts. It also includes lots of practical guidance on how to set up, manage and evaluate a project, ensuring that the welfare of all participants, including the animals, is a priority.

This groundbreaking book is not just for animal-loving educators, however. It is for anyone who is serious about inspiring learners of all ages and prepared to explore new ways of doing so.

Suitable for educators working
with learners of all ages



Rich, varied and highly stimulating, *Tails from the Classroom* breaks new ground by exploring emerging evidence and offering new ways forward for working with animals in schools and colleges.

Teresa Cremin, Professor of Education, The Open University

A wonderful resource that will help readers gain a deeper understanding of how students can benefit from interacting with animals and the positive impact that this can have on their learning and well-being.

Dr Brad Rundle, Head Trainer and Co-Director, Therapy Animals Australia, and Mel Rundle, Paws in Schools specialist and Co-Director, Therapy Animals Australia

Tails from the Classroom is a fascinating book. It is intellectually stimulating but also practice-orientated and packed with lots of tips and ideas.

Dr Diahann Gallard, Senior Lecturer/Programme Leader - Doctor of Education programme, School of Education at Liverpool John Moores University, Chair, the Educational Anthrozoology Research Group



Dr Helen Lewis is Programme Director for PGCE at Swansea University School of Education. Part of her role involves leading an educational anthrozoology module, and undertaking original research into the impact of AAIs in educational settings. After studying animal and human behaviour at university she became a primary school teacher and has worked in education for over twenty years.



Dr Russell Grigg was previously an associate professor at the Wales Centre for Equity in Education, has extensive experience in teacher training and has written many books and articles on the subject of primary education. Since 2018, Russell has been working as an education inspector for the Ministry of Education in the United Arab Emirates.

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