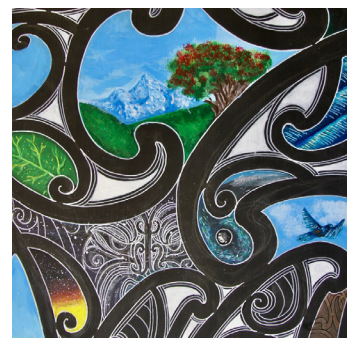


# Animal-Assisted Learning in Inclusive Schools and Early Childhood Settings in Aotearoa

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## ABSTRACT

The presence of animals in school and early childhood settings is commonplace in Aotearoa New Zealand. This article provides an overview of the literature and evidence pertaining to animal-assisted programmes. Findings support the view that animal assisted learning (AAL) can provide positive supports to children in the domains of emotional regulation, social interaction, child-as-nurturer, and as non-judgemental support for learning. As such, AAL is an area worthy of attention for schools/kura and early childhood centres/kōhanga as a possible effective intervention to further enhance the well-being and learning readiness of ākonga. This article looks at how relevant research can be utilised to support AAL in practice, and what further practical measures need to be in place for AAL to be successful in the mainstream context.

## Position Paper

### Key words:

animal-assisted learning; emotional regulation

## INTRODUCTION

Penny is a hairy, smiley type of dog who wags her whole body instead of just her tail. She belongs to the caretaker of a local primary school and spends most of her time observing him fixing various things in the playground. On this particular day, one of the students is distressed and has escalated almost past the point of no return. His face is red, his body rigid and he has started to shout and swear. Any adult or child input at this stage, such as directing him to a safe space (as per the safety plan) will likely increase the situation to an unsafe level. The teacher contacts the caretaker quietly by phone who then 'casually comes past' the classroom with Penny, suggests that Penny might need a bit of company whilst they do the compost, and out go the child, the dog and the caretaker. The child returns to the classroom approximately 30 minutes later re-regulated and ready to participate, after having stroked the dog, thrown a stick for the dog, and assisted in some fixing of the adventure playground.

Bun Bun La Hop is a lop-eared rabbit who belongs to the school counsellor at an all-girls high school. When girls are seeing the counsellor and start to cry, Bun Bun jumps onto their lap. The girls report that stroking the rabbit has a calming effect, enabling them to talk about what is distressing them more easily.

Doug the dog is a spaniel puppy who spends his days at an early childhood centre. Doug and his small friends have been learning social boundaries together: for example, the children have been taught how to say, 'Stop Doug, get down' when his puppy exuberance gets too much, and they have been taught to look for the signs when Doug is tired out and to leave him to get his puppy sleep. The head teacher of the centre reports that Doug has been really helpful with children who show sensory-avoiding behaviours – children who did not like the feel of Doug's coat, or his noisy bark, or his speedy run - have, with support, been able to practise becoming more confident and familiar with the traits that they initially found distressing. Doug has made them braver!

Oscar the dog supports children in a high school learning centre, where most of the students are ORS-verified for their additional support needs. He enjoys going on walks and is regarded as a good motivator for behaviour programmes (especially for students with autism) by occupational therapists and special education advisors who work with the school. For example, when the students have completed their 'must do's', they get to do their 'want to's' – often a walk with Oscar.

There are many stories like these throughout Aotearoa. Having animals in educational settings is nothing new. However it is important to examine and review the literature on animal-assisted programmes to ascertain whether research supports the anecdotal evidence, and further, to inform us what might be the best use of animals in schools going forward. Available research comes from therapeutic and clinical settings, from special school and mainstream school settings, with adults and children, using trained animals and handlers as well as untrained animals, and from overseas contexts. The question, then, is what parts

of the research can help to inform us in developing successful animal-assisted learning programmes in inclusive settings in mainstream schools/kura and early childhood centres in Aotearoa New Zealand?

### The Human/Animal Bond

Melson (2003) points out that, hitherto, studies of child development have been limited to children's relationships with other humans rather than taking a more 'biocentric approach. She argues that Bronfenbrenner's ecological systems framework (Bronfenbrenner, 1979), dynamic systems theory (Thelen, 2000), relationship psychology (Fogel, 1993), and attachment theory (Bowlby, 1969) all situate child development within the context of the child's relational bonds. However, research up until now has focused only on human relationships, leaving human-animal bond relationships out in the cold. Melson argues that we need to emphasise the significance of the human-animal bond in children's development. In order to do so, the need for more high-quality longitudinal studies in this area is called for (Purewal, Christley, Kordas, Joinson, Meints, Gee & Westgarth, 2017).

### Mātauranga Māori

For indigenous peoples in Aotearoa New Zealand, well-being is relational. Relationships "don't just shape indigenous reality, they are our reality... Rather than viewing ourselves as being *in* relationships with other people or things, we *are* the relationships that we hold and are part of" (Wilson, 2008, p. 80).

Te ao Māori (Māori worldview) considers everything living and non-living to be related and interconnected. Relationships are not restricted solely to human social connections with those who are living, but also those who have passed on and whakapapa to. Relationships include connections to land, to language, to ancestors, to communities, to spirituality, to physical well-being, and to the universe as a whole (Lynne Russell, personal communication, in Wilson, 2008). Whakapapa (genealogies and stories) describe these connections and explain how the world came into being. People, plants animals and birds are descendants of Ranginui (the sky father) and Papatūānuku (the earth mother) and their children. Humans are therefore intrinsically linked with biodiversity (Environment Foundation NZ, n.d.). Concepts of mauri (life force), mana (authority/prestige), tapu (sacred and restricted customs) and wairua (spirit) are important to consider in relation to both people *and* nature – they are not just confined to humans (Mead, 2003). Understanding that everything in the environment has both mana and mauri means all things must be treated with respect – and in this way humans are not any more important than their environment (Patterson, 1992).

Evidence of the relationships Māori have with animals and birds can be found within whakapapa (genealogies), pūrākau or pakiwaitara (oral narratives), waiata (songs), whakataukī (proverbial sayings) and kīwaha (idioms) (Orbell & McLean, 2002). Māori would often liken themselves to animals, believed their ancestors could shapeshift to be animals, saw animals as messengers, guides, familiar spirits and friends, and created haka and waiata to celebrate animals and their feats (Dale, Perrott, Biddle-Ranga & Walker, 2015). This ongoing relationship between Māori and animals remains important.

Māori have always had mokai (pets). The great explorer, Kupe, had a pet kurī (dog) as did Tāneatua, the tohunga (priest/wise man) on the Mataatua canoe (Te Ara, n.d.). Some mokai have held important roles in relationships with their masters, future generations and inter-tribal connections. Other mokai perform guardian (kaitiaki) roles. As pūrākau have an important function in the transmission of knowledge (Benavides, 2009) and whakapapa are linked to accounts of these mokai through pūrākau, one can see how mokai have important roles in the history of particular hapū and iwi. For example, Raewyn Solomon, on behalf of Te Runanga o Kaikoura, tells of:

*the renowned rangatira (chief) Te Rakaitauheke, a brave warrior of the Ngāti Kurī hapū of Ngāi Tahu, who was said to have a kaitiaki whale, named Matamata, a sperm whale. Matamata's sole duty and purpose in life was to do Te Rakaitauheke's bidding, to serve all his needs and to guard him against harm. Everywhere the rangatira went, Matamata went too. When Te Rakaitauheke went to Takahanga, Matamata could be seen blowing outside the area, now known as the Garden of Memories, as close to shore as he could possibly get. Te Rakaitauheke's love for Matamata was as great as the whale's love for him. After Te Rakaitauheke's death, Matamata was not seen along the Kaikōura coast for some time and it was rumoured that he had gone away and died of sorrow at the loss of his master. There were those however, who remembered Te Rakaitauheke's prediction that, after his death, Matamata would only return when one of his descendants was facing imminent danger or death. There are many stories since that time, of Matamata appearing to foretell the death of one of Te Rakaitauheke's descendants. It is also said that many of the descendants of Te Rakaitauheke, when faced with peril on the high seas, have been saved by the timely intervention of a whale. (Solomon, n.d.)*

Māori also see the role of animals as a means of communicating future events – for example, the ruru (owl) calling at night may indicate someone has passed away, or fantails flying in your house (depending which iwi you are from it's a good thing or a bad thing), so animals and learning in te ao Māori are pretty connected (Megan Fitzpatrick, personal communication, 23 May, 2020).

Melson's argument for a more 'biocentric' approach to children's relationships to include the human-animal bond is already part of Mātauranga Māori and integral to a Māori world view. One could argue it is therefore incumbent on schools as part of their obligations under the Tiriti o Waitangi to support and encourage relationships (in this case between animals and humans) from a greater understanding of the bicultural perspective.

## Definitions

Nimer and Lundahl (2007) define animal assisted therapy (AAT) as, "the deliberate inclusion of an animal in a treatment plan" (p. 225). The therapy dog and handler work alongside teachers and therapists to help children achieve an educational objective (Friesen, 2010). Friesen states that the animal intervention has been chosen for the child after detailed assessment and analysis of need by a professional. In contrast, animal assisted activities (AAA) have a much looser definition, encompassing a range of opportunities to enhance a child's quality of life, using volunteers, an absence of learning goals and spontaneous content on visits (Delta Society n.d., cited in Granger & Kogan, 2006). The use of animals in the New Zealand context therefore more accurately represents animal assisted learning (AAL), a term coined by Friesen (2010) which encompasses the broad spectrum of situations we may encounter in our education settings and which we will use here.

## LITERATURE REVIEW

Research supporting the use of animals as positive interventions for child development and learning can be grouped into four main domains or themes: emotional regulation; positive social interactions; child as nurturer, and non-judgemental support to learning.

### Emotional Regulation

In a review of 69 studies, Beetz, Uvnas-Moberg, Julius and Kotrschal (2012) found that human animal interaction (HAI) across different animals, different settings (hospitals, psychiatric units, special schools, families, mainstream schools) and different age groups (pre-school to aged care) supported the following positive effects: reduction in stress-related markers such as cortisol, heart rate and blood

pressure; reduction in self-reported fear and anxiety, and improvement in mood and behaviour. Beetz et al. also found some evidence for a reduction in aggression, although the review recommended more research be done in this area for the evidence to be stronger. Beetz et al. propose that these positive psychophysiological and psychosocial effects of HAI are based on the activation of the oxytocinogenic system due to the role of oxytocin as a social stress modulator. It was concluded that oxytocin release may be the underlying mechanism that contributes to the positive effects of HAI despite differences in animal or context.

The following studies illustrate how interaction with a friendly animal supports emotional regulation and possible oxytocin release in children.

The first set of studies relate to children in non-education settings. In a 1997 study, Nagengast, Baun, Megel and Leibowitz found that having a dog present during a visit to the doctor (a mildly stressful activity) reduced the child's distress. When reading aloud to a dog, Friedmann et al. (1983) found that children experience a reduced heart rate and lower blood pressure than when reading with no animal present. In regard to improved mood, children and adolescents undergoing psychiatric treatment with a dog present reported increased alertness, enhanced openness, and a desire for social interaction compared to when a dog was not present (Prothmann, Bienert & Ettrich 2006). This finding contributes/supports the notion that human animal interaction (HAI) improves the state of mind of children and adolescents.

The second set of studies relate directly to education settings. In a special education class of six children with severe emotional and behavioural disorders, Anderson and Olson (2006) found that the presence of a dog in the classroom for eight weeks, "contributed to students' overall emotional stability, evidenced by prevention and de-escalation of episodes of emotional crisis" (p.35). In other words, the children were less-likely to escalate past the point of no return, and when they did, the calm-down and recovery phase came more quickly when the dog was present than when it was not. A further two studies are of interest as they are within mainstream classrooms. The effects of a friendly dog on aggressive behaviour in a classroom of first-graders was measured by observations and reports from the teacher (Hergovich, Monshi, Semmler & Ziegelmayer, 2002; Kotrschal & Ortbauer, 2003). Findings were that aggressive behaviour decreased when the dog was present compared to when the dog was not present. An interesting study by Beetz, Julius, Turner and Kotrschal (2012) investigated whether children with insecure-avoidant/disorganised attachment can benefit more from social support by a

dog compared to a friendly human during a stressful task. Stress levels were measured by salivary cortisol in 47 male children aged 7-11 whilst they performed a stressful task. Findings showed that stress levels were significantly lower when the dog was present than when a friendly human was present. The conclusion that male children with insecure-avoidant or disorganised attachment profit more from the presence of a therapy dog than of a friendly human under social stress, supports the assumption that the increasing practice of animal-assisted education is reasonable - dogs can be helpful assistants in education/special education since stress interferes with learning and performance in students.

### **Encouraging Positive Peer and Social Interactions**

Interaction with therapy dogs has been found to help students with positive peer and adult interactions in four main ways. Firstly, the dog may be perceived by the child with severe behavioural disorders as a 'friend' (Anderson & Olson, 2006).

Secondly, the fact that the dog is enthusiastic and seeks interaction may encourage the child to do the same, as has been shown in studies with children with autism (Sams et al., 2006) and also child psychiatric patients (Prothmann et al., 2006). Thirdly, the shared experience of everyone in the room (adults and children) interacting with the dog increases the frequency of positive interactions (Walters, Esteves & Stokes, 2008). Friesen (2010) states that interaction with a therapy dog may support and encourage social risk-taking in therapy and classroom environments, especially for students who are reluctant to engage socially. Fourth, the presence of the dog may increase the child's attention towards the teacher (Kotrschal & Ortbauer, 2003). For those teachers concerned about the possible distraction a dog in the classroom may bring, Gee, Crist and Carr (2010) found that a well-trained dog can actually reduce the need for instructional prompts from a teacher for pre-schoolers, indicating that students are more on-task, not less. Gee et al. assert that, "the common assumption that the presence of a dog can be distracting for children during the execution of cognitive tasks appears to be false" (p.173).

### **Child as Nurturer**

Melson (2003) refers to the child-as-nurturer unique position between animal and child. Since domestic animals are dependent on humans for survival and well-being, caring for a companion animal allows the child, 'to learn about, practise, and become motivated to appropriately nurture another being' (p.36). Nurturing is an important foundation for parenting,

caring for other children and caring for the elderly (Fogel & Melson, 1986). Nurturing can be practised, of course, in schools by children caring for younger children, and within Māori culture the tuakana-teina relationship is well-utilised in schools. However, research shows that nurturing younger children is perceived (from the age of three) by children to be linked to gender (Melson & Fogel, 1989). Melson's study found that from the ages of 3-12, girls' engagement in child and baby care increased with age, whereas boys' engagement and care of younger children decreased with age. However, the level of pet care by both 12-year-old boys and 12-year-old girls was high and consistent with no difference between the genders, indicating that pet care may be an effective intervention for our young men in schools.

It is important to note that there is no clear evidence that nurturing pets results in better caregiving to humans. There is, however, evidence that children who become attached to animals express greater empathy for their peers (Hergovich et al., 2002; Melson, Peet & Sparks, 1992). As Walters, Esteves and Stokes (2008) state, "having a friendly dog in the classroom provided each child with lessons in respect, responsibility and empathy" (p.47). Seeing as empathy is a pre-requisite for nurturance, this is an area that should not be overlooked, especially for our boys.

Studies on how companion animals affect self-esteem and self-concept prove interesting reading. A review by Purewal et al. (2017) found that there is an association between child pet ownership and improvement in a young person's self-esteem. Level of attachment to a pet has been shown to correlate to an increase in the level of self-esteem and self-confidence which is most pronounced around the age of adolescence (Triebenbacher, 1998; Van Houtte & Jarvis, 1995). Other studies have found that owning a pet can increase self-esteem when compared to children who do not own a pet because this gives the child a sense of importance and makes them feel good about themselves (Bryant, 1990).

### **Animals as Non-Judgemental Participants for Learning**

There is no direct evidence that animals support learning, however there is a considerable body of evidence that animals in education settings positively support the *preconditions for learning*, namely concentration, attention, motivation and reduction of stress (Beetz et al., 2012; Hall, Gee & Mills, 2016). Friesen (2010) states that the general assumption underlying animal-assisted programmes "seems to be the children's perception of the dog as a non-judgmental participant" (p.264). She argues that it is

the fact that the dog is unable to form an opinion, be discerning, or compare a child's progress with any other child that makes the dog's input desirable and unique.

The literature in this area mainly comes from research done by Nancy Gee, in an inclusive pre-school setting. One study looked at motor-skill speed and accuracy in four to six year olds, in children who were both normally developing and developmentally delayed (Gee, Harris & Johnson, 2007). The study found that in conditions where the therapy dog performed the motor skills tasks before or alongside the children it resulted in the children performing faster with no loss of accuracy in all tasks but one, compared to when the dog was absent. Gee et al. perceived that the dog lowered stress in the children due to, "their reduced fear of criticism from a non-judgemental source" (p.382).

In another study by Gee, children with and without language impairments followed instructions relating to an imitation task better in the presence of a real dog than in the presence of a toy dog or a human (Gee, Sherlock, Bennett & Harris, 2009). Gee et al. (2010) looked at concentration in pre-schoolers and found that when completing a memory task, children needed less prompts (prompts acted as an indicator of concentration) when the dog was present compared to a toy (not real) dog or a human being present instead. Interestingly, the children needed the most prompts in the presence of another human.

In a matching task with pre-schoolers, Gee found that children made fewer errors when the dog was present compared to a toy dog or a human (Gee et al., 2010).

Friesen further argues that the presence of the dog "shifts the unequal power relationship between teacher and child" (p.265) and this shift is further enhanced by incorporating the handler who is perceived by the child as a neutral adult who is outside of the teacher/child dyad. Therefore, children may be more willing to engage in reading tasks when the audience is a non-judgemental dog (Friesen, 2009a; Jalongo, 2005). Ling, Kelly and Diamond (2016) add that having a dog in class can create a pleasant atmosphere which is needed for optimal executive function.

## RESEARCH IN PRACTICE

From our animal stories above, it is clear that Bun Bun the rabbit fulfils the role of supporting emotional regulation and reducing distress. The school counsellor reports that spending time with Bun Bun is particularly important for students in the boarding house who are missing their pets at home.

In line with Beetz et al. (2012), it appears that Penny is successful with children who have experienced adverse childhood experiences (ACE) i.e. children who have experienced complex trauma and poor attachment in their early years and who tend to function in a reactive 'fight or flight' limbic brain state. The use of animals as helpful assistants for this vulnerable population in our schools is certainly worthy of more consideration as schools strive to be trauma-informed and engage in greater trauma-friendly practice.

Oscar is reported to be a 'steady friend' when a student needs one, particularly for students with ASD, where anxiety is often a co-morbid condition for neuro-divergent individuals. Schools may wish to consider how animal-assisted learning could be used for students who are feeling anxious in other ways, for example, reluctant talkers/children with selective mutism, children transitioning to a new school, children anxious on sports day, or senior students/tertiary students at exam time.

Doug, the dog, illustrates how animals can encourage positive peer and social interactions in the early childhood context, particularly around those students reluctant to engage socially. Doug's role is successful because he supports children who may be anxious, shy, reluctant to talk, or sensory within a strengths-based Te Whāriki-focused environment. One can also see how 'other Dougs' could be used to support children with a range of needs. Examples might be to support a child within a talking group, to support a child with selective mutism, to support students in high schools who need to see the dean or deputy principal when there have been issues, and to support children with autism within a group session.

## Therapy Animals

It is beyond the scope of this article to discuss 'true' AAT – that is therapy (such as equine therapy, dolphin therapy or therapy dogs) with trained animals and a trained handler. Given that animal assisted learning (AAL) in classrooms is likely to be more sustainable in terms of its cost, as well as the peer and social benefits of a classwide animal intervention, schools and other special education support agencies may wish to ascertain what sort of gains can be had with a "Tier 1" classroom/school-wide AAL intervention first, before more specialised Tier 2 and 3 individual programmes are employed.

## Potential Pitfalls of Animals in Education Facilities

The meta-analysis from Nimer and Lundahl (2007) and review of studies from Beetz et al. (2012) and

Purewal (2017) indicate the positive influence that interaction with friendly animals have on children's well-being across settings. It is from this standpoint that we examine the possible problems and pitfalls with having animal-assisted learning in schools and early childhood centres to see how we can manage these issues and mitigate risk so that animals can continue to be a positive influence for our children (and adults).

The following email, received by the author from a principal in Aotearoa, illustrates what can go wrong with animal-assisted learning.

***Chapter One:** One of the senior managers brought a well-behaved puppy into school, and installed a crate for her in her office. We had discussed this carefully in advance, and there were no flea or other issues.*

*At lunchtimes, selected students - often those with behaviour or psycho-social issues (anxiety, lack of social skills, depression) but animal-friendly and reasonably trustworthy – were rostered to take the dog for walks around the playing fields. This was seen as a huge privilege and strengthened lots of relational bonds. It also raised the status of those kids out on the field – definitely seen as an important job. For many students called into that senior manager's office, the dog was also helpful. The dog gave the young person something to "do" while discussing other things. Having the dog at school was also great for staff – nothing like going and patting a dog to help ease stressful situations. She was not taken into whole class settings.*

***Chapter Two:** Another staff member asked to bring her dog to school. I agreed to this. This dog was more physically active during the school day and did not form such good relationships with students. Because the owner was teaching in an adjoining classroom area and there was a lot of movement of students in the area too, the crate was frequently not used and the dog sat in the back of the station-wagon parked outside instead. Not so positive for anyone.*

***Chapter Three:** By this stage, we were clearly a dog-friendly school, and more staff started bringing dogs to school on occasion. We started having problems with dog droppings around the inner courtyard areas of the school, although the staff bringing dogs in strongly denied that these were from their dogs. Then one day there were dog droppings in the staffroom. Clear rules were established about the responsibilities of dog owners if they brought their dogs to school, in or out of school hours.*

***Chapter Four:** During the school exams, two dogs belonging to a staff member barked incessantly throughout the time they were in the school, even when in the back of the car. This was highly disruptive.*

***Epilogue:** The principal issued a directive that staff were not to bring dogs into the school during the school day, on the basis that the negatives had outweighed the positives. (Email communication from ex-Principal, 29/04/2020).*

In the mainstream education setting, whether it be a school or an early childhood centre, potential pitfalls can be grouped into four themes: considerations for animal's well-being; safety and hygiene for the students; clear communication of the rationale/role of the animal, and ongoing evaluation.

### **Considerations for the Animal's Well-being**

Animal well-being is important, for its own sake, but also so that the animal can do its job of providing positive supports to children – an animal under stress cannot function well. As well as fresh water and exercise, in a classroom setting, it is essential that the animal has a crate or a cage or another space to retreat to. Walters, Esteves and Stokes (2008) note that, "having the dog present throughout the school day...would be exhausting for the dog and disruptive for the children" (p.14). This is clearly illustrated by the account above, where car boots do not appear to be good spaces for dogs to be quartered. Friesen (2010) states that the animal needs to be monitored for signs of stress, and decisions need to be made as to what supervision will be given and by whom. In a school setting, it would be sensible to draw up a set of rules and expectations with the children and staff, around the animal's well-being, for example, not giving the animal treats.

Another safeguard that schools may take to ensure the well-being of the animal and the school community is to approach the SPCA or local vet clinic for a 'temperament check'. The SPCA have provided this service in Otago for animals and owners who visit rest homes, hospitals and university halls through a service called 'Cuddle Fix' (Otago Daily Times, 2018). It may be that schools can tap into the considerable expertise and support of the SPCA when looking at whether the animal has the right temperament. In the email above, it appears that the first dog had the right temperament for the work, whereas the second and subsequent dogs may not have been quite the right fit.

### **Safety and Hygiene for Children**

As illustrated by the account above, hygiene is important when having an animal on the premises. In fact, adult concerns about hygiene and allergies are the primary deterrent for animal therapy programmes (Friesen, 2010). However, research shows that only 6% of people who visited an allergy specialist in the USA were allergic to animal dander (Elliott

et al., 1985). That is not 6% of people, but 6% of people who were allergic to *something*, found it was animals. Allergen issues can be further reduced by such measures as careful grooming and washing, choosing a non-shedding pet if need be, pre-treatment with anti-allergen powder, washing of specific dog blankets and pillows, and judicious washing of hands (Brodie et al., 2002; Friesen, 2010).

Of concern also is the safety of children from bites and scratches. Teaching children to understand how to handle an animal, how to approach an animal, what to do if they are scared, to have empathy for the animal, and to understand the non-verbal cues that animals give, can mitigate the risk of a child being bitten or scratched (Jalongo, 2008). Jalongo states that this work needs to be done before the animal is introduced to the school setting and the children.

Communication to the school community is key. Johnson et al. (2002) found that community consultation of parents, children, teachers, Board of Trustees, and support staff before new animals or programmes are started, provides the opportunity for all safety concerns to be addressed and worked through. For animals already on school premises, perhaps communication via the school newsletter or social media accounts would help parents understand the role of the animal and their benefits. Community involvement and understanding is especially important for centres who have families from non-dogcentric cultures. Friesen (2010) recommends that respectful explanation and demonstration of the role of the animal and an alternative not to participate without prejudice mean that families can make an informed choice.

### **A Clearly Communicated Rationale for Why the Animal is There**

As discussed in the animal stories above, schools and early childhood centres are working with animals in ways that are broadly supported by the research literature. However, more intentional use of AAL may result in more positive outcomes if planning and evaluation of outcomes is more robust. With greater intentionality around which children/classes/situations might benefit from AAL, gains could be greater. Plans around animal assisted learning need only be as 'formal' as the school community require. In Penny's case, if her purpose is to hang around doing odd jobs with the caretaker and act as a motivator to encourage a child to leave a situation before they 'blow', then that is fine. If the animal's purpose is more intensive and requires the animal to be in the classroom itself, this may require a different sort of plan. It would be sensible that if you have animals in your classroom/school, their input should be making

its way onto IEPs, behaviour plans and/or class teaching plans in some form.

### **Regular Evaluation**

It is common (even if not research based) for pet owners to think their pet is perfect (the 'he's not growling, he's smiling' mindset!). Given the illustration of what can go wrong outlined above, it is essential that there are regular evaluations (again, as formal or informal in style as your community dictate) of the pros and cons of having the animals on site. If there is a dual relationship role (i.e. it is the principal's dog, or conversely the principal dislikes animals), then perhaps the inclusion of a neutral third party may be a valuable structure to use during evaluations.

### **CONCLUSION**

Many of our schools/kura and early learning centres may have animals on site, as part of the school community, in some form or other. Research literature on human animal interaction supports what many children already know, that the presence of an animal that children like, is, in itself, enough to provide a wide range of positive effects for all children, including children with additional support needs. Animal assisted learning as a school-wide intervention can be inclusive of all students, supporting a universal design for learning approach for all learners within the school. It may also be cost-effective when resourcing is competitive. Provided proper rationale, plans and safeguards are in place, which are in turn communicated to whānau, teachers and tamariki, animal assisted learning is certainly an area worthy of a school's attention as they seek to further enhance the well-being, bicultural understanding, and learning readiness of their ākonga/students in Aotearoa.

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