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Benefits and Challenges of Animal-Assisted Pedagogy:

Aspects to Consider Before Bringing a Dog to School

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Benefits and Challenges of Animal-Assisted Pedagogy: Aspects to Consider Before Bringing a Dog to School (Johanna Rainola)

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In recent years animal-assisted pedagogy has gained attention in the field of education. There are numerous teachers in Finland who wish to implement or are already implementing animal-assisted methods in their daily work. Even though the theory and terminology behind animal-assisted pedagogy is still evolving, I aim to clarify the benefits and challenges animal-assisted pedagogy has to offer, considering research implemented on different aspects of animal-assisted interventions. This thesis is a literature review, based on research conducted both in Finland and abroad. I also investigate the experiences of long-term professionals who have gained knowledge on animal-assisted interventions throughout their career and experiences. Since animal-assisted interventions are a practical field, the sources used vary from international associations to national researchers, who have investigated various elements and questions related to animal-assisted methodology.

According to my research, animal-assisted pedagogy poses both benefits and challenges to those wishing to implement it. Central benefits of animal-assisted pedagogy can include increase in health of students. It can also make social encounters easier and help students elevate their self-esteem. In addition to this, animal-assisted pedagogy offers emotional support and feelings of acceptance and accomplishment and aids in motivating students to achieve more positive experiences from school. The main challenges found during the research were the questions of planning, responsibility, safety and allergies. Meeting and informing all the parties involved in the process, establishing classroom policies and acquiring written consent from those parties involved made the implementing animal-assisted interventions safe for everyone. Furthermore, the selection of the dog rose to be an important matter, including aspects of size, nature, breed, personality and trainability, which should all come down to the dog being good natured and enjoying working with children, stress-free. My research concludes that if a teacher is dedicated to implement animal-assisted methods in their classroom and prepared to plan properly, the students will benefit substantially.

Important keywords: Animal-assisted intervention, animal-assisted pedagogy, animal-assisted education, dogs, benefits, challenges

Contents

- 1 Introduction 4**
- 2 Background and Central Concepts 7**
 - 2.1 A Brief History of the Domestic Dog, Canis Familiaris 7
 - 2.2 Definitions of Animal-Assisted Interventions 8
 - 2.3 Green Care and Animal-Assistance 11
 - 2.4 Education on Animal-Assisted Pedagogy in Finland..... 13
- 3 Benefits of Animal-Assisted Pedagogy 15**
 - 3.1 Physical, Social and Psychological Effects..... 15
 - 3.2 Human-Animal Bond..... 17
 - 3.3 Dogs Improving School Motivation 18
- 4 Challenges of Animal-Assisted Pedagogy 20**
 - 4.1 Planning and Preparations 20
 - 4.2 How to Select a Suitable Dog for the School Environment? 21
 - 4.3 Allergies, Responsibility and Safety 23
 - 4.4 Ethical Aspects of Animal-Assisted Pedagogy..... 24
- 5 Discussion 27**
- References 31**

1 Introduction

Similarly, animal-assisted interventions have gained increasing attention in the field of education within the past years, despite researchers often referring to the fact that evidence presented in favor of animal-assisted interventions is sometimes unclear (Brelsford et al., 2017). Despite occasional unclarities in terms of evidence, Brelsford et al. (2017) report significant benefits animal-assisted interventions have to offer. Articles such as “A dog encourages and brings delight” (Koiraa auttaa ja ilahduttaa, *Medical Review Journal Duodecim*, 2017) have also found their way into publications from various fields of expertise. For most of us, animal-assisted interventions may be unfamiliar as a term, but examples of its implications can be encountered all around us. Dogs can be found working in various places, such as mold detection dogs and aiding the police, in addition to working as guide dogs for the disabled (Craigon et al., 2017; Raevaara, 2011).

Since animal-assisted pedagogy has not been carried out in Finland until recently, I find researching this topic important when considering the future of animal-assisted pedagogy. Through research both the benefits and challenges of animal-assistance can be justified which further aids in implementing animal-assisted methods. Notable research implemented on animal-assisted therapy has been executed as early as the 1960's, beginning with a research conducted by Arline Siegel (1962) on reaching the withdrawn through pet therapy. She states that already in the 1960's, animal-assistance has not been a new phenomenon. The positive effects of using animals to help humans with mental illness, disease or even suicidal thoughts had been noted in many institutions already in the 1900's (Siegel, 1962).

Search results in PubMed (a database maintained by the United States National Library of Medicine and National Institutes of Health) suggest that animal-assisted therapy has become increasingly popular within the span of 30 years. According to their statistics, there were 5 articles published in 1987, 46 articles published in 1997, 104 in 2007 and 173 in 2017, which involved animal-assisted therapy and related interventions (PubMed, 2018). Many times, animal-assisted interventions, activity and therapy are discussed in research that often only mention implications of animal-assisted pedagogy. Since animal-assisted pedagogy is a phenomenon still gaining national recognition in Finland, it is important to conduct studies specifically from the viewpoint of animal-assisted pedagogy (Kahilaniemi, 2013; Latvala-Sillman, 2018).

My bachelor's thesis is a systematic literature review, based on notable research and meaningful literature published on animal-assisted pedagogy. My research material consists of research conducted both in Finland and abroad, discussing the benefits and challenges animal-assisted pedagogy has to offer. This thesis also investigates the experiences of long-term professionals who have gained knowledge on animal-assisted interventions throughout their career. Since animal-assisted interventions are a practical field, the sources used vary from international research to national associations, which have studied various elements and questions related to animal-assisted interventions and pedagogy.

The aim of this research is to enlighten teachers who are still unsure whether they should bring animal-assisted pedagogy into their classroom or not: give insight if they are unsure of the process, their own skills, required preparations or of the dog they intend to bring into the classroom. I chose to investigate two different research questions and consider them both when searching for information on animal-assisted pedagogy. These two research questions were formed as follows:

1. What are the benefits of animal-assisted pedagogy?
2. What are the challenges of animal-assisted pedagogy?

In my thesis, I guide the reader through the history of the modern dog and ideology behind animal-assisted methods; looking into different forms of animal-assisted interventions. From there I continue to bring out both benefits and challenges animal-assisted pedagogy can have to offer, before discussing why these aspects are important to take into consideration. I examine the benefits of animal-assisted pedagogy through aspects of the physical, social and psychological effect of dogs, the positive outcomes the human-animal bond has to offer and how dogs are linked to increasing motivation in students. The main challenges discussed are the aspects of responsibility and safety in close relation to the nature of the intended dog, in addition to the questions of allergies and ethical aspects of animal-assisted pedagogy.

In Finnish literature, the main frontier in animal-assisted intervention literature and related terminology has been Kaija Ikäheimo. Ikäheimo is a doctor specializing in the field of child psychiatry, as well as a psychotherapist for children and adolescents. She has gained expertise on the practical impact of dogs in helping children and adolescents through her long career of professional work. Inspired by animal-assisted interventions, she has asked professionals from different fields of expertise to share their knowledge on animal-assisted interventions; result-

ing in the first Finnish collection of articles about animal-assisted interventions called “Fur Therapy” (*Karvaterapiaa*, 2013). The other notable Finnish publication has been written by Eeva Kahilaniemi, whose professional expertise includes degrees in occupational therapy, community education and animal attendance in addition to being a qualified coach in animal-assisted interventions. In her book “Animal-Assisted Intervention” (*Eläinavusteinen interventio*, 2016), Kahilaniemi focuses on animal-assisted interventions and how they can be applied in supporting the functionality of clients. Her theoretical knowledge is vast and can be implemented to all forms of animal-assisted interventions. I use the knowledge and expertise found in these publications, which in turn are supported with research and findings presented in numerous studies conducted abroad. In some chapters I also refer to Tuire Kaimio, an internationally noted animal trainer and author from Finland.

The terminology of animal-assisted interventions is still changing and adapting. In some literature animal-assisted pedagogy is referred to as animal-assisted education or animal-assisted learning, sometimes even canine-assisted pedagogy and dog-assisted pedagogy. In this thesis I use the term animal-assisted pedagogy. Whilst exploring the pedagogy behind animal-assistance, I narrow pedagogy to mean education that is given by a trained professional, in this case a teacher in a public place for instance a school. Although animal-assisted pedagogy can refer to any form of pedagogy, which is implemented with the aid of animals, I focus my research specifically on pedagogy implemented with the help of dogs. These methods, benefits and challenges may apply to other animal species as well, but I do not go into the specifics.

This research refers to the “handler” of the dog. In most cases this is the teacher themselves, but sometimes animal-assisted pedagogy can also be brought to the classroom by someone else. In both cases, the handler must have enough training and understanding, which will be discussed further in the chapters to come. The importance of this training will also be justified, since an unexperienced handler paired with an unexperienced dog can be far from beneficial in a class.

Before beginning I would like to remind my readers that not each dog is suited to becoming a school dog, and not each class will benefit from the introduction of an animal. If a teacher feels that they can, with ease, go through the motions before bringing a dog into the classroom and in addition have the students gain something from its’ presence- this might be the ideal method to try.

2 Background and Central Concepts

2.1 A Brief History of the Domestic Dog, *Canis Familiaris*

For humans to understand how our domesticated friend, the modern dog, behaves and views the world, we must first recognize the history behind this canine mammal and how it has come to be the present animal it is. I consider this knowledge to be very important when working in close proximity with dogs, especially in environments where dogs must be close to bulletproof in any situation they encounter (Brelsford et al., 2017). After all, we can't forget that even a furry and kind dog is an animal, which means their deepest behavior is regulated by nature (Brelsford et al., 2017; Coppinger et al., 2007). In order to comprehend how all this has an influence on the way dogs behave, it is vital to consider the history that has led to the nick-name "man's best friend".

All domestic dogs, big and small, have the same common ancestor: the wolf. In fact, the same family of Canidae includes 38 subspecies, such as dogs, wolves, coyotes, dingoes and foxes (Kaimio, 2007; Zeuner, 1963). Archeologists have found bones which belonged to wolves next to our ancestral humans' bones, which have been dated as far as 400 000 years ago (Kaimio, 2007; Zeuner, 1963). Just like in modern times, wolves have fed on scraps and the humans of the time have hunted wolves for their fur and meat (Kaimio, 2007). Like in many cases of domestication, the tamest individuals have often been the ones brave enough to seek food close to humans, and thus, survive (Coppinger et al., 2005). From this early taming wolves have slowly evolved into the loyal companion we share our homes with.

Researchers have found signs that the domestication process started over 100 000 years ago. Dogs have lived within close proximity to people from the beginning of times: starting from stealing cavemen's food, working as a spiritual healer for the Egyptians and helping hunt prey in medieval Europe (Coppinger et al., 2005). From ancient Egyptians to ancient Greeks, Romans and Chinese, dogs have had a high rank in the society. No matter the country or era, canines have been around. (Coppinger et al., 2005; Zeuner, 1963)

The dog we call our pet, has evolved to the breed it today through domestication (Coppinger et al., 2005). Domestication can be defined as the process where an animal ceases from being wild and turns into a tame animal, during the course of considerably many generations (Coppinger et al., 2005; Zeuner, 1963). The main difference between domestication and taming is

in the wide scale phenomena: taming is the process where one individual animal is tamed whereas domestication can result in the formation of a whole new species (Coppinger et al. 2005). One of the most famous studies on domestication is a study started in 1959 by geneticist Dmitri Belyaev, where he isolated two different fox populations (one was the actual research popula, the other the cohort group) in Siberia and began to document their taming process (Belyaev 1978). His results are stunning, even in modern standards: by the third generation the foxes had lost their most prominent fear towards humans, the fourth generation he documented individuals who wagged their tail upon seeing a human and already in the sixth generation some of the foxes willingly wanted to engage in contact with humans (Belyaev 1978). In the 40th generation already half of the foxes were as tame as dogs and even their resemblance had changed: smaller teeth, shorted nose and black and white coloring had appeared (Belyaev 1978). All of these traits are linked to domestication, but the most interesting of all, is the ability domesticated animals have to interpret the gestures and facial expressions of humans, which is a trait especially strong in dogs (Ikäheimo, 2016).

Our domestic dog often tends to have the outer resemblance of a puppy even when fully grown (Kaimio, 2007). Like with many other species humans also feel a certain kind of pull towards cute and babylike creatures (Ikäheimo, 2013). Like with the fox study Belyaev began in the 1960's, the same change in outer appearance can be witnessed in dogs (Belyaev, 1978). Starting from wolves and ending up as tail-wagging and floppy eared dogs, the process of domestication has also changed the way in which dogs think, to how humans see them.

2.2 Definitions of Animal-Assisted Interventions

From historical records it has been proven that using animal-assisted interventions (AAI) is not a particularly new invention (Siegel, 1962). Florence Nightingale, who is considered to be the founder of modern care work and nursing, realized the potential of animals already in the 1800's (Nightingale 1969). Partly because of her book, *Notes on Nursing: What it is and What it is Not* (1859), animals started to be used as a reliever of anxiety in several institutions. She stated that small domestic pets have the ability to help reduce stress in children and adults, who live in psychiatric institutions (Nightingale, 1969). Famous psychiatrist Sigmund Freud used his dog as an aid to help in his therapy sessions in the 1930's: he wrote in his book, that dogs have the ability to help both the client and psychiatrist, since his clients many times communicated through the help of the dog (Sinkkonen, 2013).

The roof organization responsible for worldwide animal-assisted interventions is called Animal Assisted Intervention International (AAII). In Finland we do not yet have our own organization specifically for animal-assisted interventions, but there are a few organizations which work under AAII, for example The Finnish Association for Dog Assisted Intervention (FA-DAI).

Animal-assisted intervention is the main term which refers to the three main categories in which animal-assistance can be used (AAII, 2018). These different lines include professional and non-professional work: animal-assisted therapy (AAT), animal-assisted activity (AAA) and animal-assisted pedagogy (AAP) (AAII, 2018; Ikäheimo, 2013). See Figure 1 below:

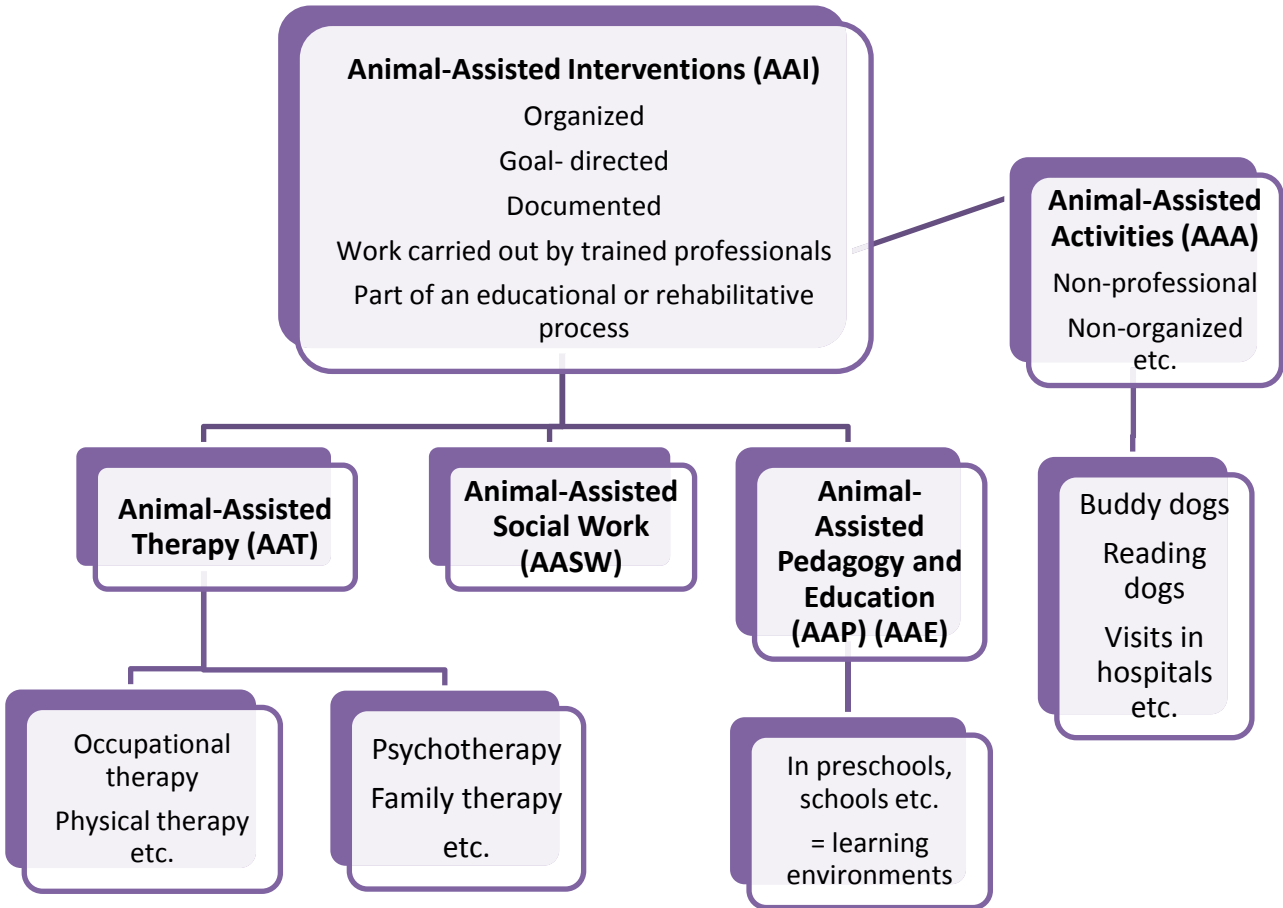


Figure 1 Animal Assisted Interventions. Translated and modified from the book: *Eläinavusteinen interventio*, Kahilaniemi/Tiira, 2016, 21

When considering different animal-assisted interventions (AAI), we can begin from the different terms used. Depending on sources some of the names for the same type of intervention can vary, but they can be mixed even in research: especially in Finnish the different terms have not yet been officially recognized (Ikäheimo, 2013). Animal-assisted pedagogy can sometimes be referred to as animal-assisted education or animal-assisted learning. The main similarity with most animal-assisted interventions is that they are work, which is carried out by trained professionals with trained and tested animals. The work carried out can be described as being organized, goal-directed and documented. It is always part of an educational or rehabilitative process. (AAII, 2018; Kahilaniemi, 2016)

Animal-assisted activity (AAA), can be distinguished quite easily. AAA is activity that is usually carried out by volunteers, hence it is non-professional, whereas the other categories are always work carried out by a trained professional. Depending on the place where AAA is implemented, the handler can either be a trained professional or a volunteer, but their line of work is not strictly within the social or educational field. The handler can be implemented by a person of any age. According to Ikäheimo (2013), animal-assistance is based with the idea that it can increase the health of an individual by motivating, educating or bringing delight. (AAII, 2018; Ikäheimo, 2013)

AAA is often based on spontaneous or scheduled visits, which are always free; there is usually no set goal and the visits are not documented in the same way as in other forms of AAI (Ikäheimo, 2013). Similarly to animal-assisted therapy and pedagogy, animal-assisted activity often requires attendance to training or a familiarization period, in addition to understanding of a dog's limits and nature, before the handler and dog can actually start their client visits (FKC, 2018). Although the official required training isn't as vast as for example those wishing to start implementing AAT and AAP, it can be a good place to start: see in practice how a dog reacts to people of different ages and do some analysis on its' nature and suitability to a larger role (Ikäheimo, 2013).

In animal-assisted therapy (AAT), the object is to provide goal-oriented physical, social, emotional or cognitive tools with which the well-being of an individual can be improved (AAII, 2018). Like the other professional forms of AAI, AAT has a clear, pre-decided objectives which are documented and evaluated throughout the process. The duration of each visit is agreed on beforehand and there is a price that is paid for the service. Like all forms of AAI, the animals used must be applicable. In order to be able to use the word therapy, also the ther-

apist and in this case, handler of the dog must be educated accordingly. In Finland this means the therapist must be a psychiatrist, psychologist or specialist in psychotherapy, physiotherapy, speech therapy etc. who is licensed by Valvira. (AAII, 2018; Ikäheimo, 2013) Hence, a dog working in a school as a pair with a classroom teacher is not a therapy dog, because the handler is only educated in the field of education.

Animal-assisted pedagogy (AAP) is comparable animal-assisted therapy; like AAT it is executed by a trained teacher who has sufficient training in their field and on AAI methodology in order to implement them (AAII, 2018; Ikäheimo, 2013). In the case of AAP, no cost is required from the students participating in animal-assisted lessons. In most cases when different forms of AAI are implemented, the animal belongs to the handler or teacher, therapist etc: in some cases when AAP is implemented the handler and dog can also be a third party who comes to visit a school (AAII, 2018; Ikäheimo, 2013). In this case it is important that the handler has been educated in the field of education (Ikäheimo, 2013; AAII, 2018). In AAP the dog can be referred to as a pedagogy dog, educational dog or learning canine (Brelsford et al., 2017)

2.3 Green Care and Animal-Assistance

Professionals implementing animal-assisted interventions follow guidelines set by Green Care Finland Association, established in 2010. The three working models Green Care is divided into are animal-assisted interventions, nature-assisted methods and activity at farms (Green Care Finland, 2018; Kahilaniemi, 2016).

Animal-assisted interventions refer to animal-assisted activity, animal-assisted therapy and animal-assisted pedagogy (see chapter 2.2 Definitions of Animal-Assisted Interventions). Nature-assisted methods refer to methods where nature is used as means of rehabilitation (Green Care Finland, 2018; Haapasaari and Yli-Viikari, 2013). These methods include interventions such as experience pedagogy, eco-physiologic methods and therapy gardens (Green Care Finland, 2018). Activity at farms refers to rehabilitative work executed at farms as well as care-farming (Green Care Finland, 2018). Similarly to AAI, nature-assistance and rehabilitative activity implemented at farms also require a trained professional who oversees the planning, documenting and executing of the process (Kahilaniemi, 2016). It is easiest to demonstrate the three working models with Figure 2.

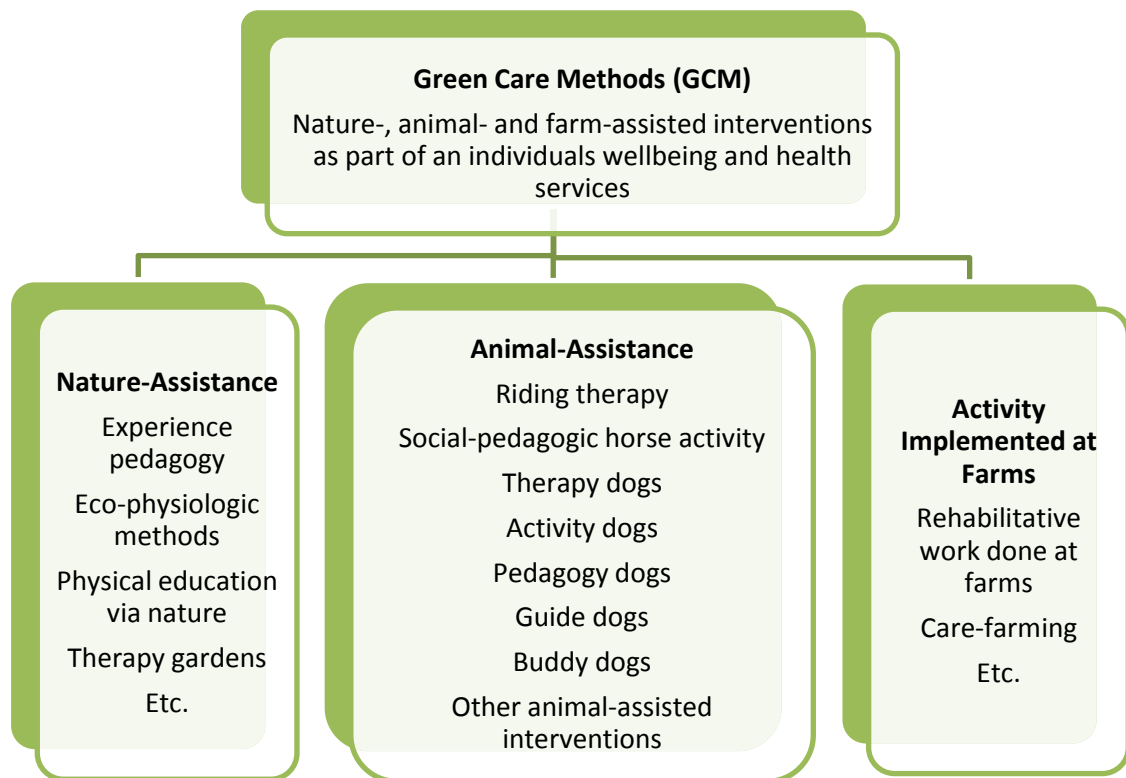


Figure 2 Green Care Methods. Translated and modified from the book: *Eläinavusteinen interventio*, Kahilaniemi, 2016, 17

The Green Care working model is based on the idea that animals, nature and farms can work as a part of promoting welfare and health in humans, executed by professionals (Haapasaari & Yli-Viikari, 2013; Green Care Finland, 2018). According to Green Care Finland (2018), activities related to nature bring possibilities of empowerment, in addition to creating new sensations and a feeling of involvement.

The concept of Green Care has been raising interest within Finland, and many of the working models Green Care has to offer have been available in Finland before the actual founding of the association in 2010. Activities such as riding therapy, social pedagogic horse activity, animal-assisted interventions, adventure education and ecopsychology are all well-known forms of the Green Care working model. According to Haapasaari and Yli-Viikari (2013), work done with nature and animals has been widely based on knowledge gained through personal experiences, which they refer to with the term “silent knowledge”. After the introduction of the Green Care Concept operators have had the possibility to base their knowledge on research which has been implemented and verified by different operators within the Green Care initiative. This has resulted in wide evidence of the health benefits closely linked with nature- and animal-assisted interventions. (Haaparaari & Yli-Viikari, 2013)

2.4 Education on Animal-Assisted Pedagogy in Finland

In Finland there are at least two different operators that offer education and testing which aims to give adequate education to professional, so they can implement animal-assisted pedagogy. The two most well-known associations include a training organized by the Social-Pedagogic Foundation of Finland called Sosped Dog Training (Sosped Koira- koulutus) and The Finnish Association for Dog Assisted Intervention (FADAI) (Koirat kasvatus- ja kuntoutustyössä ry), also offering similar training. Both operators arrange chargeable education especially designed for those wishing to implement animal-assisted therapy or pedagogy.

The standpoint of both Sosped Dog Training and FADAI is, that education for both the dog and handler is recommendable. At the moment teachers who wish to implement AAP are not required to participate in any form of training related to AAP. Many times the reason educators lean towards attending courses offering expertise in animal-assisted interventions is the official status that both associations provide for the dog and handler after completion of their courses. (AAII, 2018; Vatanen & Vesa, 2016)

The training organized by The Finnish Association for Dog Assisted Intervention (FADAI) founded in 2010, is aimed specifically for professionals who work in the fields of education, rehabilitation and social work. Depending on the year and time, they organize their training mainly in Jyväskylä, but also other cities in Finland like Oulu and Helsinki. According to their website, the main aim of their education is to make animal-assisted interventions more known amongst the public: both professional and future clients. At the moment their training consists of four contact weekends and tasks related to them, which are worth 10 credits. In addition to this, the organization has their own testing for dogs intended to work with humans. It consists of two parts which must both be passed in addition to the training for the handler. The first part is a suitability test after which the dog and handler must perform a showing of their abilities and co-operation skills. Only after both tests are passed and the handler of the dog has completed the course, can the dog be called an educational and rehabilitative dog. (FADAI, 2018)

Like FADAI, the Sosped Foundation of Finland also organizes training for those aspiring to bring animal-assisted methods into their line of work. They state that the education gives the trainee and dog tools to support an individual's growth with the help of a dog. Social pedagogic dogs are used in similar places like FADAI dogs: in schools, preschools and assisted living accommodations etc. The main difference between the two operators is the term they

use to describe the dog with: Whilst FADAI aims for the dog to become an “educational and rehabilitative dog”, the Sosped Foundation uses the term “cultural dog” for those who have completed their testing and course. According to their website, it is recommendable that at least half of the applicants per course have a background in work related to the fields of education, rehabilitation or social work, but it seems that it is not compulsory. Their training also consists of four contact weekends and tasks related to them, worth 25 credits. (Sosped Foundation, 2018)

In addition to these, a dog and handler can also start by working as a buddy dog (kaverikoira) pair. Though this form of animal-assistance falls within the definition of animal-assisted activity, it can be a good place to start on the road of animal-assisted interventions. In Finland buddy dogs work under the National Kennel Club of Finland (FKC). The idea is to give people who can't be around dogs on a daily basis or who don't own a dog themselves, experiences of joy and bonding with a dog (FKC, 2018). Like stated in the definition of AAA, buddy dog activity is not paid for, but works from the basis of volunteering. The main goal of buddy dog visits is to bring happiness and feelings of joy to all participants involved: to both the handler and the client (Muros, 2013). The main client groups that buddy dog visits are aimed for are children as well as elderly and disabled people (Muros, 2013). In addition to buddy dogs, there is also an association called Furry Friends of Finland (Suomen Karva-Kaverit ry). They work alongside the working models of AAA, offering free interaction with animals to patients in hospitals, elderly people and children, just to name a few (Ikäheimo, 2013).

3 Benefits of Animal-Assisted Pedagogy

3.1 Physical, Social and Psychological Effects

Päivi Latvala-Sillman (2018) sheds light to the physical, social and psychological effects of dogs. According to Latvala-Sillman (2018), these effects a dog can have on humans is partly because dogs have an inbuilt urge and interest to interact with people. She states that choosing a dog to be your working partner is a natural choice, since dogs live near humans starting from a young age, learning and interacting with their owner (Latvala-Sillman, 2018).

The psychological effect of a dog begins with the release of oxytocin. The question of what oxytocin is and how it influences the human-animal bond has been widely researched. According to physiology doctor and researcher Kerstin Uvnäs Moberg (2007), oxytocin is a hormone induced by physical contact: it plays a role in reducing blood pressure, making an individual feel calm and relaxed. It also decreases the amount of stress-hormones and it can even improve one's immune system (Beetz et al., 2002; Uvnäs Moberg & Kankkunen, 2007).

Especially in animal-assisted therapy and pedagogy, the physical aspect of a dogs' effect on humans is greatly emphasized. The effects are helpful in the education field as well, since many individuals struggle with physical exercise (Laukkanen, 2013). When dogs are present, the oxytocin level of both the dog and humans is lifted (Handlin et al., 2012; Petersson, 2017). This makes interaction beneficial and worthwhile not only to humans but dogs as well (Handlin et al., 2012; Petersson, 2017). It is often more rewarding to go on walks and engage in physical exercise when a dog is present (Latvala-Sillman, 2018). There are also countless of other activities that dogs can be used for: a person can lean on them for aid with balance, they can throw toys or strengthen their muscles in a game of tug-o-war (Latvala-Sillman, 2018; Laukkanen, 2013; Sinkkonen, 2013). These activities mentioned help increase the physical activity of people, resulting in a healthier lifestyle (Handlin et al., 2012; Latvala-Sillman, 2018; Petersson, 2017).

The social effect and power of dogs is closely linked to the psychological well-being of humans (Handlin et al., 2012; Latvala-Sillman, 2018). On the individual level a dog can help a person relax and take part in activities previously impossible for this person (Handlin et al., 2012; Latvala-Sillman, 2018). For example, Latvala-Sillman explains in an interview by Yle Morning TV (2018), how children with autism spectrum disorders often have trouble making

eye-contact with other people. Yet when the child first practices eye-contact with the aid of a dog, the results are stunning: the eye-contact is often confident starting from the first try (Yle 2018). When considering the social affects dogs have on a larger group of people, it is clear how they can also be used in the classroom environment to encourage and motivate the whole group (Handlin et al., 2012; Latvala-Sillman, 2018). The following is also represented in Table 1.

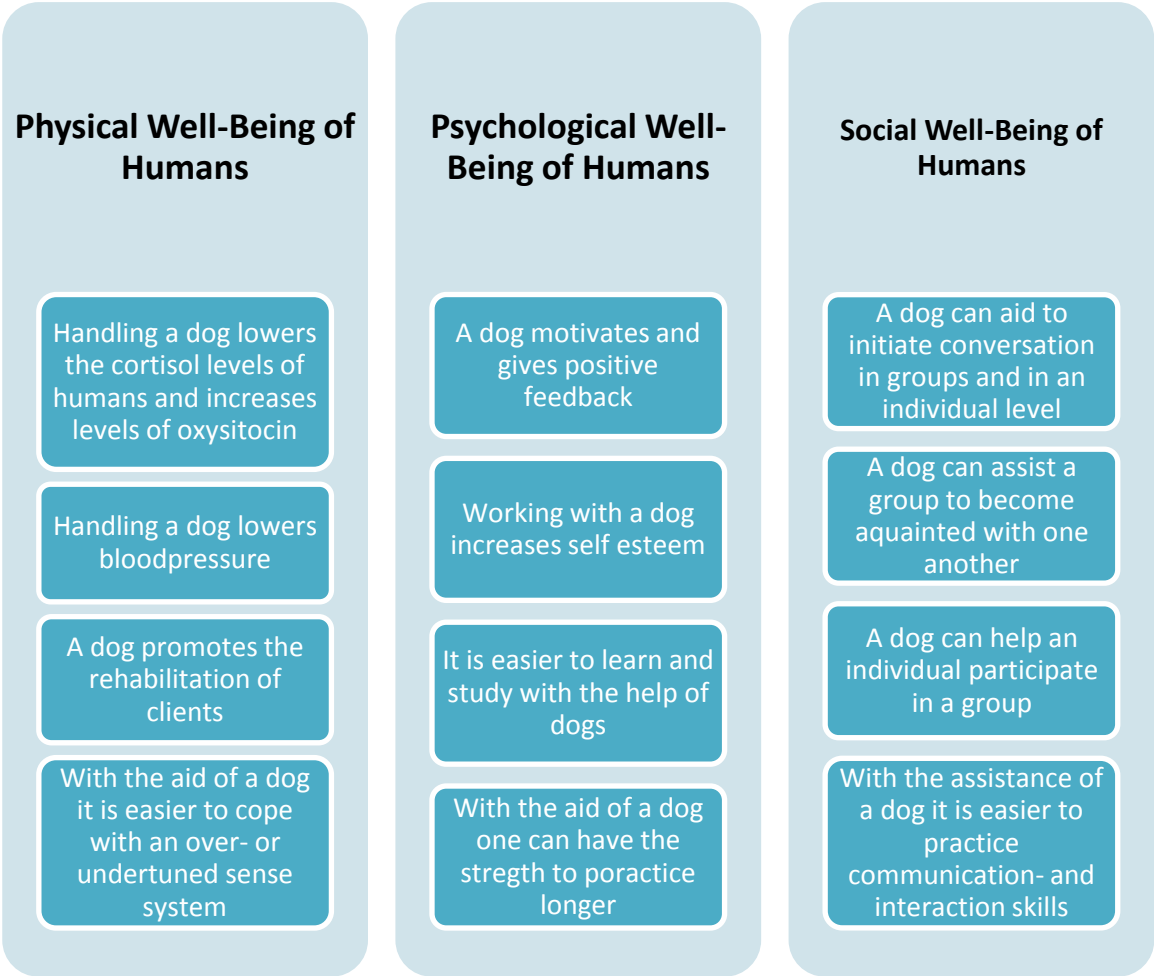


Table 1 How Dogs Can Influence the Well-Being of Humans. Translated and modified from the book: *Työparina koira*, Päivi Latvala-Sillmann, 2018, 23

There are numerous studies that have aimed at showing the health benefits of pet owners compared to people without pets. In an Australian study conducted by McHarg et al. (1995), it was found that female owners of cats and dogs needed to visit a doctor and use less medication because of their coronary, blood pressure or sleeping difficulties less likely than those without animal companions (McHarg et al., 1995). In studies by Rowan & Beck (1994) and Wilson (1991) it was presented that owning an animal will lower anxiety and thus protect the heart from medical conditions (Rowan & Beck, 1994; Wilson, 1991). Though most studies

found positive effects, some also found that there was no difference in study groups which owned animals compared to those who did. An example of this is a study conducted by Rajack (1997) owning a pet for the course of 6 months had no influence in the psychological wellbeing or post heart infarction chest pain of the clients studied.

3.2 Human-Animal Bond

There are over 600 000 registered dogs in Finland and even more cats, in addition to other domestic animals such as horses and small mammals (Ikäheimo, 2013; Manninen, 2005). Since the majority of domestic animals live inside homes, they are often considered as part of the family: important and loved (Ikäheimo, 2013). From this we can assume that the reason behind sharing one's life with animals cannot be based merely on the fact that they are fun, but that they can potentially offer humans much more.

A part of this love towards animals can be explained by the human-animal bond (HAB), which is in close relation to human-animal interaction, HAI (Brelsford et al., 2017; Petterson et al., 2017). HAB derives from the attachment theory, which was first described by John Bowlby in the 1960's. In his research he stated that humans have a tendency to form very strong emotional bonds towards other humans, and aims to explain why outbursts of depression, anxiety and aggression often present when a person has to deal with loss (Manninen, 2005). Psychiatrist Jari Sinkkonen (2013) states that these same emotions are felt when having to deal with the loss of an animal companion (Sinkkonen, 2013). This suggests that it is possible to compare animals to humans, at least when the amount of grief experienced by their loss is measured (Sinkkonen, 2013).

Even famous psychoanalyst Sigmund Freud has stated that in his old days he owned a dog called Jo-Fie, which helped with his feelings of loneliness (Sinkkonen, 2013). It can be argued that the reasons why pets are so important to their owners can be partly explained by the emotional need humans have and how animals answer to those emotions. Pets often hold a very important role to their owners, in addition to answering to basic needs like touching holding and comforting (Petterson et al., 2017). A human can confide completely in their pet since they don't scheme and disappoint us in the same way as our fellow humans (Petterson et al., 2017; Sinkkonen, 2013).

Suvi Laukkanen (2013), a doctor specializing in psychiatry and psychotherapy, explains how pets work as a part of our everyday lives: we often react to situations based on the way an animal near us reacts. Laukkanen explains, that humans feel a different response when a dog is resting peacefully at their feet, growling at distant shadows or wagging their tail at the door. Humans often judge their new social encounters depending on the response of their dog. Laukkanen continues to clarify, that this reaction that happens in our body is involuntarily and cannot be controlled by our thoughts. (Laukkanen, 2013)

In addition to this, when comparing dogs to other animals, they possess a unique feature only witnessed in dogs. When interacting with humans, it has been proven that the oxytocin levels of both humans and dogs increase when in contact with each other (Bradshaw & Valtari, 2013; Handlin et al., 2011). Because of this a dog can bond with their human even more powerfully than with another dog, something that has not been found in other animal species (Bradshaw & Valtari, 2013). Research even suggests that a bond between a human and their dog can be compared to a bond similar to that of a mother and child (Stoeckel et al., 2014). This may explain in part why humans often feel that dogs love us back equally as much, or even more than we love them.

There can also be massive differences in the amount of pleasure felt within an individual depending on the species of animal that is in question: sometimes a person may love small rodents that fit into their lap effortlessly, whilst others may feel that large animals are the safest (Laukkanen, 2013). Laukkanen (2013) points out that a person who has faced an aggressive dog in their early childhood may feel lifelong resentful feeling towards dogs, but when in close proximity to cats, the same person may be well at ease.

3.3 Dogs Improving School Motivation

Almost every teacher will encounter a student with difficulties motivating themselves in going to school, studying or just completing exercises handed out to them during the class. In many cases it is believed that the motivation to go to school and learn is inbuilt within students, but this is not actually the case (Madsen & Agidius, 1976). A factor which comes into question when considering the want to go to school is the motivation the students feel within themselves ((Madsen & Agidius, 1976; Salmela-Aro, 2018). It seems logical that small children are not able to understand the concept of “study so you will get a good job in the future” (Madsen & Agidius, 1976; Salmela-Aro, 2018).

For the average child in comprehensive school, their motivation towards school is built on the simple fact that they like school or some part of a day which happens at school (Salmela-Aro, 2018). A pupil doesn't have to like the whole concept of school, but many times just a small part of the whole is enough to motivate them: spending time with friends, getting experiences of accomplishment, learning new things or spending time with their teacher (Kiuru, 2018; Lerkkanen & Pakarinen, 2018; Salmela-Aro, 2018;). In order to understand fully, each adult can ask themselves how motivated they would be working without salary.

This same idea of salary and rewards is the basis of how motivation works. An everyday example of the powerful motivation that dogs offer can be found in the health benefits they help accomplish by motivating their owners to exercise and spend more time outdoors (Westgarth et al., 2017). According to Latvala-Sillman (2018), a dog can act as a very powerful motivator when a pupil is otherwise not as interested in for example doing the work planned for a lesson. A dog can be taught to lay at the feet of a certain individual, and every time they manage to complete one task in math, they get to give the dog a treat or pet them for a while (Latvala-Sillman, 2018).

4 Challenges of Animal-Assisted Pedagogy

4.1 Planning and Preparations

In Finnish there is a saying “Something that is well planned is half finished”. Most professionals, who are interested in implementing animal-assisted pedagogy in their work, often tend to be under the impression that a kind dog can just be brought to work, and it will serve its purpose, laying in the corner of a classroom (Latvala-Sillman, 2018). The reason lies within the importance of understanding what is to be gained from bringing the dog into the classroom and how it benefits the lessons: can something be achieved that would otherwise pedagogically be impossible to achieve? It is essential to know what aspects to take into consideration when planning the first visits of a dog, addressing important issues like allergies and possible fears students may have (Anderson, 2007). In addition to this, it is vital for the dog to be well trained: it must always obey the handler and understand when it is not needed (Anderson, 2007; Latvala-Sillman, 2018).

In her research *Who Let the Dog In? How to Incorporate a Dog into a Self-Contained Classroom*, American class teacher Katherine Anderson (2007) investigates the different phases and preparations needed before a dog can be brought into a classroom, in this case her own elementary classroom. She divides the process into five different phases she found important (Anderson, 2007):

- 1) Having a preliminary meeting with the involved parties
- 2) Choosing the dog
- 3) Establishing intended classroom policies and procedures
- 4) Acquiring written consent from involved parties
- 5) Providing information to colleagues

Her findings can be summed up in two main points: dogs have positive emotional effects on students and helped the students learn skills in empathy, respect and responsibility (Anderson 2007). She continues to state that because planning and taking needed safety measures is strongly advisable, she suggests dogs be certified therapy/pedagogical dogs and that written consent is acquired also from the administrators, parents and students, to ensure the safety of everyone (Anderson, 2007).

In their thesis, Vatanen and Vesa (2016) aimed to find out experiences principals and teachers had when dogs were brought into a learning environment. They had four main areas which they aimed to research: education of the handler, preparations of the school environment, features of the dog and benefits of bringing a dog to primary school. They started their process with an interview frame, where they thought about the aspects that had to be considered before and after acquiring a dog. They wanted to find out who needed to be informed, what kind of paperwork was needed, what was anticipated and what kind of preparations had to be made. They also discussed what kind of matters had emerged both in the practical execution and aspects that had not been anticipated. The interviews were executed with 2 principals and 4 teachers and the head of education in FADAI. (Vatanen & Vesa, 2016)

In their results they discuss a wide range of important aspects which arise already when planning the acquiring of a dog (Vatanen & Vesa, 2016). One of these aspects is the importance of education for both the handler and the dog (Vatanen & Vesa, 2016). The reasons they go through are: testing the dog, a support network, safety, assertiveness, justifications for a dog being at school and professionalism (Vatanen & Vesa, 2016). One of the biggest reasons that was raised in their interviews, was how important it is to have a tested dog.

Vatanen and Vesa (2016) bring out that a part of the teachers they interviewed were afraid that the whole reputation of animal-assistance can be at risk if a school dog were to harm a student. They continue to explain that one of the main goals of the training offered in AAP is to prevent possible conflicts a dog may cause (Vatanen & Vesa, 2016). By testing the dogs intended for AAP beforehand it is possible to prevent such conflicts from occurring. (Vatanen & Vesa, 2016) Their findings can be supported by a systematic review by Brelsford et al. (2017). It is one of the few systematic reviews that has been published in a notable journal and which focuses specifically on the view point of animal-assisted pedagogy in 25 articles. One of their main findings is the importance of planning, which further ensures the safety of everyone- human or animal- that is involved (Brelsford et al., 2017). Anderson (2007) also supports the importance of both planning and precautions in safety.

4.2 How to Select a Suitable Dog for the School Environment?

When considering the school environment, animals that are of suitable size make working with them easier. For example, horses are used widely in animal-assisted therapy, since they are intelligent creatures with the ability to read humans, but their size makes them impossible

to bring into school (Latvala-Sillman, 2018). Smaller animals are often lovable pets, but their trainability often tends to reach a much lower standard. The same goes to cats, which could otherwise be a good alternative to dogs when considering their size, but they often tend to be more independent and less likely to crave interaction with unfamiliar humans (Latvala-Sillman, 2018). In addition to these, factors like the close bond humans are able to make with dogs, often results in them being chosen to implement animal-assisted pedagogy with (Brelsford et al., 2017)

One of the fundamental questions of animal-assisted pedagogy is the problem of a suitable dog for the job (Craigon et al., 2017; Tiira, 2018). When considering the average educator who wishes to implement animal-assisted pedagogy, their motivation towards the concept often derives from one of two options:

- 1) I have a wonderful dog who I feel could really bring something new to my lessons.
- 2) I am interested in animal-assisted pedagogy, but I don't have a suitable dog for the job.

In the first case the handler of the dog is in a situation where they should consider how they wish to train both themselves and the dog they intend to bring with them (Craigon et al., 2017; Tiira 2018). Like stated before, gaining the required amount of knowledge and understanding before beginning will help not only the handler and dog, but also the classroom.

In the second case, the handler should consider what they want to achieve with their dog (Craigon et al. 2017). The vast number of dog breeds available gives the handler both possibilities and responsibilities (Päivi Latvala-Sillman, 2018). When considering what kind of breed to choose, it is important to research in depth what the breed has been developed for (FADAI, 2018). Inbuilt traits of certain breeds like the instinct to guard or hunt may be traits that can cause problems when working in close proximity to people (FADAI, 2018). This doesn't mean that a hunting dog can't work as a pedagogical dog, but it may be more difficult to train, when the breed was not developed for social interactions (FADAI, 2018; Päivi Latvala-Sillman, 2018).

In order for a dog to be suitable for becoming a pedagogic dog, there are certain aspects that are required from their personality and nature (AAIL, 2018; Craigon et al., 2017). According to Päivi Latvala-Sillman (2018) the most important aspect to consider when choosing a dog is to think about the possible tasks it should be able to complete when at work. The dog intended

for working should have a personality where they are brave, open-minded and interested in other people (Brelsford et al., 2017, Latvala-Sillman, 2018). In addition to this a pedagogical dog should be capable of working so that their stress levels constantly stay low and they are relaxed (FADAI, 2018). In addition to all of this, the intended dog must be healthy and vaccinated (AAII, 2018)

The emotions of a specific dog and how an individual canine handles them is something that should be considered when choosing a dog. Katariina Tiira (2018), trainer and tester of FADAI, argues that the emotions of a dog can be described by examining the positive and negative emotions from a viewpoint of feelings with “high and low velocity”. In the ideal case, a dog working as a pedagogical dog will always stay on the positive side of their emotions (Tiira, 2018). Depending on what is being done with the dog, they can either be on the “high acceleration” side or the “low acceleration” side (Tiira, 2018). According to Tiira (2018) this means that when a dog is highly accelerated, they are likely to be happy and enthusiastic: if they are low in acceleration, they often exhibit relaxed and peaceful behavior. On the negative side are feelings like aggression, fear, sadness and depression (Tiira, 2018).

Unfortunately, not all dogs are suited for working with people they are not familiar with, even if they are the kindest dogs when with their own family. A dog that is unsure of strangers will often exhibit sad or depressed behavior, since they often feel anxious in these situations (Coppinger et al., 2007; Tiira, 2018). If these emotions are coupled with high acceleration, the dog will present aggression and fear (Tiira, 2018). If the dog can't act as its natural instincts tell it to and flee, it will very likely show the aggression outward and in the worst case bite a student who doesn't know how to read a dog's body language (Tiira 2018; Latvala-Sillman 2018; Brelsford et al., 2017).

4.3 Allergies, Responsibility and Safety

That being said, it is extremely important to remember that dogs are animals, which act primarily based on their instincts, no matter how well trained or friendly a certain individual happens to be. Like with all teaching, the introduction of a canine friend must come from need, not want. since teachers are responsible for their students' safety, precautions in safety measures are needed when introducing and implementing AAP. It is also important to take measures to ensure the safety of the dog. When a dog enters the school premises with its' handler, it is not just a companion anymore. It is transformed into a tool, with which teaching

can be organized in a better and more educational way. It is also important to note, that proper training, which ensures both proficient teaching and controllability of the dog, should be a standard within animal-assisted pedagogy. A systematic review by Brelsford et al. (2017) is one of the few systematic reviews that has been published in a notable journal and which focuses specifically on the view point of animal-assisted pedagogy in a review of 25 articles. One of their main finding is that of the importance of planning and emphasize the need for ensuring safety with everyone- human or animal- that is involved (Brelsford et al., 2017).

One of the most challenging and discouraging problems teachers often face when they hope to bring a dog to their classroom is the problem of allergies and fears related to allergies. According to Erkki Valovirta (2013), clinical allergologist, there is a massive amount of allergens everywhere around us. This is largely due to the fact that there are over 500 000 households in Finland alone which own a dog or cat. Because of this there are animal allergens almost everywhere you go: public places like libraries and banks, public transportation and even the average classroom (Valovirta, 2013). There are even research that have shown that being in contact with dogs decreases the amount of allergies in children (Raevaara, 2011).

It is also important to remember that there is no such thing as an allergy free dog: the amount of allergens released from a dog varies between individuals, much more that it does when comparing breeds (Konradsen, 2015; Valovirta, 2013). This means that a hairless dog can cause an allergic reaction in the same way as a dog with a long coat. The allergens in a dog are found in each part , but mainly from their saliva, dander and urine (Konradsen,, 2015; Valovirta, 2013). For example a hairless dog often causes less allergy symptoms because their dander falls more freely (Valovirta, 2013).

4.4 Ethical Aspects of Animal-Assisted Pedagogy

Before a dog is brought into the school environment, there must be something we wish to achieve, that cannot be achieved some other way (KADAI, 2018). The mere reason to bring a dog into school because “it is lonely at home” won’t help the dog, the teacher or the pupils, and may even be more harmful than helpful in the long run (Brelsford et al., 2017). When a dog is brought to the school environment it transforms from being a dog, into a tool with which teaching can be executed in a new manner (Tiira, 2018). The reason behind all of this is very simple: from the second the dog enters the school ground, to the minute they leave,

they are at work. They must pay attention to their handler, tolerate noise and loud sounds, enjoy scratches whilst staying in a good mood (Anderson, 2007).

As it is important to take care of your own personal health and wellbeing, it is also mutually important to ensure the dog does not limit its capacity. Although each dog is an individual, it is not recommendable to bring it to school more than 1-2 times a week (Latvala-Sillman, 2018; Tiira, 2018). For some dogs once a month may be a good pace, whilst others can handle twice a week (Tiira, 2018). This is in the hands of the handler, who themselves knows their dog best (Tiira, 2018).

Here it is important to also consider the personality of a dog and what their character is like not now but also if it changes sometime in the future due to disease or old age. It is within the responsibility of the handler to judge when their dog is not fit for working anymore and must retire due to old age (Latvala-Sillman, 2018).

How can we tell if a dog is stressed? Like stated before, it is vital to understand what kind of dog is suitable for working in the classroom environment. In terms of ethics, it is cruel to subject a shy and sensitive dog to a loud, stressful and unfamiliar situation (Anderson, 2007; Tiira, 2018). Many times, dogs show their stress, but humans don't know how to read the tell signs until it is too late, and the dog defends itself: first by attempting to flee but if it does not work the dog will bite (Anderson, 2007).

Dogs are intelligent animals that learn very quickly that once they enter the school grounds and building, they are at work (Tiira, 2018). Whilst at work the dog can never completely relax, even though they must have their own safe zone where they are never bothered (Latvala-Sillman, 2018). This "safe-zone" is often their cage or a rug in the classroom, which the dog has been taught to go to when they need a few moments of peace and quiet (Latvala-Sillman 2018). When in their relaxing zone, the dog should never be bothered, and this is something the students must also be taught from day one. (Latvala-Sillman, 2018)

Because the ethics of animal work are always a subject discussed in media, it is essential to recognize the boundaries and limits to which animal-assisted pedagogy can be executed. This means it is important to reflect what is a fair and tolerable number of weekly visits a dog can handle (FADAI, 2018; Latvala-Sillman, 2018). Even the most friendly and strong dogs will be exhausted after a day at school, which for them, is a day at work (Tiira, 2018). According to Tiira (2018) the maximum number of visits one dog can handle is one per week. It is in the

hands of the handler to know their dog well enough to estimate if even this number is too much (Tiira, 2018).

5 Discussion

In my thesis I aimed to answer my two research questions “What are the benefits of animal-assisted pedagogy?” and “What are the Challenges of animal-assisted pedagogy?”. In order to fully understand how animal-assisted pedagogy is defined, I had to first investigate different forms of animal-assisted interventions and how they differ from animal-assisted pedagogy. This proved to be difficult, since the various concepts used when referring to animal-assisted interventions differed depending on the country and researcher themselves. Hopefully in the future the terms will stabilize, and animal-assisted interventions will have common terminology globally.

In order to produce reliable research, I thought it was important to take into consideration both positive and possibly negative aspects and sides that arise from animal-assisted pedagogy. I wish that educators can use my research as a guideline and help when implementing animal-assisted methods in their class rooms. Before going further into my findings, it is important to note that they are based on a small scope of data, which I tried to choose as objectively as possible. The possibility for bias is present, though it has been tried to be cut to the minimum.

Why is it that these intelligent creatures are so well suited to both working alongside humans and being the most loved pet in Finland? Part of their charm is probably due to the fact that dogs can perform almost any task presented in front of them. No matter what you wish to do, you can have a companion to follow you on your trips around the world, cuddle at your feet whilst watching television, or help you in law enforcement. A person can rarely stay sad, when a dog comes to greet them with a wagging tail and all their heart when coming home. In addition to this, dogs are almost always ready to engage in activities with a human and offer all the love they have and more in return (Siegel 1962). If dogs are so commendable, why not use them to support and help in the classroom as well?

According to my research dogs are being used widely in classrooms with positive results. I categorized my findings with two diagrams: Figure 3 presents the benefits of animal-assisted pedagogy and whereas Figure 4 the challenges of animal-assisted pedagogy, which I have drawn based on the findings of my research. Each aspect is part of a whole and important in the implementation of animal-assisted pedagogy.

In Figure 3, the benefits of animal-assisted pedagogy are built in a triangular matter, with each benefit leaning on one another. By this I mean that one benefit does not exist without another and they are tied in a supporting manner. The physical, social and psychological benefits can be narrowed to mean that dogs can increase health, make social encounters easier and help humans elevate their self-esteem (Handlin et al., 2012; Latvala-Sillman, 2018; Petersson, 2017). This would not be possible without the human-animal bond, which offers emotional support and feelings of acceptance and accomplishment (Brelsford et al., 2017; Sinkkonen, 2013). Through this, AAP can motivate students and help them achieve more positive experiences from school (Madsen & Agidius 1976; Salmela-Aro 2018).

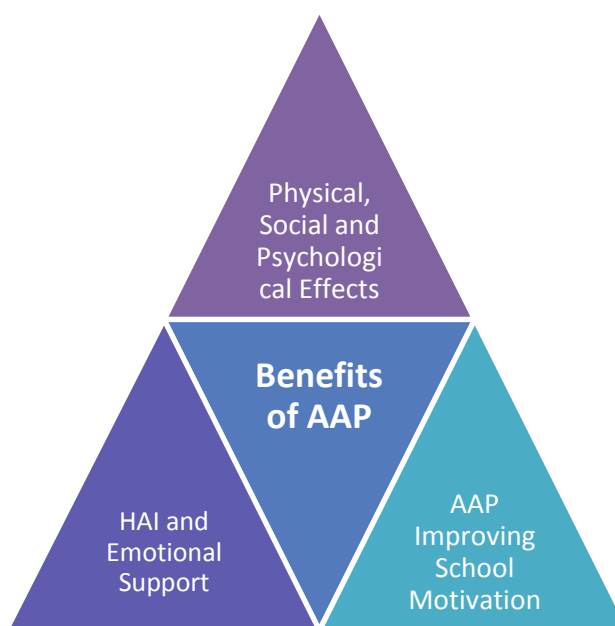


Figure 3 Benefits of Animal-Assisted Pedagogy, Johanna Rainola, 2018

Figure 4 demonstrates the main challenges I found animal-assisted pedagogy to have. The reason why they are demonstrated in a circle is, that I feel that they are each mutually important. When beginning the process of bringing animal-assisted methods into a classroom a teacher can start at whichever part of the circle and go through the steps until they are each complete. Like in benefits of AAP, the challenges are also closely linked to one another.

Planning and preparations consist of the steps that should be made before a dog is brought into the classroom. These preparations include the teacher attend sufficient training in the field of AAP, meeting and informing all the parties involved, establishing classroom policies acquiring written consent from those parties (Anderson, 2007; Latvala-Sillman, 2018). The

selection of the dog includes aspects of size, nature, breed, personality and trainability, which should all come down to the dog being good natured and enjoying working with children without stress (Brelsford et al., 2017; Tiira, 2018). Responsibility and safety come down to the fact that AAP implemented must keep in mind not only the safety of the students but also the safety of the handler and dog (Brelsford et al., 2017; Latvala-Sillman, 2018). In addition to responsibilities, allergies are a challenge when implementing AAP. Luckily most doctors believe that the best way to keep allergies in line is to spend time with animals (Valovirta, 2013). Ethical issues tie the whole concept of challenges together. My main finding was that when implementing AAP it is important to make sure that the dog enjoys the work they do at all times (Latvala-Sillman, 2018; Tiira, 2018). It is within the hands of the handler to make the decision when a dog is not capable of working anymore and through this ensure that safety is guarantee for everyone involved (FADAI, 2018; Tiira, 2018).

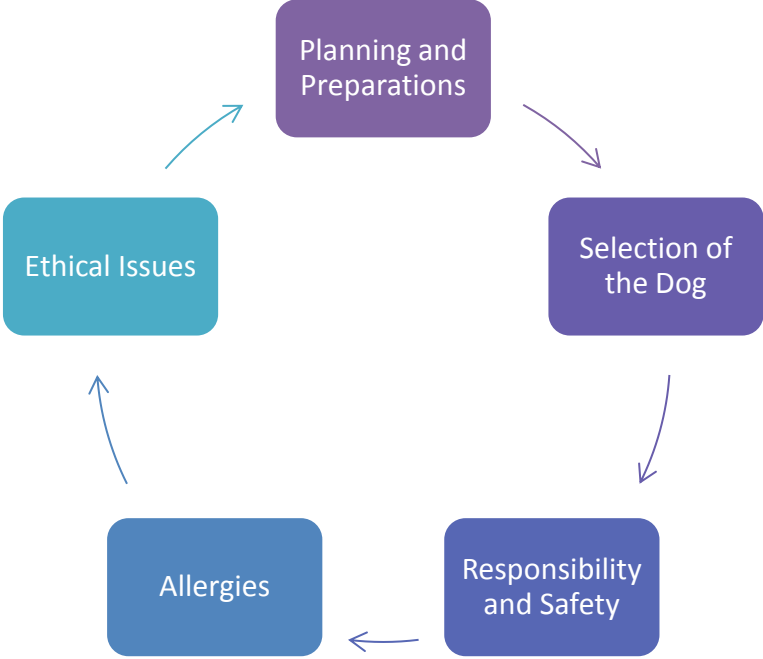


Figure 4 Challenges of Animal-Assisted Pedagogy, Johanna Rainola, 2018

In light of my research it can be stated that there are numerous benefits in implementing animal-assisted pedagogy in a classroom. In addition to the physical, psychological and social benefits dogs can offer, AAP also benefits the dogs themselves, by raising their levels of oxytocin (Handlin et al., 2012; Petersson, 2017). In light of this research it seems that the benefits of animal-assisted pedagogy are more significant than the challenges.

It can be stated that both Finnish and foreign research is unanimous when considering the benefits and challenges of animal-assisted pedagogy. It was surprising to find as much brand new research on animal-assisted interventions as I did. This goes to support my initial claim, that animal-assisted intervention and especially animal-assisted pedagogy have gained attention in the field of education. This attention is generally positive, since animal-assisted pedagogy is still fairly unknown, it is desirable to spread knowledge concerning the benefits it has to offer. If a teacher is dedicated to bring animal-assisted methods into their classroom and prepared to prepare and plan properly, the students will benefit substantially (Brelsford et al.,2017). I hope my thesis encourages those teachers who are still unsure to take the first step towards animal-assisted interventions and begin the process for themselves. At best animal-assisted pedagogy can benefit not only the class but also the school community. It may open up new doors within the students and motivate and help them concentrate on a whole new level.

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