

PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ANIMAL WELFARE EDUCATION: EVERYONE IS RESPONSIBLE

BRUSSELS, 1–2 OCTOBER 2010



European Commission



Directorate-General for
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**INTERNATIONAL CONFERENCE ON
ANIMAL WELFARE EDUCATION:
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PROCEEDINGS

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FOREWORD

I am very pleased to present to you the acts related to the First International Conference on Animal Welfare Education, organised in Brussels by the European Commission and the Belgian Presidency of the EU.

This is a crucial moment for Animal Welfare: the Treaty on the Functioning of the European Union (TFEU) recognises animals as sentient beings and the Commission has started its work to launch a new European Strategy for Animal Welfare that will define the EU initiatives in this area for the next five years.

Concerns over Animal Welfare reflect the EU's own values of solidarity, respect, compassion, and empathy. Education is clearly the centre of gravity of all this: so much is happening in Europe and worldwide that the Commission considered it the perfect time to share experiences. The conference explores the science and values guiding Animal Welfare Education, different methodologies for teaching Animal Welfare, and the role of the media in Animal Welfare Education. The initiative brings together international experts (academics, EU officials, teachers, veterinarians, and NGO representatives) to introduce and discuss educational programmes and strategies on Animal Welfare.

Through education, farmers acquired new skills that helped them take better care of their animals. Education has also allowed animal transporters to appreciate the merits of avoiding stress to animals en route and has promoted new practices involving pre-slaughter stunning in abattoirs, so that animals suffer less pain at the point of slaughter. Animal-welfare education is just as important for the rest of us. A society that values all forms of life and minimises suffering is, generally, more humane.

Education also reinforces the growing awareness of the close links between humans and our environment. Animal production systems that respect the welfare of animals and the environment result in sustainable incomes for farmers and reduced use of natural resources.

Under the motto "Everyone is responsible," the First International Conference on Animal Welfare Education aims to provide more information to citizens about educational tools and programmes on Animal Welfare and raise awareness about how important it is to educate citizens, farmers, professional animal carriers, handlers, slaughterhouse operators, retailers, and other stakeholders on how animals should be treated.

I would like to thank you all for your participation in this important event and I hope you have a fruitful conference, the results of which will help us further improve our policies and develop future initiatives in the field of Animal Welfare Education.

Commissioner John Dalli
Health and Consumer Policy

FOREWORD

Dear commissioners, dear participants and friends,

We wish you a very warm welcome in Brussels at the conference on Animal Welfare Education. It's an honour to be your host at this conference during the Belgian Presidency, together with the European Commission.

The Belgian government acknowledges the importance of the sensitisation and education of everyone, professionals, as well as non-professionals, on Animal Welfare and animal handling. As tomorrow's main actors and consumers, children must be at the core of this initiative aimed at improving the welfare of all animals.

Belgium has been concerned with Animal Welfare for a long time and has an extensive body of legislation on the subject at its disposal. Continuous efforts are made to improve this legislation and, consequently, Animal Welfare.

The Treaty of Lisbon represents a major step forward in the political recognition of animals and their feelings. It offers the European institutes more freedom to develop and execute an Animal Welfare policy.

In the next two days, several speakers will explain the science of the educational process and the experiences gathered through existing Animal Welfare Educational programmes will be shared with us.

We hope that you will go home at the end of this conference with an (even greater) conviction that everyone has a task to fulfil in the process of integrating Animal Welfare in all layers of society through education. A task which can't be started soon enough!

The Belgian Presidency of the European Union

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CHAPTER 1

ANIMAL WELFARE EDUCATION: SCIENCE AND VALUES

GETTING THE BASICS RIGHT!

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Much of the apparent disagreement between people about Animal Welfare stems from confusing scientific questions about the actual state of the animal and ethical questions about how we ought to treat and care for animals. In this session, we will hear more about why Animal Welfare Education is important and the science-based approach, as well as the socio-ethological aspects of welfare training. An important unifying point in the following three papers will be that, irrespective of the target audience and the methodology used, it is essential to get the basics right.

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Keywords: introduction, Animal Welfare, science, values.

The word 'education' conjures up different images to different people. For some, it involves sitting in a classroom, for others it is learning by doing and active participation. For some people education is a lifelong learning process, for others it is a one-day compulsory course. At this conference, we will talk about education opportunities, engagement and promoting methodologies that take different ways of learning into account. We will be considering children, students, and professionals. Yet in this first session, called 'Animal Welfare Education; science and values', the focus is on the importance of Animal Welfare Education and on what is taught.

Animal Welfare science and values are interlinked, but they should not be confused. Much of the apparent disagreement between people in society about Animal Welfare is a result of confusing scientific questions about the actual state of animals, with ethical questions about how we ought to treat and care for them. Confusion makes constructive discussion difficult, if not impossible. Education should, and hopefully does, help bring clarity to the subject by promoting an understanding of the basic principles and so helps prevent this mixing up of science and values. In this regard, education helps us appreciate another person's point of view, even if we do not agree with it. The Greek philosopher Aristotle said that it is the mark of an educated mind to be able to entertain a thought without accepting it.

The academic study of Animal Welfare has been around for centuries, but there has been a dramatic increase in this past half-century. As is to be expected in such a dynamic area, research at the cutting edge of Animal Welfare science and animal ethics discussions creates debate. That is as it should be. But each step forward is also associated with increasing agreement on previous results and, as a result of continuing advancements, the pool of accepted knowledge on Animal Welfare issues increases. Here the consensus leads to few debates. A topic still to be debated, however, is whether or not this consensus on certain facts has reached the level where we can agree that every Animal Welfare Educational programme should be developed around the same basic content. That is to say, to have a scientifically based approach and provide knowledge about the same ethical values regardless of the target audience and teaching methodologies. Most people agree that a good education does not tell people what to think, but aims to give them the knowledge to think for themselves. Nowhere is this more important than in the emotionally charged subject of Animal Welfare. We may use our knowledge differently, and we may have different values ourselves, but we need to know the science underpinning it and the ethical views associated with it to make progress.

Although this conference is aimed at introducing and discussing Animal Welfare Educational programmes and strategies on Animal Welfare, we should not forget how interesting a subject Animal Welfare is in its own

right. With this in mind, we can also discuss the extent to which Animal Welfare can be the tool to promote education, i.e. to talk about 'Animal Welfare in education' and not only 'education in Animal Welfare'. The multidisciplinary nature of the topic can be a springboard for people to learn about physiology and animal behaviour (stress responses, animal signals, etc.) just as well as it can be a motivating factor for people to learn about different ethical theories (utilitarianism, rights philosophy, etc.) and the social sciences in general. Why not even as a case study for education in economics, marketing, and so on. Few other subjects have such potential in problem-based learning to motivate students to gain knowledge in a wide range of disciplines. We should not miss this opportunity, since in the process we not only gain a new generation of people with good scientific and ethical training that can be applied to the complex issue of Animal Welfare, but we get people with skills that can be used in other complex real life situations, such as climate change and poverty control.

In conclusion, the time is right to discuss Animal Welfare Education in the type of forum provided by this conference and it is logical that the first area to be addressed is 'what' should be taught. There are other sessions on methodologies for teaching Animal Welfare to students and professionals, or where experiences can be shared. But hopefully Animal Welfare has reached the stage where we can agree on some basic facts that are the cornerstones of education in our area. In the following papers, ideas are presented about these basic facts, about Animal Welfare science, animal ethics and the overall importance of education in Animal Welfare.

ABSTRACT
GETTING THE BASICS RIGHT!

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Much of the apparent disagreement between people about Animal Welfare stems from confusing scientific questions about the actual state of the animal and ethical questions about how we ought to treat and care for animals. In this session, we will hear more about why Animal Welfare Education is important, as well as about the science-based approach and the socio-ethological aspects of welfare training. An important unifying point in the following three papers will be that, irrespective of the target audience and methodology used, it is essential to get the basics right.

ANIMAL WELFARE EDUCATION: EVIDENCE FOR ACTION

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Summary

There are sound reasons for the recent interest in Animal Welfare Education. Research illustrates the potential importance of animals in many people's lives, and there is a need to inform animal owners and carers about their legal and social responsibilities to animals and to exploit the potential reciprocal benefits that could emerge from improving human-animal interactions. Using our own work on young people as a framework, we also illustrate the importance of addressing aspects of human psychology and educational research when designing Animal Welfare Educational interventions. Our review of interventions and materials being used by stakeholders in Animal Welfare Education indicates the importance of establishing a cycle of redevelopment of interventions based on evaluation and integrating this activity across Europe. Lastly the paucity of studies in a number of areas points to the urgent need for research (e.g. to provide evidence on potential benefits of educational interventions in young people).

Keywords: Education, Animal Welfare, children, knowledge, attitudes, empathy, responsibilities, behaviour, interventions, evaluations, cross-country integration.

Background

Animal Welfare is an ethical concern for the mental and physical health of animals over which we have a degree of control or ownership (1). This concern for Animal Welfare has developed over the last 100 years and today has a high profile in European societies (2), and one result has been the development of legislation aimed at protecting animals from cruelty and maltreatment (3). More recently, there has been an increase in non-regulatory approaches for improving Animal Welfare, such as the development of farm assurance schemes which provide a mechanism for the food chain to self-regulate and improve on-farm welfare (4). It is, however, only very recently that there has been a growing focus on the need for Animal Welfare Education, which is reflected in this first international conference on Animal Welfare Education. In this paper, we will explore both why there is now a strong case for Animal Welfare Education and also some of the evidence base for how we might go about developing interventions that will bring about enhanced responsibility and positive behaviour towards animals. Our main focus has been on young people, but we recognise the importance of educating and informing other stakeholder groups. We believe the general approach we outline in relation to young people can also be applied to other educational activities.

Why do we need Animal Welfare Education?

Animals as sentient beings: Probably the most fundamental change in human-animal interactions has been the growing acceptance of animals as sentient beings having some capacity to feel and experience their world. Science has played an important role in this process by demonstrating the emotional, cognitive, and behavioural capacities of animals. This evidence has provided support for animal sentience and forms the basis for EU and UK legislation that now enshrines the concept of animal sentience in law (3). Social science research also suggests that belief in 'animal minds' is an important predictor of attitudes towards animals (5), and is likely to increase the moral status that we apply to animals (e.g. 6). For the future, this suggests that as science continues to provide further support for animal sentience, then this should increase the moral importance we apply to Animal Welfare. Animal Welfare Education can develop an understanding of animal sentience

which will help facilitate positive attitudes and behaviour towards animals. Educating young people to understand about animal sentience seems of particular importance if future societal developments in Animal Welfare are to keep pace with the science understanding of Animal Welfare issues.

Animal Welfare policy and legislation: The development of Animal Welfare legislation places legal responsibilities on animal owners that need to be understood and adhered to. In the past, these legal responsibilities related more to avoidance and prevention of cruelty and only covered certain classes of animal (usually farm and laboratory). Today, Animal Welfare legislation is being extended beyond these traditionally regulated areas. The UK the Animal Welfare Act (2006) places a 'duty of care' on all animal carers and owners not just to avoid animal cruelty, but also to meet their animals' needs (7). Thus, owners of pets as well as farmers and laboratory managers will have a responsibility to ensure that their animals' nutritional, social, and environmental needs are being provided for, or face potential legal penalties. Children and young people are often closely involved in their pets' lives, which makes it especially important that Animal Welfare Education is focussed on them developing an appreciation of their responsibilities, but also providing them with an important understanding of animal needs.

Citizenship: There is an increasing emphasis on development of citizenship in educational programmes. Developing a concern for animals as sentient beings fits well into the general concept of social responsibility and citizenship, as it requires an understanding of the nature of animal sentience and hence our responsibilities towards animals. This is very close to the aims of humane education, which aims to enhance knowledge, attitudes, and behaviour toward the compassionate and responsible treatment of human and animal life (8). Animal Welfare, like all societal issues, is dynamic and it will be important to encompass current developments in Animal Welfare in any citizenship programme. For example, there is an increasing trend to discuss and promote the idea of positive Animal Welfare which moves beyond the initial focus on prevention of cruelty (9). In the UK this is aligned with the Animal Welfare Act (2006), requiring that owners meet their animals' physical and social needs. In addition, the future may see increasing conflicts between Animal Welfare and other societal agendas, such as climate change. It would help ensure better decisions relating to Animal Welfare in the future if these conflicts were discussed and understood by stakeholder groups, including children and young people.

Reciprocal benefits: Obviously the main reason for our interest in Animal Welfare Education is to ensure that animals are better cared for and experience a 'good life' (9). Successful Animal Welfare Education programmes would have a number of positive outcomes for animals, which would vary with different stakeholder groups. As examples, children would have a better understanding of how to interact with and meet the needs of their pets and also animals in other contexts (e.g. horse riding; visits to zoos). In later life, and as adults, they would continue to act responsibly and empathetically towards their pets. As purchasers of foods derived from animals, they would also have the capacity to exert positive consumer pressure on humane food production methods. However, it will also be important to illustrate the potential benefits of Animal Welfare Education to strengthen the case for its inclusion in curricula or as part of public education campaigns. Our preliminary research on young people, for example, indicates that pet ownership is very widespread, that animals are an important part of many children's lives, but that the effects of animals on child development are under-researched (10). It is possible that there are a number of benefits to children who participate in Animal Welfare Education, including the emotional benefits of having a closer attachment to their pets and a greater sense of empathy and social responsibility for peers and other social groupings. Lastly, we should be aware of the importance of education in preventing human-animal interactions going wrong, leading to injuries, neglect, and cruelty.

In the second part of this paper, we use our own research with children as a framework to illustrate the importance of addressing different aspects of human psychology and educational research when establishing Animal Welfare interventions. More details can be found in a report we have published on Animal Welfare Education of young people, which combines a literature review of the area with novel research on children's perspectives on animals and their welfare (11 – Defra report).

What do we need to change?

Our literature review focussed on three broad and interrelated areas of children's relationships with animals: their knowledge, attitudes, and empathy with respect to animals. In general, we found relatively little literature directly relating to children's perspectives on and caring for animals, hence we also drew on other relevant evidence from related fields of study (e.g. biology education).

Cognition and understanding: The literature (see 11) suggests that children develop a range of concepts relevant to animals and their needs prior to formal education. By the age of 3 to 4 years, they have some knowledge of basic life processes and associated physiological needs (e.g., growth and food) and are able to classify animals into broad groupings. This understanding forms their understanding of animal needs. A range of naïve biology concepts developed through the primary school years together with this evidence suggests that children between 7 and 12 years old may be particularly open to learning about animal needs. Children's concepts of biological processes are often inaccurate or partial and educational interventions are required to improve the quality and accuracy of these naïve concepts. There is evidence of gender, ethnic, and cultural variation in naïve biology concepts. These will need to be considered in interventions to improve knowledge on animal needs. Further research is required to explore children's understanding of biological processes in animals to develop successful interventions and educational approaches. In particular, research is required on animals' needs and the children's ability to understand species' differences in needs.

In our preliminary research with children, we found evidence from focus group discussions to support the literature (11). For example, even with direct experience with animals, there was evidence that the children's understanding of animal needs can vary due to factors that include gender and their personal relationships with their pets. Children had knowledge relevant to animal needs, but they did express uncertainty relating to the specifics of animal care and, in particular, how to interpret their pets' behaviour. In addition, children's views on whether animals have feelings was species-dependent, suggesting the belief in an animal mind is not universal. This topic stimulated interest and might therefore be a useful means of addressing animal needs, care, and responsibility.

Attitudes towards animals: While there is extensive research on attitudes towards animals, it is mainly on adults and largely US-based (11). Children generally have positive attitudes towards animals in early development. The peak of interest in animals appears to be in the 7–12 year age range, with a decline occurring in early adolescence; secondary school age children appear to be more directly interested in Animal Welfare (issues relating to cruelty and exploitation). Family context, gender, and cultural values all appear to play roles in attitude formation. Again, we found evidence from our preliminary focus group work with children which supported the literature, including a tendency for older children (11–13-year-olds) to be more concerned with broader welfare issues. In a separate questionnaire study, we also found a trend for a decline in positive attitudes towards animals with age (10 – Williams). This questionnaire work also found that children who have a pet perceive more positive attitudes to animals, probably stemming from direct experience with animals.

Empathy and attachment to animals: The literature on children's empathy towards animals is very scarce; hence we also reviewed the literature on children's empathy toward humans and adults' empathy towards animals and humans, attempting to build a general picture of empathy towards animals that might generalised to children (11). We concluded that empathy towards animals can be learned and developed through experience. Interventions that enhance a child's empathy towards animals will have an impact on a child's ability to care for them and potentially on the longer-term development of positive attitudes and behaviour towards animals in general. Promoting attachment to animals should also be an aim of interventions aimed at improving responsibility towards animals among children, because understanding how the animal feels maybe necessary in order to respond to its needs. Both empathy and attachment appear to be strongest in 9 to 10-year-old children, suggesting that they would be most sensitive to educational interventions at this age. While there is no conclusive evidence that gender, culture, or geography have an influence on empathy, girls often appear to be more empathic in

self-report surveys, although there may be a possible reluctance among males to discuss their feelings towards animals. The literature shows that promoting animal-directed empathy is possible and relatively easy to do with children. For example, simply having a pet present in the classroom can increase animal-directed empathy.

In our focus group work, we found that children who show a stronger attachment to their pet and are allowed (by parents) to take responsibility for its care appear to possess more detailed and accurate knowledge about the animal's needs. In our questionnaire work, we generally found that all children scored highly on attachment to pets, indicating the important role pets play in children's social and emotional development. It has been suggested that for many children having a pet is a source of emotional support and social interaction and helps them avoid loneliness (e.g. 12 – Melson).

In summary, the evidence base we have reviewed and our preliminary work with children does provide a basis for developing ideas on interventions, including information on the best ages and stages to be intervening. However, there is still much to be learned, given that relatively little research has been done directly on children's perspectives on animals and their welfare.

How do we facilitate change?

In our review we also covered the available literature on relevant interventions in biology and humane education (11). We concluded that interventions should be interactive to be more effective in promoting children's responsibility for animals, for example, incorporating collaborative learning processes or direct contact with animals to fully engage children. Research evidence suggests that different pedagogical approaches can be effective. Collaborative learning seems very successful in some circumstances, but in other situations simple factual information has been demonstrated to be effective. Multiple approaches within an intervention might enhance the outcomes for children. The interventions employed to promote Animal Welfare to children need to be tailored to the age and experiences of the children involved. Interventions should be developed with systematic and long-term evaluations to assess effectiveness (see also below). To enhance long-term gains from interventions aimed at children, parents and teachers should also be engaged in the intervention process so that its key messages are reinforced in school and at home.

In addition, we also looked at a range of materials currently being used by stakeholders to enhance Animal Welfare Education in children (11). We sampled 36 UK and international organisations, of which we were able to use 19 in our analysis. We found that 8 to 11-year-old children are the target for most programmes aiming to promote Animal Welfare to children. This matches the age group we have identified from the literature as being most open to learning about animal needs. School visits, providing teacher materials, and working with partners (e.g. zoos, veterinary clinics) are considered effective in reaching 8 to 11-year-old children; website material and leaflets are considered effective for children above 12 years of age. Very few of these materials are considered by organisations to be effective for children below the age of 8. Understanding animals' needs is the top priority in the promotion of Animal Welfare to children for most organisations.

We are currently engaged in examining these materials and mapping them against our understanding (based on the literature and our own research) of what is required for Animal Welfare Educational interventions. From this exercise, we will identify gaps and opportunities where we could potentially improve on current approaches. Clearly this would be a useful exercise to extend beyond our currently sampled materials, like linking into European Network for Animal Welfare Education.

How do we know what has worked?

In our study of stakeholder materials, we found that whilst most of the organisations that completed our survey have programmes aimed at promoting Animal Welfare to children and young people, few, if any, have

tested their programmes in a scientific and objective way (11). Importantly, most organisations expressed an interest in having their resources evaluated and said that they would like to review their methods in line with that evaluation.

From our experience of evaluating educational interventions, we would suggest that evaluations should take account of both the process and the outcomes of interventions. In terms of process, evaluations could quantify the ease of implementation and the reach or coverage of the intervention. In terms of outcomes, evaluations could measure changes in cognition, attitudes, empathy, and behavioural change in animal interactions. Ideally, there should be a cycle of redevelopment of interventions based on the results of evaluations. In our current work, we will be developing intervention materials for 7–12 year olds based on our analysis of existing materials and where they might be improved. We will follow this up with an evaluation and deliver the results to the stakeholder organisations. Again, it would be advantageous to integrate the evidence base from such work across Europe.

Conclusions

In summary, there is a strong foundation for the current interest in Animal Welfare Education. Animal Welfare should be represented in the education system at all levels to help societal understanding of legal responsibilities to animals, inform development of citizenship, and exploit the reciprocal benefits that could emerge from enhanced human-animal relations. We have used our own research on educating young people about Animal Welfare to illustrate the importance of developing an evidence base to underpin Animal Welfare interventions. It is important to understand the psychological and sociological aspects underlying attitudinal and behavioural change towards animals; in children it is especially important to develop this understanding in relation to factors influencing child development (e.g. family). Our review of interventions and materials being used by stakeholders in Animal Welfare Education indicates the importance of establishing a cycle of redevelopment of interventions based on an evaluation of both process and outcomes. It seems sensible that such activity should be coordinated across Europe. Lastly, the paucity of studies in a number of areas points to the urgent need for research (e.g. to provide evidence on potential benefits of educational interventions in young people).

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WHY DOESN'T EVERYONE FEEL RESPONSIBLE? – ETHICAL ASPECTS OF ANIMAL WELFARE EDUCATION

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Summary

The author presents for discussion some hypotheses on the difficulties of Animal Welfare Education. Given that nobody will accept responsibility for others unless he or she has already experienced injustice, a society without any appreciable experiences of injustice in childhood risks losing the ability of altruistically assuming responsibility. Deliberately causing experiences of injustice, however, is a controversial issue because of the associated infliction of suffering. For the most part, the problem can be overcome by separating Animal Welfare education (as a part of ethics instruction) on the one hand and informing the population on deficits in the keeping and use of animals on the other. To disregard ethical arguments results in serious problems and setbacks, which could be avoided if ethics – instead of presenting shocking facts – were given more emphasis in Animal Welfare education.

Keywords: Animal Welfare, education, ethics, injustice, justice, values

Introduction

After almost ten years' experience in teaching the principle of Animal Welfare to university students of various faculties (particularly veterinary medicine, but also biology and law), and to a lesser extent to school pupils of various ages and school types, to Animal Welfare officers at research establishments, to laboratory animal scientists in further vocational training courses, and to pest control technicians as part of their training, I would like in the following to present for discussion some hypotheses on the difficulties involved. Yet I would like to emphasise that these hypotheses are not based on statistically validated research, but are the result of my own ethical reflections on my professional experience.

The experience of injustice

Nobody will accept responsibility for others unless he or she has already experienced injustice. Paradoxically, it appears that the experience of injustice is a vital requirement if humans are to assume responsibility. In this regard, it seems to be irrelevant whether a person believes he or she has personally been treated unjustly or whether a person has simply observed others being treated unjustly. However, the two kinds of experiences seem to have different effects on the way in which responsibility is assumed: whereas observing others being unjustly treated tends to be associated with a tendency to feel responsible for precisely this group of victims, or to engage in altruistic activities restricted to this group, it appears that the memory of injustice one has experienced oneself tends instead to result in working for more justice in the world in a general way, without restrictions as to the specific nature of the injustice. Painful experiences alone are apparently insufficient to encourage people to take responsibility; it seems to be essential for the action causing the pain to be abstracted from the concrete situation, contrasted with realistic alternative actions, and then perceived as "unjust", that is, as a less than optimum option.

The most common indicator of experiences of injustice is a sense of indignation. Experiences of injustice are based on the violation of the principle of equality and are triggered by a perception that when matters in relevant aspects are equal to each other are treated in an unequal way. A person is then indignant if he or she is treated in a certain way, when, in comparison to the treatment of others who are seen as equal in relevant aspects, the way that person is treated appears worse (or even if the way that person is treated appears worse than the treatment which the person demands as a minimum standard for all those who are equal to him or

her in a particular way). But we may also be indignant as a reaction to our perception of situations which have no direct influence on our welfare, but where we spontaneously feel empathy with the person affected, as is, for example, the case with sports spectators after referees make bad decisions, which are experienced as the unequal treatment of persons who are equal in relevant aspects – in general, competitors are equal in all characteristics relevant for referees. In contrast, where persons who are equal in relevant aspects are treated unequally with justification, as for example at medal presentation ceremonies in sports; avoiding feelings or experiences of injustice and indignation can only be avoided if the preceding competition guarantees that the sportspersons are treated with strict equality.

The ability of altruistically assuming responsibility

If we assume the hypothesis that without prior experiences of injustice there can be no assumption of responsibility for others, this creates a problem: a society without any appreciable experiences of injustice in childhood risks losing the ability of altruistically assuming responsibility. Or, to put it more precisely: in epochs where childhood experiences of injustice are frequent, society develops a growing sensitivity to the troubles of others, whereas in periods where childhood experiences of injustice are rare, a phase of increasing coolness towards the suffering of others is likely to follow. The problem cannot be solved by direct countermeasures, for it appears not to be justifiable if we deliberately cause children to experience injustice, with respective suffering, merely to allow them to grow up as fully moral subjects.

The problem with deliberately caused experiences of injustice

Deliberately caused experiences of injustice are possibly the greatest problem regarding Animal Welfare Education. The public relations work of Animal Welfare organisations is quite predominantly aimed at creating an experience of severe injustice for the reader or viewer of the pictures, which, as a rule, supplement the text. When Animal Welfare organisations reflect on the lack of hoped-for effects in this connection, it often transpires that they misjudge the deliberate and sometimes considerable infliction of suffering on the viewer by the campaign. Consequently, the protective mechanisms of the addressees, who in many cases cannot (would not) come to terms with this confrontation with reality, are also misinterpreted. The usual reactions, ranging from such as “it can’t really be that bad” to “animal rights campaigners are extremists, and society must be protected from them”, may be interpreted as indicators that deliberately causing viewers or readers to experience injustice involves the risk of achieving the opposite result as intended and blunting people’s reactions to Animal Welfare topics or even immunising them against these. The problem becomes more explosive if education on the concept of Animal Welfare cannot be adjusted to the individual but, as when Animal Welfare is taught at schools, is presented to whole classes. Where the strategy of triggering experiences of injustice is used, it is then inevitable that the more sensitive children are overburdened even when the message may scarcely have begun to reach the more thick-skinned children.

The need for more ethics in Animal Welfare Education

Both the public discussion and the discussion among Animal Welfare experts on finding ways of improving Animal Welfare reflect a very low ethical level. Where ethical arguments and discussions relating to a good and right approach for human interactions with animals (that is an approach which is intersubjectively justifiable) are disregarded, then, at the latest, it results in serious setbacks and problems in proposed minimum standards within political debates. These ultimate setbacks in political dialogue with stakeholders who hold a different opinion, often following many years of preparation, are perceived as catastrophes. They could be avoided if ethics were given more emphasis in Animal Welfare Education and people had profound knowledge of arguments and counterarguments (including their weaknesses), of moral psychology, and of how to set justifiable priorities.

Making rational decisions

One of the reasons for the shortcomings in Animal Welfare seems to lie in the traditional school system. In German schools at least, no paramount importance is attached to teaching values and rationally weighing arguments.

The simplest and most common way to weigh values against each other relates to cases where only one person is involved and that person weighs the values himself or herself. This person must decide what values he or she personally strives for and at what price, for example in the question of private retirement provision, where it is necessary to weigh “more quality of life today + a lower quality of life in old age” and “less quality of life today + a higher quality of life in old age” against each other and come to a decision. The situation becomes more difficult in cases where the weighing of values is done by one person for another individual, for example by a guardian. Although guardians put themselves in the position of the person affected, ultimately they can scarcely help applying their own standards and priorities. This form of weighing is experienced, for example, by keepers of companion animals who have to choose between various options in veterinary medicine. It is more difficult still to weigh values where the costs and benefits relate to different persons, for example a decision on how to keep farm animals or a review of the ethical defensibility of planned animal experiments.

Traditionally, schools are designed to convey knowledge about facts and have examinations with clear results. There is little freedom for pupils to learn how to reason and make decisions based on rational considerations, for example on Animal Welfare. One reason for this shortcoming might be that it is easier or simpler for teachers to teach factual knowledge and set exercises without reference to values. The training of our sense of justice in particular, which is clearly not very welcome, is governed by complex rules and frequently takes place outside of school (for example, as learning by participating in sports: here, the advantages of fair play are not studied, but rather are experienced). Practising making rational decisions inevitably requires us to set priorities (that is, to give values different levels of importance) and justify them. If such practice takes place in school classes, in further training courses or in university seminars, it is almost inevitable that teachers or lecturers reveal their personal convictions, and they may even have to justify them. Many teachers are uncomfortable with this, especially if the teaching situation is such that this openness will not be greatly valued.

Conclusion

In conclusion, I would like to briefly sketch some thoughts on attempts to improve the situation – although without claiming that the solution to these problems is imminent. In the interest of society, it appears to be beneficial to encourage the general need for justice without thematic restrictions. For this purpose, the primary pedagogical approach should be to draw on people’s own experiences of unjust treatment. Triggering specific experiences of injustice from examples of the treatment of others, for example by depicting the Animal Welfare aspects of stray animals, laboratory animals, battery hens, or whales, often seems not to result in a general tendency to assume more responsibility as a citizen. The problem of justifying the deliberate infliction of suffering in the course of teaching people to be fully rounded moral subjects can be avoided by drawing on the experiences of injustice that individuals have already had. In particular cases, this will need to be preceded by carefully transforming specific painful experiences into a sense of injustice by a process of “catalysis”, for suffering that is perceived as fated does not result in a sense of injustice. Animal Welfare Education provided to groups can only draw on facts which are generally seen as unjust (such as apartheid, slavery, women’s lack of rights, etc.). For the most part, the problem of deliberately triggered experiences of injustice can be overcome by separating Animal Welfare Education (as a part of ethics instruction) from informing the population of deficits in the keeping and use of animals. Political activities to promote public transparency on the use of animals make it possible for Animal Welfare Education to be active without presenting shocking facts. It appears education on responsibility and putting this responsibility into practice towards others, including animals, can draw on experiences of injustice that are long past. It is therefore not necessary to deliberately trigger these experiences in the course of Animal

Welfare Education. It would be possible to efficiently raise the ethical level of the discussion on Animal Welfare if every interested person – I am thinking of school pupils, students, undergraduates, and postgraduates, but also of journalists, politicians and other interested citizens – were enabled, in a didactically appealing form and in as short a time as possible, to obtain information in the most targeted and most complete manner possible. This job could be done by an animal ethics internet portal. An animal ethics portal supplied with up-to-date scientific knowledge could be expected to make the ongoing public debate on Animal Welfare topics more objective, to constructively enrich it and bring a satisfactory and responsible solution closer. Finally, it should not be forgotten that Animal Welfare lecturers should be psychologically trained for conducting discussions on the ethically correct setting of priorities (values) and defending their justification. Without psychological training, the lecturers may be expected to avoid exercises on the justified weighing of interests (both now and in future).

Animal Welfare Education could offer the opportunity for a small paradigm shift in school policy, in that more space in the curriculum would be devoted to value decisions which are to be rationally explained and justified. It does not appear to be completely utopian to connect this with the hope of making a substantial contribution to the public debate on the loss of values in society.

ABSTRACT

WHY DOESN'T EVERYONE FEEL RESPONSIBLE? – ETHICAL ASPECTS

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After almost ten years' experience in teaching the principle of Animal Welfare to university students of various faculties (particularly veterinary medicine, but also biology and law), and to a lesser extent to school pupils of various ages and school types, to Animal Welfare officers at research establishments, to laboratory animal scientists, and to pest control technicians as part of their training, the author presents for discussion some hypotheses on the difficulties of Animal Welfare Education.

1. Nobody will accept responsibility for others unless he or she has already experienced injustice. Paradoxically, it appears that the experience of injustice is a vital requirement if humans are to assume responsibility.
2. Deliberately caused experiences of injustice are possibly the greatest problem of Animal Welfare Education, because of the associated infliction of suffering.
3. Both the public discussion and the discussion between Animal Welfare experts to find ways of improving Animal Welfare reflect a very low ethical level. Where ethical arguments and discussions are disregarded, then, at the latest, it results in serious setbacks and problems in proposed minimum standards within political debates. They could be avoided if ethics were given more emphasis in Animal Welfare Education and people had profound knowledge of arguments and counterarguments (including their weaknesses), of moral psychology, and of how to set justifiable priorities. It would be possible to efficiently raise the ethical level of the discussion on Animal Welfare if every interested person – school pupils, students, undergraduates, and postgraduates, but also journalists, politicians, and other interested citizens – were enabled, in a didactically appealing form and in as short a time as possible, to obtain ethics information in the most targeted and most complete manner possible. This job could be done by an animal ethics internet portal. An animal ethics portal supplied with up-to-date scientific knowledge could be expected to make the ongoing public debate on Animal Welfare topics more objective, to constructively enrich it, and to bring a satisfactory and responsible solution closer.

CHAPTER 2

METHODOLOGIES FOR TEACHING ANIMAL WELFARE

THE ROLE OF THE OIE IN ANIMAL WELFARE AND EDUCATION

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Keywords: Animal Welfare, International Standards, Regional Implementation, Veterinary Education, Performance of Veterinary Services, Twinning

The OIE – a unique global intergovernmental organisation

The need to control and prevent serious trans-boundary animal diseases led to the creation of the Office International des Epizooties (OIE) by an international agreement signed on January 25th, 1924. In May 2003, the name of the organisation was changed to the World Organisation for Animal Health, but the acronym OIE was maintained. The current mandate of the OIE is 'Improving Animal Health and Welfare Worldwide'.

The OIE has 176 Member Countries and 11 regional and sub-regional offices on the five continents: Europe; the Americas; the Middle East; Asia, the Far East and Oceania; and Africa. The OIE maintains permanent relations with 36 other international and regional organisations.

The OIE develops and publishes two types of international health standards for animals and animal products – trade standards and biological standards. These standards are developed through elected specialist commissions and are adopted by the World Assembly of National Delegates at the annual OIE General Session. The four publications containing the OIE standards are: the Terrestrial Animal Health Code (the Terrestrial Code), the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, the Aquatic Animal Health Code (the Aquatic Code) and the Manual of Diagnostic Tests for Aquatic Animals. In addition to the formally adopted standards, the OIE publishes guidelines and recommendations, which may be found on the OIE internet site (www.oie.int) and a wide range of scientific and technical publications.

The World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) came into force with the establishment of the World Trade Organization on 1 January 1995. The SPS Agreement concerns the application of trade measures for the protection of human, animal, and plant health. It identifies the three standard-setting organisations (also referred to as 'the three sisters') that are responsible for the elaboration of relevant standards, i.e. the World Organisation for Animal Health (OIE), the International Plant Protection Convention (IPPC) and the Codex Alimentarius Commission (CAC). The SPS Agreement recognises the standards, guidelines, and recommendations of the OIE with respect to animal health, including zoonoses. The SPS Agreement does not, at this time, cover Animal Welfare.

The OIE global Animal Welfare initiative

In response to the mandate granted by Members, the OIE included Animal Welfare in its 3rd strategic plan (2001–2005) and commenced a global Animal Welfare initiative. In 2002, the OIE established a permanent Animal Welfare Working Group to develop the global Animal Welfare work programme. To date, the World Assembly of OIE Delegates has adopted General Principles for Animal Welfare (including the internationally recognised 'five freedoms' and the 'three R's'): seven Animal Welfare chapters of standards in the OIE Terrestrial Code, and two Animal Welfare chapters of standards in the OIE Aquatic Code. Notwithstanding this good progress, there are still many challenges, notably in encouraging Members to implement the standards. The OIE continues to progress the development of standards and recommendations relevant to global Animal Welfare priorities.

Although the OIE does not have a policing role, it takes steps to promote the implementation of OIE Animal Welfare standards in various ways. Notably, the procedures for the development of OIE standards are transparent and democratic, involving a decision by the OIE National Delegates meeting in plenary at the annual Gen-

eral Session. Decisions may be the subject of a formal vote, but normally standards are adopted by consensus. These procedures support the adoption of standards that are practical and feasible, which helps to encourage countries to implement them.

The OIE has called on all Members to appoint focal points (under the direction of the National Delegate) in key areas, including Animal Welfare to help the National Delegate fulfil his/her role in relation to the country's OIE membership. On a regional basis, the OIE organises training seminars for focal points, including those for Animal Welfare, providing information on the standards and identifying strategies to support implementation, including at the regional level. The OIE also promotes the development of regional Animal Welfare strategies to facilitate the implementation of global Animal Welfare standards. The first regional Animal Welfare strategy in the region of Asia, the Far East, and the Pacific was adopted in 2010.

In 2010, National Delegates also agreed to include a new critical competency on Animal Welfare in the OIE Tool for the Evaluation of Performance Veterinary Services (OIE PVS Tool). The PVS Pathway is used to help OIE Members improve the performance of Veterinary Services, evaluated against the standards contained in the Terrestrial Code, Section 3.

In summary, the OIE does not 'police' compliance with standards, whether these cover animal health or Animal Welfare. Rather, the OIE adopts procedures and mechanisms, including appropriate investments to promote the implementation of its global standards and those for Animal Welfare, by Members.

The OIE veterinary education initiative

Improving public health and fighting poverty globally requires the knowledge and skill-set of veterinarians, as well as human medical expertise. In all countries, it includes the role of the National Veterinary Services – that is, public and private sector veterinarians – to implement measures for animal health and welfare and veterinary public health, including safeguarding the environment. The OIE supports National Veterinary Services to meet the international standards in the OIE Terrestrial Code by following the OIE PVS Pathway. In this framework, OIE standards recognise the key role played by the National Veterinary Statutory Bodies as the institutions responsible for, inter alia, guaranteeing the appropriate level of involvement and quality of veterinarians and veterinary para-veterinarians in national animal health systems.

The conduct of evaluations using the OIE PVS Tool highlighted the need for improving the quality of professional education globally and to enable veterinarians to make a stronger contribution to the objectives of governments in the field of animal health, welfare, and veterinary public health.

In 2009, the OIE undertook two important steps to address this finding. The first was the publication of a special edition of the OIE Scientific and Technical Review dedicated to the improvement of student education in global animal and public health. The review contains 49 papers, which address all aspects of veterinary professional training, irrespective of the graduate's intended career path and whether or not he or she works in the field of veterinary public health. Details of this publication may be found at: http://www.oie.int/boutique/index.php?page=ficprod&id_produit=740&lang=en&PHPSESSID=c8716df145f6d2aa400eebb1ab61abd0.

On 12–14 October 2009, the OIE held the first global conference on Veterinary Education 'Evolving veterinary education for a safer world' (Paris, France). More than 400 Deans and Directors of veterinary training institutions and key national veterinary education policy makers attended this landmark event. The recommendations of the conference may be found at: http://www.oie.int/eng/A_DEANS2009/DEANS-PRESENTATION.html.

At the conference, gaps and needs for improving veterinary teaching in some 80% of veterinary education establishments (VEE) globally were identified and discussed. Participants agreed that, to prevent and control

diseases globally, all veterinarians worldwide must receive more education, including continuing professional education, which enables them to make a stronger contribution to the quality and performance of National Veterinary Services. It is well-recognised that the veterinary curriculum should provide competence in scientific and technical domains. In addition, as veterinarians contribute in various ways to the delivery of national animal health systems, the VEEs should also provide a level of awareness and appreciation of the mechanisms of animal health governance at both the national level (e.g. legislation, chain of command, early detection and rapid response, biosecurity, compensation mechanisms financial management, communication) and the international level (e.g. knowledge of international standards and the implications of serious trans-boundary diseases for animal health, public health, and trade).

In response to recommendations of the global conference on Veterinary Education, the OIE convened an ad hoc expert group on Veterinary Education, including Veterinary Deans from all five OIE regions and the World Veterinary Association. The first task of the ad hoc group was to develop a list of day-1 competencies needed by veterinary graduates to meet the objectives of national veterinary services. The group held its first meeting in June 2010 and will hold hopefully its second and third meetings in December 2010 and February 2011, respectively.

The OIE expects to present the recommendations of the ad hoc group to the relevant Commission and then to the World Assembly of OIE Delegates at the 79th General Session of the OIE on 22–27 May, 2011.

Notably, this is just the first step in a complex field of activity. The challenge facing the global veterinary community is to improve the quality of veterinary education worldwide, taking into account the wide variation in the socio-economic, political, and cultural characteristics of the 176 OIE Members. However, there are good prospects for making progress, because governments, educators, and the private sector generally recognise that veterinary services are a global public good and warrant significant and sustainable investment to improve animal health and welfare and veterinary public health, to safeguard the world for future generations.

Finally, it is important to note that OIE standards are developed for application by all its Member Countries and this makes it imperative that all Member Countries contribute to the setting of standards and also be able to debate these standards from a scientific point of view, when necessary. It is therefore important to recognise that developing and in-transition countries need a veterinary scientific community to be able to partake in the preparation of standards. To this end, a twinning concept, already used among laboratories, will be created for national veterinary statutory bodies and veterinary authorities to enable developing and in-transition countries to become scientifically competent to debate on an equal footing within the scientific justification for standards.

ABSTRACT
THE ROLE OF THE OIE IN ANIMAL WELFARE AND EDUCATION

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Animal health is an essential component of Animal Welfare. In the absence of a global normative framework for Animal Welfare and at the request of its Members, the World Organisation for Animal Health (OIE) started a global Animal Welfare initiative in 2002, including the development of the first global Animal Welfare standards. General principles (including the internationally recognised ‘five freedoms’ and the ‘three R’s’) and nine Animal Welfare chapters of standards have been adopted to date. All are based on science, which is the unique common denominator for the 176 Members of the OIE.

To improve animal health and welfare and veterinary public health, the global veterinary community faces an important challenge: to improve the quality of veterinary education worldwide. This is a complex area of work, as it is necessary to take into account the wide variation in socio-economic, political, and cultural characteristics of the 176 OIE Members. However, there are good prospects for making progress, because governments, educators, and the private sector generally recognise that veterinary services, including both public and private sector veterinarians, are a global public good and warrant significant and sustainable investment to improve animal health, welfare, and veterinary public health, to safeguard the world for future generations.

LIFELONG LEARNING ON ANIMAL WELFARE: STRATEGIES, GOALS, AND MEANS FOR OFFICIAL VETERINARIANS

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Summary

In 2007, Istituto "G. Caporale" became Animal Welfare training service provider of the European Commission in the framework of the "Better Training for Safer Food" (BTSF) programme. Over four years, it has provided 10 European training courses to over 500 official veterinarians from both Member States and third countries. This opportunity was used to investigate new Animal Welfare learning pathways, strengthen and empower a world-wide network of expertise, compare different EU centred approaches and integrate them with the OIE and FAO perspective, to develop new curricula, and spread knowledge and competences which activate cascade training processes leading to new perspectives and opportunities. This paper reports on the major outcomes of the ongoing experience and also explores the immediate and short-term opportunities to organise training outcomes to generate new knowledge, as well as to share the expertise accumulated in an international perspective.

Keywords: Animal Welfare, lifelong learning, eLearning, transport and related operations, stunning, slaughtering and killing, veterinary emergency

Introduction

Training is considered strategic in implementing Animal Welfare standards. The World Organisation for Animal Health (OIE) approved international Animal Welfare standards based on scientific principles and is promoting their application worldwide. The European Commission (EC) urges member countries to improve official controls and to increase stakeholder responsibilities toward the welfare of animals in each stage of their lives. In the most recent European Regulations (3, 4), training is mandatory to authorise professionals to handle animals during transport and related operations (such as the handling of animals in control posts or at their final destination), as well as at the time of killing. The new European Union regulation adopted a new approach to Animal Welfare during slaughter that envisages the use of standard operation procedures and the appointment of an Animal Welfare officer supervising slaughter operations to ensure that adequate and reliable welfare standards are in force.

The "EU Action Plan on the Protection and Welfare of Animals 2006–2010" (1) systematises in a strategic document all European initiatives on Animal Welfare considered as an inter-sectoral discipline sustainable through international scientific partnerships. Two out of five actions defined are dedicated to promote increased awareness and greater consensus on Animal Welfare at all levels.

The OIE adopted standards on Animal Welfare at the time of slaughter for human consumption and killing for disease control purposes, land and sea transport (2), and it is developing specific standards on Animal Welfare in different production systems: all standards include training as a strategic means for their implementation. The FAO is sustaining the capacity building process on good Animal Welfare practices in developing countries using, as main tool, a web portal, the gateway to farm Animal Welfare, designed as a broad repository of information generated by a number of internal and external collaborators on scientific literature, projects, standards, training, etc. (www.fao.org/ag/animalwelfare.html).

More recent orientations led the European Union to evaluate the future possibility of assuming responsibility for the protection of companion animals, as a consequence not only of their impact on veterinary public

health, but also in the great interest of European citizens on this issue. The OIE has recently produced recommendations on stray dog population control and on the welfare of animals used for research and education (2). The FAO has also launched an electronic consultation on dog population management options, with special emphasis on Animal Welfare and health.

Another area of increasing interest for the European Commission and international organisations from an Animal Welfare perspective is the management of non-epidemic emergencies, such as natural or human induced disasters, in which animals are to be rescued, cared for, managed for health and/or epidemic risks, or, in some cases, killed. Training represents, in this as in all other cases, a reliable tool to enhance veterinary service awareness, as well as preparedness to provide an appropriate response in emergency situations.

Over the last two decades, Istituto “G. Caporale” from Teramo, Italy – OIE Collaborating Centre for Veterinary Training, Epidemiology, Food Safety and Animal Welfare – has consistently invested on testing innovative training methods, developing learning programmes, and validating training management models able to respond to the ever-changing and constantly increasing demand for veterinary training at an international level, mainly focussing on official veterinary services. Animal Welfare is one of the main focal points of interest, aimed at satisfying not only the assessed and known learning demand by official veterinarians, but also trying to address solutions to anticipate future needs.

This paper describes the current experience of the Istituto “G. Caporale” on Animal Welfare training and the present and future challenges to transform the expertise acquired into knowledge management systems for the stakeholder community, with specific reference to official veterinarians.

Training courses on Animal Welfare in the framework of the european commission “Better training for safer food” initiative

In 2006, Istituto “G. Caporale” decided to apply for the European Commission “Better Training for Safer Food” (BTSF) call on the provision of training services in the field of Animal Welfare. It has organised 8 training courses (9 by the end of 2010), since now attended by over 500 official veterinarians from Member States and third countries (600 by the end of 2010). The BTSF programme is dedicated to all Member State staff of competent authorities involved in official control activities, so as to keep them up-to-date with all aspects of Community law and ensure that controls are carried out in a more uniform, objective, and adequate manner, but it is also open to third country participation. Courses on Animal Welfare are followed, in particular, by official veterinarians from Countries of the Mediterranean basin, North and South America, and Oceania, some of them having specific bilateral trade agreements with the EC (Figure 1).

Training programmes were quite broad in scope at the beginning (e.g. stunning, slaughtering and killing, transport), but they became more and more specialised as time passed, with the objective of providing advanced knowledge and expertise as learners became more qualified and demanding. The 2010, training plan, in fact, proposed one course on transport and related operations focussing on the changing role of official veterinarians in performing controls that are ever more technologically based, one course on EU standards in stunning and slaughtering, one course on religious rites, and one course dedicated to Animal Welfare at the time of killing for disease control purposes and in disaster situations. The improvement of the training offer is showed in Figures 2 and 3, where the overall course evaluation of both participants and tutors and the achievement of learning objectives respectively are reported.

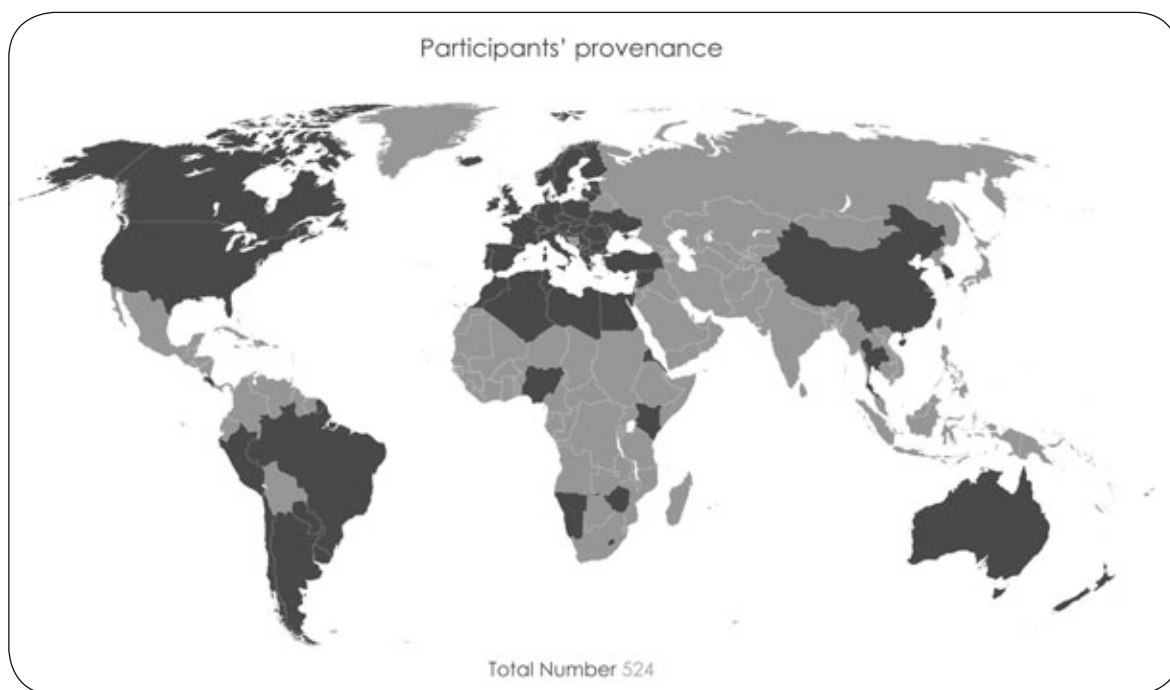


Figure 1. Participants' provenance

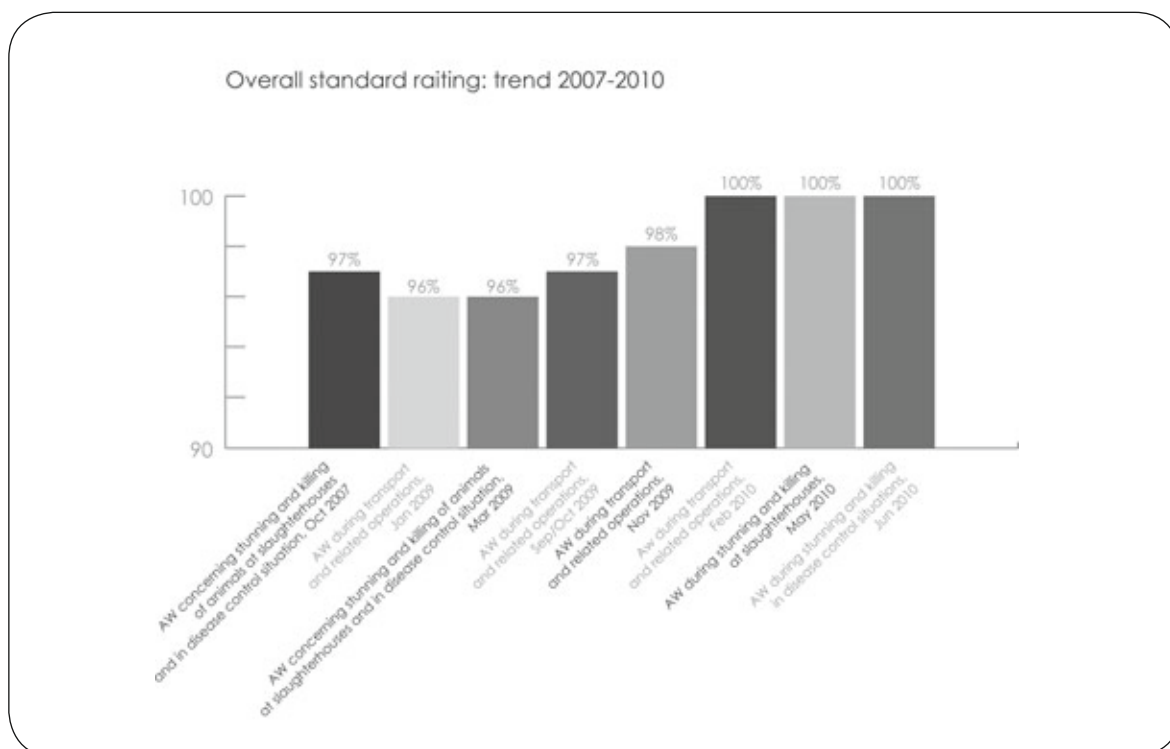


Figure 2. Overall standard rating: trend 2007-2010

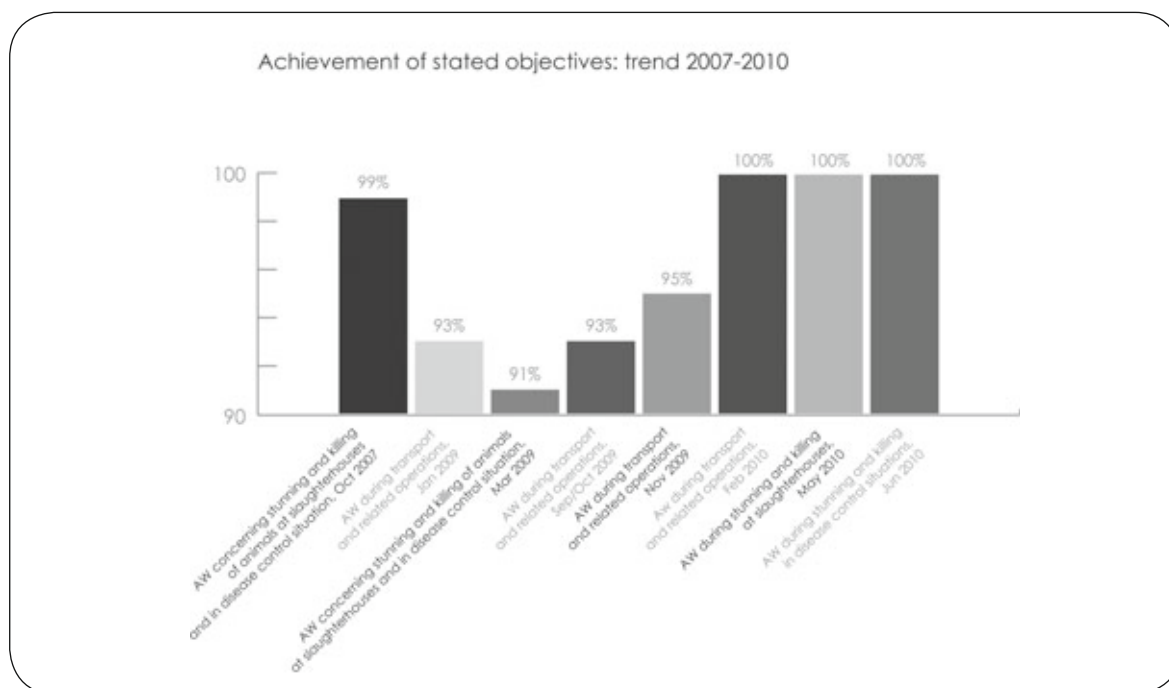


Figure 3. Achievement of stated objectives: trend 2007–2010

The Istituto “G. Caporale”’s institutional goal in providing training services to the European Commission was not merely to become a training provider, but to seize the opportunity to investigate new learning pathways on Animal Welfare, strengthen and empower a worldwide network of expertise, compare different EU centred approaches and integrate them with the OIE and also FAO perspective, develop new curricula, spread knowledge and competences activating cascade training processes, and develop new sustainable approaches to allow reaching significant numbers of various stakeholders.

In the quest to be competitive in the European framework and try to satisfy its customs in terms of training quality, the Institute has invested consistently in the training management system, based on ISO 9001:2000 norms. The continuous improvement of organisation efficiency and effectiveness is due to a constant quest for innovation related to both methods and technology, as well as for the technical-scientific excellence of the educational content. In SANCO courses on Animal Welfare, this process focussed on the entire training process, from the assessment of learning need, to course planning, implementation, and evaluation.

Assessment of learning needs

Need assessment is controlled through a circular process involving different stakeholders and tools. A constant and interactive exchange of views and the dynamic assessment of ongoing experiences carried out in close connection with the Animal Welfare Unit of the DG SANCO allow monitoring Commission expectations in terms of learning outcomes and long-term benefits derived from training. This dialog facilitates, in particular, programme finalisation, networking, flexibility. The practical approach characterising the courses takes into account both the cultural dimension (e.g. religious slaughter) and need to improve the management skills of beneficiaries (e.g. transport, depopulation, etc.). An effective contribution to learning need assessment is provided by the Commission Food and Veterinary Office, whose veterinary inspectors are always present during course presentation. Their feedback before and after the courses are essential to both improve the courses and

offer continuous learning opportunities to official veterinarians . All courses have tutors who are involved in the evaluation process intended as a preliminary, ongoing, and final assessment of coherence between learning objectives and course content. Last, but not least, beneficiaries are encouraged to contribute to course improvement before and after its delivery (for this specific task, a web-based application was implemented to collect expectations, need, practical interests, and concrete involvement in course activities critical to make the course actions fit the specific expressed need). The coherence between the defined participant profile and the applicant's professional background and current position is relevant to satisfy the assessed need.

Course planning and implementation

This step is critical for the course success and is managed through a combination of in-house and outsourced scientific, technical, and managerial expertise, to achieve the established quality goals. A team of worldwide experts representing not only several geographical regions, but also different stakeholders involved in Animal Welfare, was built over several years and is being increased constantly. The team is made of scientists, researchers, operators, and officials from several national competent authorities, universities, research institutions, international organisations, training providers, NGOs, food business operators. Through their expertise, the selected team members can guarantee the scientific quality of training projects, their relevance and significance to the national competent authorities and stakeholders involved, as well as the ability to meet expectations. The broad background, the different areas of expertise, and various perspectives that these experts represent guarantee that Animal Welfare is approached not only in compliance with European Union policy, but also with reference to international standards.

Tutor recruitment is carried out using a validated procedure aiming to assess not only scientific background, but also training experience, communication skills, ability to develop and manage group activities (e.g. discussions and case-studies), in-field simulation exercises, and wrap-up sessions.

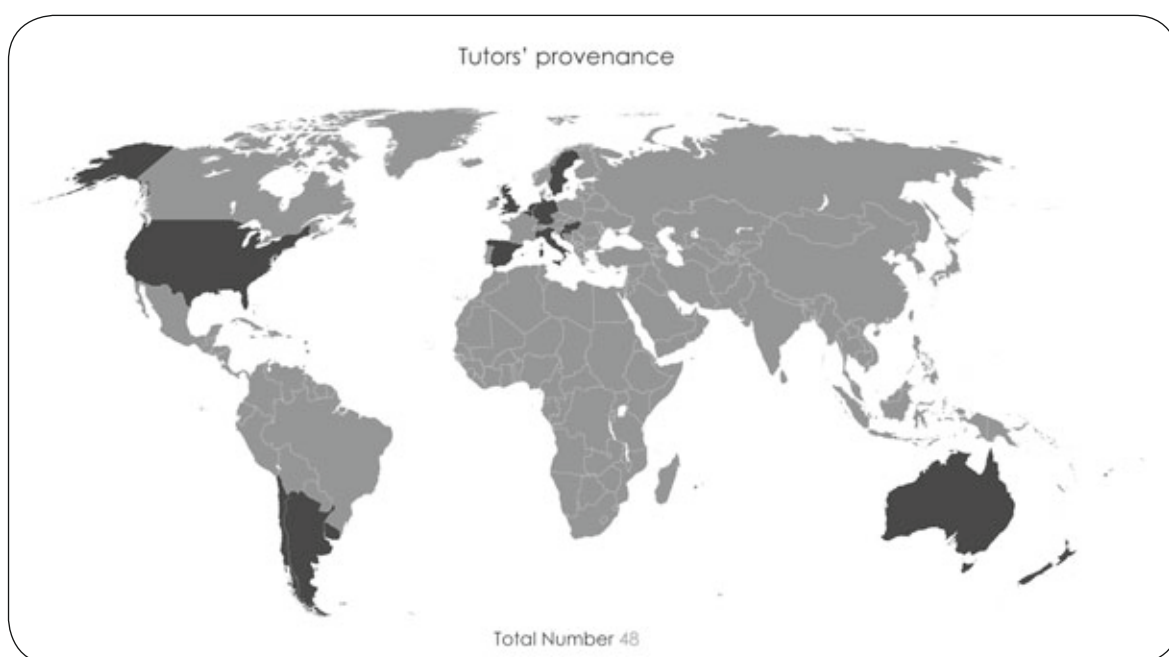


Figure 4. Tutors' provenance

About 50 tutors collaborated on these courses, representing European states and third countries. The role of Istituto “G. Caporale” as OIE Collaborating Centre (CC) facilitated the involvement of the other OIE CCs, and amplified the networking opportunities. Figures 4 shows tutor provenance.

Specific attention is given to the choice of tutors to assure a proper balance in relation to their background (Figure 5). A varied outlook is essential to guarantee consistency between learning objectives and course content. The latter must provide a proper scientific and legal basis (e.g. university/research institution and national competent authority, respectively), as well as solution-oriented applications (e.g. university/research institution), stakeholders’ perspectives (e.g. NGOs, business operators, etc.), and a broader international view (e.g. OIE Collaborating centres).

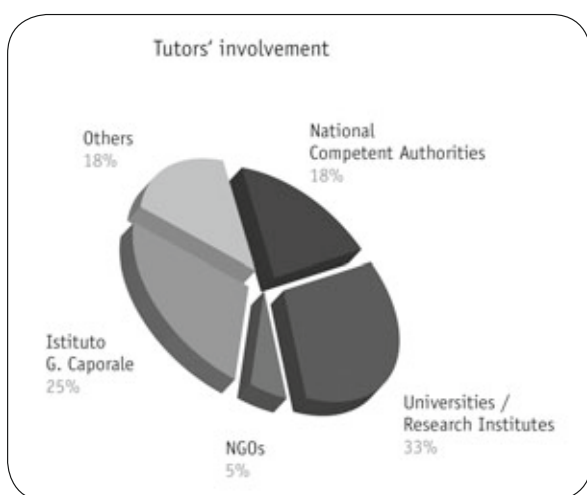


Figure 5. Tutors' involvement

The involvement of European Commission experts and presence of International Organisations (OIE and FAO) is shown in Figure 6.

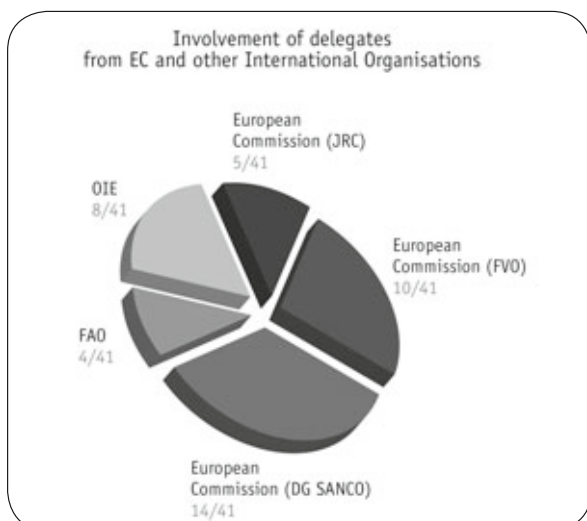


Figure 6. Involvement of delegates from EC and international organisations

The tutor team manager and methodological coordinator make sure that the most appropriate training methods are used. They produce the training project and confirm it with the course's scientific coordinator. They must also identify and recruit tutors, coordinate tutor activities, address indications on exercise preparation and delivery, monitor course delivery, perform the final evaluation and analyse the data collected, verify their outputs with established indicators, define improvement recommendations, and report the results to the Commission.

The tutor team manager and methodological and scientific coordinators usually attend a preparatory mission in the country where the course is being delivered to strengthen relationships with local National Competent Authorities and to verify the appropriateness of the sites provided for field simulation exercises.

Course delivery

Courses are carried out in different countries (Croatia, Hungary, Italy, Sweden, Turkey, and the local National Competent Authorities at central and local level collaborate actively in their implementation. Proper facilities are chosen for field simulation exercises (i.e.: farms, slaughter plants, control posts, etc.) in which participants are required to perform a guided, simulated official control prepared in a preliminary class activity with competent tutors monitoring the process. This exercise strongly influences the overall participant assessment, since it represents the immediate opportunity to practise lessons learned. The availability of professional operators is fundamental for this specific activity. Figure 7 shows a field exercise at "La posta" Control Post (Bettona, Perugia, Italy) during a course on transport and related operations.



Figure 7. "La posta" Control Post, Bettona, Italy

Another valuable element is the immediate involvement of participants in group exercises, starting from the opening session. The improvement of course quality – as perceived by tutors and participants (Fig. 2) – is probably also due to the progressive increase of group exercises, which are considered critical to course effectiveness. After the first two courses, in which both the legal and scientific basis were broadly dealt with, limiting the possibility to leave the floor to group discussions, the course plans were redesigned through reducing lectures and increasing group exercises. Specific case studies are now prepared which are shared in tutor briefings to harmonise the approach to group management and delivered during the course sessions. A group chairman and a rapporteur are chosen by each group, which is facilitated by a tutor. Discussions must lead to harmonised and shared solutions, to ultimately be reported in a plenary session. The outcomes of these exercises become an integral part of the course training materials and increase the odds that lessons learned are applied in daily working life, since they strictly concern real and concrete problems.

Evaluation

Proper methods, tools, and techniques support and control the quality of output during course implementation and delivery, with the aim of assuring the achievement of project goals at all stages.

The evaluation process is focussed on the assessment of the following:

- coherence of the project with the European Commission objectives;
- beneficiary involvement in the planning process;
- clear statement of learning objectives in terms of benefits to target groups and their measurability;
- factors affecting sustainability, addressed as part of the project design;
- use of results from evaluation to build lessons learned into the design of future training projects.

Project monitoring is an integral part of the daily management of the training course, because it provides the information by which the project manager can identify and solve implementation problems and assess progress in relation to the original plan. The flow of information is assured by quality indicators able to evaluate the training courses in terms of efficiency and efficacy. Specific indicators and tools for data collection (questionnaires) are designed to measure satisfaction indexes for:

- technical performance;
- contents;
- communication;
- organisation;
- project management performance
- working methods and tools adopted;
- relationships among participants and among participants and tutors.

The management system developed over the years represents a model continuously assessed and validated and can be applied to any situation in which training results are to be guaranteed, as well as assessed and measured.

Spreading knowledge and expertise

The 2007–2010 training courses on Animal Welfare delivered on behalf of DG SANCO represent a considerable source of information, references, practical exercises, images, networking. All documents (from learning projects, to training materials and exercises) produced in the process of training courses' planning and implementation are available and can be downloaded freely (www.sancotraining.izs.it). A new web site is under construction at present and will increase the reusability of courses through interactive spaces and events and a research engine

that can provide materials, exercises, and guidelines, indexed by subject (e.g. animal species, or life phase, etc.). eLearning tools focussing mainly on transport and related operations will be also available.

The empowerment of the website developed by Istituto “G. Caporale” to manage SANCO courses on Animal Welfare and its transformation into a knowledge management tool is intended as part of the fulfillment of the Institute mandate to produce and spread knowledge and provide added value to the experience acquired in the delivery of Animal Welfare training courses using traditional methods. The latter ones have budget and time constraints that limit access to a relatively restricted number of beneficiaries. The use of innovative tools to deliver lifelong education to wider numbers is in line with the most recent tendencies of training delivery to public officers. The use of up-to-date information and communication technologies (ICT) makes it possible to deliver relatively low-cost standardised information and knowledge to a large number of participants as compared to traditional education methods. It also provides a wider opportunity to plan educational pathways designed specifically according to the requirements and practical need of the beneficiaries. New technology and eLearning methods facilitate access to tools and resources capable of stimulating practical skill acquisition, as well as of increasing cooperation (e.g. distance, language barriers, etc.) in a context where the simple delivery of knowledge is not sufficient.

Other areas to strengthen veterinary training on Animal Welfare issues: companion animals

The networking implemented through BTSF courses has also facilitated constant and continuous monitoring of European and international policies on Animal Welfare, allowing timely knowledge on their orientations and changes. The increasing awareness of both EU and international organisations on other areas in which Animal Welfare plays a strategic role – such as human-animal interactions in urban areas, the management of canine populations, and of non-epidemic emergencies – was anticipated by Istituto “G. Caporale”, which has been engaged for more than two decades in these specific fields by investing in research, methods development, and training. A number of projects, in fact, are being carried out with the purpose of providing the international community with practical tools, operating services, and training opportunities, often based on the new information and communication technologies delivered through the web.

CAROdog (Companion Animal Responsible Ownership – dog) is, e.g., an innovative tool for canine population knowledge management leading to responsible dog ownership. It is being developed with “Vier Pfoten International”, an Animal Welfare organisation headquartered in Austria, with offices in seven European Member States and representation in Brussels. It is a practical information system for policy makers, veterinarians, law professionals, scientists, teachers, economists, business operators, breeders, and citizens, and is being developed with the purpose of providing, generating, and disseminating reliable science-based knowledge on dogs in Europe, focussing on canine overpopulation and, in consequence, on all resulting Animal Welfare problems linked to it. The main vehicle of this spread of knowledge is a website developed not only as a repository, but able to generate new knowledge through the contribution of all interested stakeholders and through web-based services, such as discussion forum, web conferencing, and other interactive means.

After the first release of the website, collaborative learning initiatives will be developed using the specific methodologies adopted for this purpose, as well as technologies, such web seminar software, to activate multidisciplinary and specialist training tools in Europe.

Veterinary response to non epidemic emergencies and Animal Welfare

After the earthquake in L'Aquila (Italy) in April 2009, Istituto “G. Caporale” was significantly involved in its emergency management, providing a fast and appropriate response to the management of veterinary aspects connected with that emergency. Companion animal health and welfare, large animal health and welfare, and food safety were the areas in which the coordinated response was organised with the purpose of addressing all

finalized initiatives that guaranteed surveillance in veterinary public health, ensured professional and logistic support, and saw to the timeliest return to veterinary public health system practices.

The strategies adopted were based on surveillance (to know, plan, act, and evaluate), but a lack of management procedures for non-epidemic emergencies, the absence of an institutional communication system and of a training plan, the deficiencies of information systems, as well as a poor attitude towards intersectoral cooperation represented considerable obstacles in the course of the emergency management (Caporale V. La tutela della sanità pubblica veterinaria in occasione del terremoto in Abruzzo. Primo convegno internazionale “La veterinaria nelle emergenze”. Montesilvano (Italy), April 10–11, 2010. Personal communication).

All knowledge and expertise developed by the Istituto “G. Caporale” on the veterinary response to non-epidemic emergencies is described in a monographic issue of the scientific journal “Veterinaria Italiana”: the monograph is the practical attempt to provide a systematic approach to non-epidemic emergencies and is based on the contribution of an international panel of experts. It will be the basis for the development of operative guidelines, manuals, and training tools delivered through web-based systems.

This effort is being undertaken in the belief that non-epidemic emergencies represent circumstances in which immediate response is essential and in which highly specialised competence and skills are required. A technical and managerial veterinary leadership is strongly recommended in contexts in which other professionals and volunteers are called to participate and all involved stakeholders have to share knowledge, use a common language, and adopt high management and organisation standards. It is common opinion, therefore, that the cultural bases necessary to understand the ever-changing role of veterinary public health are to be extended, while the technical expertise to face these challenges effectively and sustainably are to be strengthened.

A ready-to-use training system based on flexibility and immediate usability is being developed for non-epidemic emergencies and Animal Welfare issues will represent one of the most relevant issues (Figure 8).

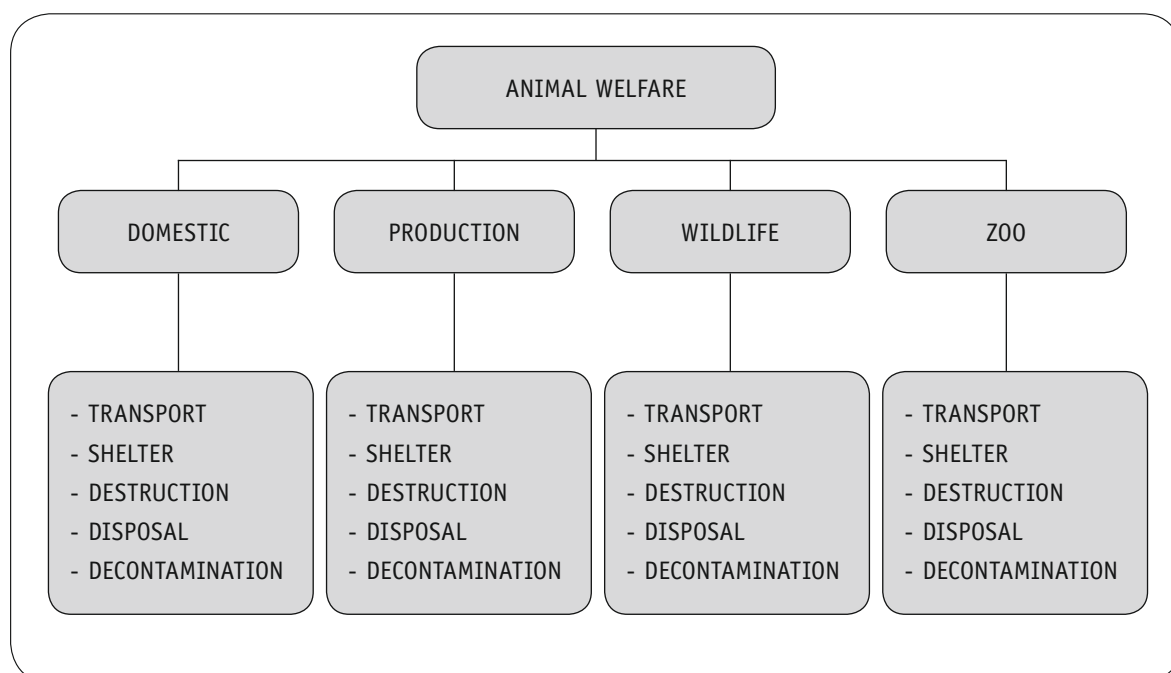


Figure 8. Animal Welfare in non-epidemic emergencies. Training scheme

Conclusions

Training on Animal Welfare is a broad field, covering a large amount of interconnected technical, cultural, and management issues.

Nowadays, all practical solutions should be adopted to enhance the spread of knowledge and sharing of expertise, not only at a European level, but worldwide. Traditional methods such as training courses, workshops, seminars, and conferences represent a unique opportunity for networking and solution sharing, but they also show a number of undeniable weaknesses that have to be taken into account when/if a broad-reaching effort must be undertaken. New technology, such as eLearning, might overcome some of these shortcomings, such as the access of limited number of final beneficiaries, logistics barriers, and costs. A combined approach to training solutions probably represents the most appropriate strategy, in which different “classical” and modern methodologies are combined.

Networking, open orientation, and enlarging the vision of all relevant stakeholders are to be considered the best goals to facilitate the development of successful training programmes.

Istituto “G. Caporale” includes in its structure a combination of technical and management expertise and plays a leadership role at the international level in the production of training courses for official veterinarians of national competent authorities on Animal Welfare issues. For these reasons, it may represent a hub in which science, a legal base, and technical expertise can meet to develop and implement an integrated approach to respond to the current and future training demands in this field.

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ABSTRACT

LIFELONG LEARNING ON ANIMAL WELFARE: STRATEGIES, GOALS, AND MEANS FOR OFFICIAL VETERINARIANS

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In 2006, Istituto “G. Caporale” decided to apply for the European Commission “Better Training for Safer Food” (BTSF) call on the provision of training services in the field of Animal Welfare; over the 4 years since, it has been providing said services to the Direction General SANCO and to over 500 official veterinarians from

Member States and third countries. The institutional goal was not merely to become a Commission training provider, but also to grasp the opportunity to investigate new learning paths on Animal Welfare, strengthen and empower the worldwide network of expertise, compare different EU centred approaches and integrate them in the OIE and FAO perspective, to develop new curricula, spread knowledge and competences, thereby activating a cascade of training processes. Animal Welfare experts in various fields from competent national authorities, universities, and research institutions, Non-Governmental Organisations, etc., with the support of SANCO officers, including veterinarians from the Food and Veterinary Office, have been working in teams of tutors, chaired by methodological experts, to provide effective training, oriented to satisfy classified learning needs of European and non-European official veterinarians. The benchmarking of produced training courses is guaranteed by a dedicated website, where all documents (from learning projects, to training materials and exercises) are available for download. The new website will enhance the reusability characteristics of the courses through interactive spaces, events, and a research engine, able to provide materials, exercises, and guidelines for use, indexed by subject (e.g. animal species, or life phase, etc.). eLearning tools will also be available.

The networking resulting from BTSF courses has also facilitated the constant and continuous monitoring of European and international policies on Animal Welfare, remaining apprised of their orientations and changes. The resulting attention EU and international organisations place on other areas in which the implementation of Animal Welfare standards is playing a strategic role (such as human-animal interactions in urban areas, the management of canine populations and of non-epidemic emergencies) was anticipated by Istituto “G. Caporale”, which is involved in these new challenges, concretely investing in research, methodology development, and training. A number of projects are being carried out with the purpose of providing the international community with practical tools, operating services, and training opportunities, often based on the new information and communication technologies and delivered through the web.

CAROdogg (Companion Animal Responsible Ownership – dog) is, e.g., an innovative tool for canine population knowledge management contributing to responsible dog ownership, being developed with “Vier Pfoten International”, an Animal Welfare Organisation, headquartered in Austria and with offices in seven European Member States and representation in Brussels. It is a practical information system for policy makers, veterinarians, law professionals, scientists, teachers, economists, business operators, breeders, and citizens, and is being developed with the purpose to provide, generate, and disseminate reliable knowledge on dogs in Europe, focussing on canine overpopulation and, in consequence, on all resulting Animal Welfare problems. The main vehicle of this spread of knowledge is a website developed not only as a repository, but also able to generate new knowledge thanks to the contribution of all interested stakeholders and through web-based services, such as discussion forum, web conferencing, and other interactive means.

All knowledge and expertise available at Istituto “G. Caporale” on veterinary response to non-epidemic emergencies is described in a monographic issue of the scientific journal “*Veterinaria Italiana*”: the monograph strives to provide a systematic approach to non-epidemic emergencies and is based on the contribution of an international panel of experts. It will be the basis for the development of operative guidelines, manuals, and training tools delivered through web-based systems.

ANIMAL WELFARE TRAINING FOR PROFESSIONAL: MOVING FROM INPUTS TO OUTCOMES

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Summary

This paper focuses on the training of professionals for the assessment of Animal Welfare on farm. The Welfare Quality® project has developed an integrated and standardised welfare assessment system for cattle, pigs and poultry based on 12 welfare principles grouped into four main criteria (good feeding, good housing, good health and appropriate behaviour) according to how they are experienced by animals. The welfare assessment protocols contain description of the measures, what data should be collected, and in what way, followed by information about the sample size and the order in which the different measures should be carried out. To standardise the implementation of the assessment protocol and achieve a high repeatability between assessors, they are required to be assessed during a robust training course until they develop a uniform scoring. Assessors are fully trained in scoring the different measures that have to be used, firstly using photographs and video clips, and then on practical field exercises on farm.

Keywords: Cattle, inputs, outcomes, pigs, poultry, training, welfare assessment, Welfare Quality®

Introduction

This paper focuses on the training of professionals for the assessment of Animal Welfare on farm, and it is largely based on the experience gained during the Welfare Quality® project. This paper has three objectives: (1) to discuss the rationale behind the assessment of farm Animal Welfare, (2) to describe the Welfare Quality® assessment protocol and (3) to discuss some methodological aspects of the training of farm Animal Welfare assessment for professionals.

Assessment of farm Animal Welfare

Animal Welfare concern is based upon the belief that animals can suffer, and has become an increasingly important issue due to the fact that citizens in many parts of the world demand that animals are reared transported and slaughtered in a humane way. Nowadays, consumer perception of food quality is not only determined by its overall nature and safety but also by the welfare status of the animals from which it is produced. In general, Animal Welfare is increasingly perceived and used as an important attribute of an overall concept of „food quality“ (5). There is also broad recognition that conditions that harm Animal Welfare can negatively affect production and damage specific quality aspects thereby jeopardizing profitability.

In Europe, legislation has been the commonest way of protecting farm Animal Welfare and ensures that animals do not endure avoidable pain, distress or suffering, and obliging the owner or any other persons dealing with animals to respect minimum welfare requirements. There is currently a range of EU Directives and Regulations specifying requirements, conditions and practices to ensure good Animal Welfare for different species. These cover areas such as animal housing and management, transport and slaughter. Legislation at Community level is primarily founded on the EC Treaty's Protocol on Protection and Welfare of Animals that recognises animals as “sentient beings” and requires that full regard is paid to their welfare requirements in formulating and implementing the Community's policies. In 2006, the European Commission adopted an action plan on the Protection and Welfare of Animals that sets out, through 5 main areas of action, the path to take in order to ensure continuing improvement in Animal Welfare in the coming years (7). The Action plan proposes to continue with the development of the existing legislation as a cornerstone of the policy and that any initiative

will be based on the best available scientific advice, taking into account public expectations, socio-economic consequences and trade concerns.

Furthermore, one of the key messages of the Action Plan is that this approach should be complemented by initiatives to improve consumer information and awareness. In fact, informed consumers can support with their purchasing behaviour the development of sustainable farming practices. A recent survey in Europe showed that more than 63% of the 29,152 interviewed persons in the 25 member states of the European Union and 4 candidate countries show some willingness to change their usual place of shopping in order to be able to purchase more Animal Welfare friendly products (9). However, in a previous survey (8), 54% of the responders said that they had difficulties in finding adequate information on the Animal Welfare standards applied in producing food.

To solve this lack of information, the Action Plan suggests introducing improved marketing, labelling and communication strategies in order to meet this goal. The Action Plan foresees a classification system for Animal Welfare practices, to differentiate between systems where minimum standards are applied, and cases where even higher standards are used. It also foresees setting up standardised indicators whereby production systems which apply higher Animal Welfare standards than the minimum standards get due recognition.

Producers, retailers and other food chain actors increasingly recognize that consumer concerns for good Animal Welfare represent a business opportunity that could be profitably incorporated in their commercial strategies (14). Also, the International Financing Corporation (IFC, World Bank Group) has recognised that “Animal Welfare is gaining increased recognition as an important element of commercial livestock operations around the world”. According to the IFC, high standards of Animal Welfare are important to enhance business efficiency and profitability, to meet consumer expectations and to satisfy domestic and international markets (11).

Regulating Animal Welfare by way of the market offers some farmers the opportunity for distinction in the market, and therefore to obtain an added value to their products. Therefore, during the last decade, numerous trade groups (producers, processors, retailers and restaurant chains) have developed certification systems with their suppliers which include elements of Animal Welfare. However, there is no common standard for assessing Animal Welfare and for providing consumers with the relevant information. Nowadays, consumers are unclear about what different assurance schemes and labels actually say about the quality of the animals’ lives. There is a clear need for the harmonised, comprehensive and reliable welfare assessment and product information systems. The establishment of an EU label for Animal Welfare is becoming an option to be investigated in the near future which could promote products elaborated under high welfare standards thus facilitating the choice of the consumers between products obtained with basic welfare standards (the minimum standards laid down in EU legislation) or with higher standards (contained in voluntary codes of practice or Member States’ legislation going beyond EU minimum rules).

Welfare Quality® assessment

Welfare Quality® (www.welfarequality.net) is an integrated research project co-financed by the European Commission within the sixth framework programme, which run from May 2004 to December 2009. One of its main objectives was to develop an integrated and standardised welfare assessment system for cattle, pigs and poultry from farm to slaughter. In the project, considerable effort was focussed on analysing and addressing the perceptions and concerns of consumers, retailers and producers about Animal Welfare. Therefore, the standards for on-farm welfare assessment and information systems are based upon consumer demands, the marketing requirements of retailers and stringent scientific validation, with the objective to link informed animal product consumption to animal husbandry practices on the farm. The project is based on the assessment of 12 welfare criteria grouped into four main principles (good feeding, good housing, good health and appropriate behaviour) according to how they are experienced by animals (1, 2). The principles and criteria

reflect what is meaningful to animals as understood by Animal Welfare science. Good feeding includes absence of prolonged hunger and absence of prolonged thirst; good housing includes comfort around resting, thermal comfort and ease of movement; good health includes absence of injuries, absence of disease and absence of pain; and appropriate behaviour includes the expression of social behaviour, expression of other behaviours, good human-animal relationship and positive emotional state. These 12 Animal Welfare criteria provide a very useful framework for understanding the components of Animal Welfare and build up the welfare assessment system. These principles and criteria are assessed throughout the animal's entire lifespan, the rearing period, which runs from birth to weaning, the beginning of production (e.g. milk, eggs); the production period, during which a dairy animal will produce milk, a hen will lay eggs and animals farmed for meat will be fattened; and the end of the life of the animal, where it will be transported and slaughtered. The acquired data provide feedback to animal unit managers about the welfare status of their animals, and can be translated into accessible and understandable information on the welfare status of food producing animals for consumers and others.

One of the innovations of the Welfare Quality® assessment system is that it combines both inputs (resource and management based measures) and outcome measures (animal based measures e.g. animal body condition, health aspects, injuries, behaviour, etc.). Previous monitoring systems and legislation largely rely on examination of inputs, 'what' or 'how much' of different resources are given to animals (i.e. type of housing, allocation of resources, stocking density etc.). These parameters are easy to define, to measure and have a high inter (between different observers) and intra (within the same observer) reliability. However, animals may experience the same housing situation or handling procedure differently, depending of their genetic background, or previous experiences. Even within the same group of animals there may be differences according to the rank or temperament of the individuals.

The implementation of the Welfare Quality® assessment system will support the development of welfare-friendly husbandry systems and can be used for a number of purposes. Firstly, it can provide farmers with a broad picture of the welfare status of their animals as well as identifying aspects requiring their attention. Secondly, the data obtained from the measures could be combined into an overall assessment through a hierarchical evaluation model, that interpret the data firstly in terms of the 12 welfare criteria identified and then in the 4 welfare principles (2). At the end of the process, farms can be categorised according to the assessed level of welfare of their animals. The welfare assessment, converted into an accessible and understandable information system could help stakeholders' to certify farms and specify their markets, e.g. enhanced farms for a general quality label or excellent farms for a niche market. The Welfare Quality® protocols do not replace or supersede any existing farm assurance or legal standards. However, the assessment protocols could also be used by statutory bodies in their assessment of farms, to compare systems to provide information during the creation of new legislations, and to check compliance with legislative requirements (4). In all cases, before being used by the professionals, training and validation in the methods and protocols is essential.

Methodological aspects of the training of the Welfare Quality® assessment system

In all assessment systems, a critical 'component' is the assessor. Without competent and credible assessors, no certification scheme can function in a way which will satisfy both the producers and the consumers (4). When training professionals for the assessment of welfare on farm, some methodological aspects should be taken into account. The first objectives of the course should be to understand the concept of Animal Welfare and realize, at the same time, that there are many definitions of welfare. It is suggested that the paper by Duncan and Fraser (6) can be a very useful starting point. According to this paper, definitions of Animal Welfare can be grouped into three main approaches: a "feeling-based" approach, a "functioning-based approach" and a third set of approaches in which welfare is measured by assessing whether the animal can live according to its inherent "nature". These three elements are by no means contradictory; in fact they are closely interrelated. For example, when animals are prevented from performing a particular behaviour pattern a stress response

may follow (13). Also, negative emotional states often result from the animal's inability to show appropriate behavioural responses and thereby failing to cope with the situation (3).

Before we can fully understand and assess Animal Welfare we need to firmly establish its influential components as well as the major welfare problems faced by each species and the "conditions of good welfare" that they should be provided with. The Five Freedoms developed by the Farm Animal Welfare Council (10) of the UK provided an elegant framework for doing this. These freedoms, which represent ideal states rather than actual standards for Animal Welfare, include: freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury and disease, freedom to express normal behaviour, and freedom from fear and distress.

It is important that the professionals realise that animal's welfare embraces its physical and mental state and good Animal Welfare implies both fitness and a sense of well-being. The awareness that welfare is multidimensional and that its overall assessment requires a multicriteria evaluation resulted in the decision to base the Welfare Quality® assessment system on their four main principles of Animal Welfare.

Since welfare is a characteristic of the individual animal, not just of the system in which animals are farmed, the Welfare Quality® assessment system places its emphasis on physiological, health and behavioural measures (outcome based measures) in an attempt to estimate the actual welfare state of the animals. One advantage is clearly that, since welfare is a condition of the animal, outcome based measures are likely to be the most direct reflection of its welfare state. A particular attraction of using animal based measures is that it permits to compare the welfare of animals kept in different farming systems, is sensitive to fluctuations in the welfare status of animals on these farms, reflects the welfare status of the herd as a whole, and remains transparent to stakeholders. As the assessment relies on animal based measures, the assessors should have a good understanding of the basic biology, physiology, health and behaviour of animals and the mechanisms used by animals to cope with difficult environments. The assessment will involve also recognition of symptoms of certain lesions, diseases and signs of pain. As assessors might not be veterinarians, the training does not aim to identify, diagnose or treat these problems, but rather to highlight the presence of injuries and health problems affecting the welfare of animals.

When no animal based measure is available to check criterion, or when such a measure is not sensitive or reliable enough, measures of the resource or the management are used to check as much as possible that a given welfare criterion is met. For example, we have not found feasible animal based measures for the evaluation of prolonged thirst. In this case, it has been necessary to include resource based measures as the presence, number, cleanliness and functioning of drinkers in the pen. Moreover, resource and management based measures can also be used to identify risks to Animal Welfare and identify causes of poor welfare so that improvement strategies can be implemented (2). For example, if poor body condition has been identified as a major problem on a particular farm, resource based indicators (for example, quality and quantity of food provided to the animals) will be needed to identify the cause of the problem and the best strategies to solve it. For those purposes, the Welfare Quality® protocols include a farm questionnaire with the assistance of a representative of the farm, which provides a description of the farm, which give the background and risk factors required to provide information to help the farmer resolve the welfare problems.

It is important that professionals realise that welfare assessment requires the combination of several measures. It is suggested that a very useful exercise is to discuss with the participants the best indicators to be used in a range of circumstances. This would allow a discussion on the fact that indicators should be valid, practical and reliable. In fact, all the measures that are included in the Welfare Quality® assessment system have been previously evaluated with regards to their validity (does the measure reflect some aspect of the actual welfare of animals), reliability (acceptable inter or intra observer repeatability and robustness to external factors e.g. time of the day and weather conditions) and their feasibility (the possibility to carry out under practical conditions). Some measures which were initially proposed did not meet these conditions and were

dropped from the scheme early in the evaluation process (e.g. too time consuming), whereas other measures have been accepted in anticipation of further improvements and refinements. This latter concession is because at least one measure per criterion is needed to assess overall Animal Welfare.

An important consideration to increase the repeatability and reliability of the assessment is that the measures should be simple to collect and scored, in a way that minimizes the value judgment. For this purpose, most of the measures are scored according to a three-point scale ranging from 0–2. So that a score 0 is awarded where welfare is good, a score 1 is awarded (where applicable) where there has been some compromise on welfare, and a score 2 is awarded where welfare is poor and unacceptable. In some cases a binary (0/2 or Yes/No) or a cardinal scale (e.g. cm or m2) is used.

The welfare assessment protocols for cattle, pigs and poultry have been published for its use (15, 16, 17). They contain standard description of the measures, what data should be collected, and in what way, followed by information about the sample size and the order in which the different measures should be carried out. However, the assessment protocols alone do not guarantee capacity to carry out the assessment without adequate approved training. To standardise the implementation of the assessment protocol and achieve a high repeatability between assessors, they are required to be assessed during a robust training course until they develop a uniform scoring. The assessors have to be fully trained in scoring the different measures that are to be assessed firstly through classroom presentations and exercises, using photographs and video clips, and then on practical field exercises on farm. During the classroom activity the rationale and execution of the measures are presented. Doubts about the scoring of the different measures are discussed with the help of video clips and photographs designed to train the assessors. Later, the assessors are tested with photograph and video clip previously scored by experts, so its scorings are used as golden standards and compared with those given by the trained assessors. When a minimum pre-established correlation between the golden standard and the assessor is achieved, the assessor is considered as trained for this measure. When the minimum correlation is not achieved, the experts are trained again by discussing some of the images scored previously according to the golden standard scores.

The farm visit has several objectives. The first one is to describe 'ad hoc' the assessment of the measures. The trainer assesses some animals asks the trained assessor to do the same. Finally, both assess some groups simultaneously and results are compared. The second objective is to discuss those measures that had low correlations during the classroom sessions and that can be easily trained on farm. The third objective is to explain the sampling procedure, the order in which the measures are taken and practical aspects to take into account when approaching animals for different purposes. When returning to the classroom, at the end of the course, the assessor is asked to explain step by step how the procedure of the welfare assessment is carried out.

The inspectors are assessed during the training course until they develop a uniform scoring to ensure that they retain objectivity, impartiality and repeatability in scoring. Later, when assessors are active in the field, they need to be 're-assessed'.

Conclusion

In all assessment systems, a critical 'component' is the assessor. Without competent and credible assessors, no certification scheme can function in a way which will satisfy both the producers and the consumers. The Welfare Quality® assessment protocols contain standard description of the measures, data collection, sample size and the order in which the different measures should be carried out. However, to standardise the implementation of the assessment and achieve a high repeatability between assessors, they have to be trained firstly through classroom presentations and exercises, using photographs and video clips, and then on practical field exercises on farm. An important consideration to increase the repeatability and reliability of the assessment is that the measures should be simple to collect and scored, in a way that minimizes the value judgment.

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ABSTRACT

ANIMAL WELFARE TRAINING FOR PROFESSIONAL: MOVING FROM INPUTS TO OUTCOMES

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Animal Welfare concern is based upon the belief that animals can suffer, and has become a main element in their perception regarding food quality. Producers, retailers and other food chain actors increasingly recognize that consumer concerns for good Animal Welfare represent a business opportunity that could be profitably incorporated in their commercial strategies. Therefore, during the last decade, numerous trade groups (producers, processors, retailers and restaurant chains) have developed certification systems with their suppliers which include elements of Animal Welfare. This paper focuses on the training of professionals for the assessment of Animal Welfare on farm. The Welfare Quality® project has developed an integrated and standardised welfare assessment system for cattle, pigs and poultry, based on 12 welfare principles grouped into four main criteria (good feeding, good housing, good health and appropriate behaviour) according to how they are experienced by animals. One of the innovations of the Welfare Quality® assessment system is that it focuses more on outcomes measures (e.g. directly related to animal body condition, health aspects, injuries, behaviour, etc.).

When training professional for the assessment of welfare on farm, some methodological aspects should be taken into account. As the assessment relies on outcomes measures, the assessors should have a good understanding of the basic biology, physiology, health and behaviour of animals and the mechanisms used by animals to cope with difficult environments. An important consideration to increase the repeatability and reliability of the assessment is that the measures should be simple to collect and scored, in a way that minimizes the value judgment. For this purpose, most of the measures are scored according to a three-point scale ranging from 0 to 2.

The welfare assessment protocols for cattle, pigs and poultry have been published for its use. They contain standard description of the measures, what data should be collected, and in what way, followed by information about the sample size and the order in which the different measures should be carried out. To standardise the implementation of the assessment protocol and achieve a high repeatability between assessors, they are required to be assessed during a robust training course until they develop a uniform scoring. Assessors have to be fully trained in scoring the different measures that are to be used firstly through classroom presentations and exercises, using photographs and video clips, and then on practical field exercises on farm.



OPEN EDUCATIONAL RESOURCES IN ANIMAL WELFARE

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Summary

Changes in law (1) and pronounced demands of knowledge on Animal Welfare (2) require a change of paradigm in Animal Welfare Education. A new strategy is recommended, based on network learning involving higher education institutions and other organisations in the production and distribution of learning resources that can be shared openly and free of charge on the internet. Although the trend of Open Educational Resources (OER) is very recent, the development of resources is rapid and vibrant (3). The incentives for engaging in the OER trend at the governmental, institutional, and individual level are presented here and quality control and sustainability are discussed. It should be considered that the EU commission takes the lead and allocates resources for the development of a central repository with OER, as well as a quality assurance strategy.

Keywords: Animal Welfare, network learning, repository, ICT, quality assurance

Introduction

Animal Welfare is an increasing area of concern in contemporary society (4, 5). Although there is an obvious role for improved knowledge in Animal Welfare for veterinarians, agricultural extension workers, and others involved in animal production (2), the target group is broader and includes consumers and citizens in an international context. Furthermore, the global desire and need for increased knowledge in Animal Welfare is not currently being met by traditional educational structures, mainly because institutions tend to lock in the knowledge in conventional course contexts (6).

Nevertheless, higher education institutions play an important role, together with other organisations, in the development and distribution of scientific knowledge to students, citizens, and consumers on the welfare of animals, how Animal Welfare should be measured, and how it should be improved.

This paper argues for new models for organising learning with open educational resources (OER) and drawing on accessible modern information and communication technologies (ICT). This should respond to increasing societal needs and demands for knowledge in Animal Welfare and for the benefit of students, teachers, citizens in general, and, ultimately, the welfare of animals.

Global need for teaching and training on Animal Welfare

The provision of article 13 of the Treaty on the Function of the European Union, which states that, since animals are “sentient beings”, the Union and Member States shall pay full regard to their welfare requirements (1), has changed the conditions for education in this field within the knowledge domain. While the education in Animal Welfare until now has typically been driven by providers of education (e.g. in veterinary education), a “push” approach suggests new initiatives should be applied as a complement that involves a change as a paradigm to network learning (7), based on a “pull” approach in the era of international Animal Welfare Education.

In the “push” approach to learning, knowledge is “transmitted” to the learners in a way characteristic for most traditional formats of higher education, where the primary mission of institutions is to develop curricula and offer programs and courses and formally certify the knowledge of the learners.

Formal teaching in Animal Welfare is delivered in traditional on-campus formats or in the form of off-campus programs and courses (often with the use of eLearning). One reason for this is that educational institutions offer learning or study environments to students with built-in didactical support for their learning process. The consequence is that the knowledge on Animal Welfare is “locked in” in a traditional course context not accessible to the general public or individual learners that are not enrolled in a formal program. A complement to traditional methods of operation is to take more of a “pull” approach, where education is demand-driven and considers a broad range of methods to make knowledge available to society.

In some countries, the lack of expertise and staff training influence education in Animal Welfare (8). Sharing learning resources in Animal Welfare among peers has many advantages, e.g. for small teaching institutions that can benefit from access to resources that may have a considerable impact on students learning.

“The gateway to farm Animal Welfare” is a repository or platform developed by FAO with information related to farm Animal Welfare (9). The repository is intended for professionals and can be used to search for information (including publications, guidelines, courses, learning resources, multimedia, etc.), to share information and feed national or regional portals with information. The platform is limited to farm animals, whereas knowledge related to pets, research animals, and wild animals is limited.

Fraser (2) pointed out the potential impact of international e-learning initiatives on Animal Welfare and it has even been suggested that eLearning is necessary to respond to the complex training demands of Animal Welfare (10, 8, 11).

Recently, initiatives have been launched to develop a European Animal Welfare Education Network, as along with a list of binding standards in Animal Welfare Education. A workshop, “European Animal Welfare Education”, was conducted in Vienna in May 2010 with participants from 18 nations. The outcome of the workshop emphasised that while traditional formal teaching in Animal Welfare, including practical training in animal handling, is of great importance, a complement based on ICT and transparency is encouraged not only to reach a broader audience for Animal Welfare Education, but also to create a resource in traditional formal teaching.

Information and communication technologies in education

During the last decades, higher education has experienced change process through increased globalisation, with new forms and rapid rates of knowledge production (12), and increasing competition among institutions. This development is part of a more general globalisation process. One dimension of this is that higher education institutions in general have to handle larger and more diverse groups of students that also call for new ways of organising learning (13). The provision of more attractive and engaging learning improved by better use of ICT is a way to respond to the new challenges.

An important premise for this change is the development of ICT that permeates society on all levels (7). ICT is an integrated tool in the very production and distribution of knowledge in society. ICT afford new infrastructures for learning, both within educational institutions and outside. ICT in the form of eLearning offers new tools for teaching and learning. In a sense, it is both a premise and a partial answer to the demands on higher education from a globalised perspective.

The role of e-learning is growing, both in terms of courses offered exclusively online or as blended learning (3). Parallel to institutionally organised formal learning, there has also been growing recognition on the importance of informal learning, defined by Livingstone (14) as ‘any activity involving the pursuit of understanding, knowledge, or skill that occurs without the presence of externally imposed curricular criteria’. The

incidence of informal learning in the adult population has in several surveys been shown to be extremely high, based on early work by Tough (15), indicating about 80% of the adult population will identify themselves as having participated in informal learning.

At a national level, the borders between formal and informal learning have been blurred, and lifelong learning, defined as “lifelong, voluntary and self-motivated learning for personal or professional reasons” has become a well-known phenomena.

Since ICT was integrated in education the first time, it has been questioned if quality of learning is the same as in traditional face-to-face settings. A recent study pinpoint that ICT-based education is not a technological challenge, but an educational challenge (16) and that appropriate quality indicators are still under development.

Few research studies of the effectiveness of eLearning for students in schools have been published. A meta-analysis conducted in the US was based on 51 comparisons between students in traditional face-to-face settings and blended learning. The results showed that students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction (17). Furthermore, the study showed that online learning can be enhanced by giving learners control of their interactions with media and by triggering learner reflection.

Giving knowledge for free in open educational resources

The term Open Educational Resources (OER) was adopted at a UNESCO meeting in 2002 to refer to the open provision of digitised materials enabled by information and communication technologies for consultation, use, and adaptation by a community of users for non-commercial purposes (3). The model of sharing learning materials openly and free of charge (Figure 1) is already so established that it is generally thought of as a movement.

The movement gained considerable visibility in 2001, when Massachusetts Institute of Technology (MIT) in the US, first announced its intention to make the materials of its courses available on the internet for anyone to use. This decision resulted in the OpenCourseWare project, which as of August 2010, included 2000 courses that are voluntarily produced by 75% of the MIT faculty. Anyone interested can download the materials, but no tutoring is offered. Although assignments and exams are available, students have to be registered at MIT to be awarded certificates as a result of taking exams. Furthermore, since the materials are licensed under a Creative Commons license, teachers and trainers all over the world have the permission to reuse the material in their own teaching and to do derivative work, given that they attribute the author, do not use it for commercial purposes, and distribute the resulting work under the Creative Commons license (18).

Thus far, the OER movement has been more pronounced in higher education, especially professional education, than at the school level. Governmental support for the production and use of OER on a school level has been observed in some countries (US, Norway, Spain, and Switzerland), although on a limited scale (18).

Compared to 2007, when the OECD report, “Giving Knowledge for Free” was launched it is clear that there are many more video-based resources available today (18). The reason is that it has become easier and less expensive to produce digital video and that the majority of internet users nowadays can easily download video clips.

Incentives for open educational resources

Generally, a number of arguments can be put forward at different levels that reinforce societal development and diminish social inequality by providing knowledge for free. In the following, the different incentives for open educational resources will be described, which are summarised in Table I.

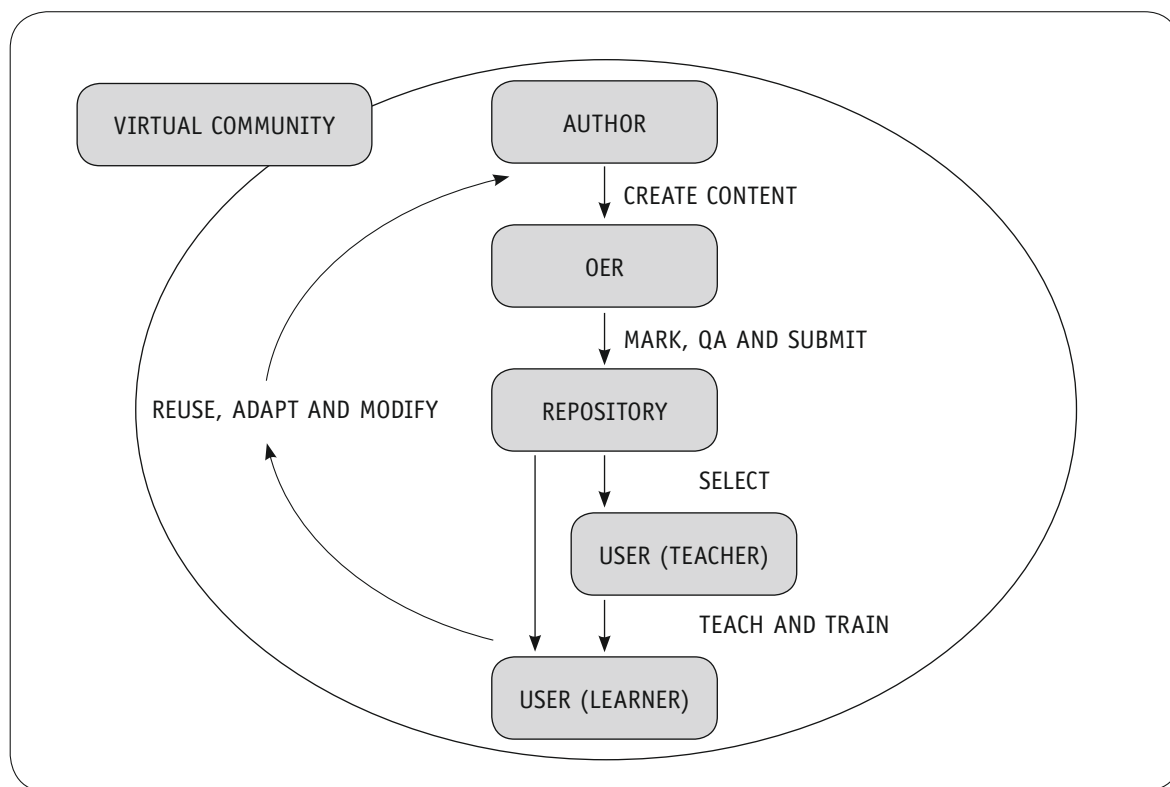


Figure 1. Model for sharing open educational resources

Table I. Incentives for developing and sharing open educational resources (after 3)

Incentives		
Governments	Institutions	Individuals
Widen participation in higher education.	Altruistic reasons.	Altruistic or community supportive reasons.
Bridge the gap between informal and formal learning.	Leverage on taxpayers' money by allowing free sharing and reusing between institutions.	
	Personal gain in reputation.	
Promote life-long learning.	"What you give, you receive back improved".	
	Commercial reasons.	
	Better marketing to attract more students.	It is not worth the effort to keep the resource closed.
	Growing competition – new (cost recovery) models are needed.	
	Stimulate internal improvement, innovation and reuse.	

Incentives at a governmental level

Arguments for government involvement in open educational resources are related to the challenge of making a successful transition to a knowledge-based economy and society (3). The European Union has launched the so-called Lisbon strategy that includes investments in human capital through better education and skills. Widening participation in education and the promotion of lifelong learning are the cornerstones of this strategy, which also aims to bridge the gap between informal and formal learning.

Incentives at an institutional level

In the OECD report (3), a number of incentives for institutional involvement in OER are listed:

- The altruistic argument is simply that sharing knowledge is a good thing and is in keeping with academic traditions. Ultimately, this argument is supported by the United Nations Human Rights Declaration, which states: "Everyone has the right to education. Education shall be free..." (19).
- Educational institutions should leverage taxpayer money by allowing free sharing and reuse of resources developed by publicly funded institutions. To lock learning resources behind passwords means that people in other publicly funded institutions sometimes duplicate work and "reinvent the wheel".
- "What you give, you receive back improved." By sharing and reusing, the costs for content development can be cut, thereby making better use of available resources.
- It enhances recruitment, since OER can function as a showcase to attract new students. Several institutions have reported on more students and better outreach to new target groups with no prior knowledge of higher education.
- The new situation with global competition between educational providers means that there is a need to look for new cost recovery models, such as offering content for free, both as advertising for the institution and as a way of lowering the threshold for new students, who may be more likely to enrol – and therefore pay for tutoring and accreditation – once they have had a sample.
- Open sharing will speed up the development of new learning resources, stimulate internal improvement, innovation, and reuse.

The development of OER nowadays seems to be more institution-based than grassroots-driven, compared to 2007, but the incentives listed above are (according to Hylén (18)) substantiated over time.

Incentives at an individual level

The OECD report (3) also pinpointed a number of incentives for individual reasons:

- The altruistic argument is again that sharing is a good thing. It even stimulates further innovation and offers personal satisfaction to know that one's materials are available and used all over the world, and it is a pleasure to develop things together with peers and share with others.
- Personal gain in publicity and reputation within the open community that can be useful in future situations.

- Commercial reasons. Creating an open content version of the material may be a strategy for enhancing the final commercial product. Sharing may help get a new product to market more quickly and may also stimulate sales of related products.
- It is not worth the effort to keep the resource closed. In cases of small, but useful innovations, creators may conclude that it is not worth the effort to obtain copyright or a patent. Or, creators may conclude that intellectual property mechanisms may not effectively protect the innovation.

To the list of incentives named in Table I, it should be added that OER enhance the motivation of more active learning, since students take part in problem solving and the intellectual development of learning resources. This makes learning more rewarding and will increase the number of learning resources over time. Generally, students expect higher education institutions to use digital assets in their teaching, because this is an important part of their ordinary life, both for learning and entertainment.

More effort may be allocated to analyse what kind of institutional policies are successful in getting teachers to produce and share content on the internet. Today's academic reward system is mainly built on publication in scientific journals. Establishing a credible academic reward system that includes the production and use of OER might be the single most important policy issue for a large-scale deployment of OER in teaching and learning (3). In recent years, it has become more common for teachers to develop pedagogical qualification portfolios. The aim of such a portfolio is to show pedagogical achievements in a transparent way, so that they can be weighed appropriately in relation to promotion and recruitment. Pedagogical qualification portfolios have an advantage over traditional lists of publications from an OER viewpoint and may be one way to enhance the OER movement.

Open educational resources for quality and sustainability

One area which deserves greater attention is quality standards for and quality control of OER. Even the sustainability of an OER initiative is a quality aspect in relation to production and sharing of OER, as well as in regard to use and reuse of OER by end users (either teachers or learners).

Greater collaboration between higher education institutions will, according to OECD (3), enhance the development and reuse of high quality learning materials, be more cost-efficient, and at the same time increase competition by making teaching within individual institutions visible to a potentially worldwide audience.

The rapidly growing number of learning materials and repositories makes it important to find the most relevant and highest quality resources (3). Pedagogical quality of learning resources can be quality assured with a scientific standard and the quality assurance system should involve many different aspects related to the creation of the content, its discovery, and its eventual use and re-use within the learning process (20, 21).

Two different solutions for quality assurance are addressed here: the peer review system and grading by end-users. The solutions are not mutually exclusive and some OER initiatives use them side-by-side.

A peer review system may follow the model of the peer review used for scientific journals or scholarships. MERLOT is an OER initiative of the California State University in partnership with higher education institutions, professional societies, and industry. MERLOT currently constitutes of 18 discipline communities with separate editorial boards. The editorial boards provide leadership, tools, and training in developing evaluation standards and processes and all peer reviewers on each discipline-specific editorial board share and compare their evaluations by following the developed processes. The learning materials are categorised into 14 different types. Not all resources are peer reviewed, but MERLOT provides a clear marking system for users to know which resources have been quality-checked.

Open University in UK provides two different repositories; OpenLearn for original and peer-reviewed learning resources and LearnSpace for adapted or modified resources, each with a discussion forum. Some organisations (e.g. the Open Training Platform facilitated by UNESCO) use a quality assurance system based on end-user reviews and/or ratings, while others simply use the number of downloads. These systems give other users an idea of the satisfaction with each product, but are naturally of weaker quality than a peer review system; this is presumably the only solution when the number of providers is high and the subject areas diverse.

The way forward for Animal Welfare Education

Animal Welfare Education needs to reach a broader audience and the subject area is well suited for internet, because video, audio, and photo are media containing a great amount of information that contextualise Animal Welfare and therefore facilitate understanding (6).

For instance, animals may express good or bad welfare by their behaviour e.g., animals in poor welfare are often passive or show abnormal behaviour and animals in good welfare may have a wider behavioural repertoire, including playful activities. Even vocalisation can be used for the illustration of animal needs and monitoring their welfare (22, 23). Important subjects on Animal Welfare, like knowledge on production systems, stockmanship, and animal care, as well as the roles and responsibilities of, e.g., pet owners, rangers, and producers can also more easily be illustrated by video than in a text based context.

At the workshop “European Animal Welfare Education” conducted in Vienna in May 2010, the first proposal for quality criteria in Animal Welfare Education in Europe was developed. It was proposed, for example, that education should be evidence-based, objective, pluralistic, up-to-date and transparent and that content and teaching methodology should be appropriately tailored to the varying target groups.

Developing learning resources in Animal Welfare based on new media and making them accessible on the internet can be of benefit not only to teachers and learners, but may also have a rapid and global impact on the development of Animal Welfare practices and standards. While Animal Welfare is based on both science and values, it has been suggested that those teaching Animal Welfare also teach animal ethics (24) and as a consequence, OER in animal ethics has been developed to support student reflection and understanding (25).

Due to changes in laws (1) and the demands voiced (2), knowledge in Animal Welfare requires broad and fast dissemination to new target groups; accordingly it seems to be a good investment to develop high quality resources if they are shared and thus utilised by more people. Generally, every incentive listed by OECD may be relevant for institutional involvement in the OER movement for the sake of Animal Welfare.

Assuming that the subject area of Animal Welfare is relatively restricted and that the number of providers of knowledge in this field relatively low, it might be possible to have a peer review system with a number of discipline communities with separate editorial boards.

It should be considered that the EU commission takes the lead and allocates resources for the development of a central repository with OER, as well as a quality assurance strategy and that they communicate directly with the national competence centres in each European country. Resources are also needed for evaluation of the impact of the new initiative in terms of change in attitudes towards and treatment of animals.

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ABSTRACT
OPEN EDUCATIONAL RESOURCES IN ANIMAL WELFARE

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Legal change (EU 2009) and a pronounced demand for knowledge in Animal Welfare (Fraser 2008) require a change of paradigm in Animal Welfare Education. A new strategy is recommended, based on network learning (Dirckinck-Holmfeldt et al. 2009). This strategy involves higher education institutions and other organisations in the production and distribution of resources for learning that can be shared openly and free of charge on the internet. Such resources have been termed Open Educational Resources (OER).

Although the trend of OER is very recent, the development of resources is rapid and active and there are a number of incentives for engaging in the development of OER (OECD 2007). At a governmental level, there are incentives such as a widening participation in higher education, bridging the gap between informal and formal learning, and the promotion of lifelong learning.

At the institutional level, incentives for engaging in OER include altruistic reasons; leverage on taxpayer money by allowing free sharing and reuse between institutions; the concept of "What you give, you receive back improved"; better marketing to attract more students; a need for new (cost recovery) models; stimulation of internal improvement, innovation, and reuse.

There are also a number of incentives at the individual level: altruism or community support; personal gain in reputation; commercial possibilities; and the lack of value in the effort of keeping the resource closed.

Quality and sustainability in relation to OER are also discussed. Greater collaboration between higher educational institutions is expected to enhance the development and reuse of high quality learning materials, increase cost-effectiveness, while at the same time increasing competition by making teaching within individual institutions visible to a potentially worldwide audience. Two different quality assurance systems (peer review system and end-user grading system) that can be used side-by-side are described.

Finally, it should be considered that the EU commission allocates resources for the development of a central repository with OER and a quality assurance strategy for the benefit of democracy and public education in Animal Welfare. Resources are also needed for evaluation of the impact of the new initiative in terms of change in attitudes towards and treatment of animals.

CHAPTER 3

SHARING EXPERIENCES

ANIMAL WELFARE EDUCATION PROGRAMS

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Keywords: Animal Welfare, education, ethics

Animal Welfare Education programmes are necessary, as it takes a certain amount of schooling to raise people's awareness for Animal Welfare on the one hand, and to teach them to do the right thing to ensure the welfare of animals on the other.

A vast majority of humans are guilty of what Singer calls speciesism: they believe that members of another species suffer less than members of their own species. Unfortunately, some people even believe that all other creatures experience less suffering and pain than they do, but a lot of us would call those individuals ill.

A lack of empathy thus restrains people from caring about Animal Welfare. Educational programs can therefore focus on empathy. To increase empathy, I believe it is important to point out the similarities between animals and human beings. It is currently accepted that at least mammals and birds resemble us to a certain degree, since they experience the same sensations of pain and suffering as human beings do.

However, birds and mammals do not only resemble us in the sensation of pain and suffering, but they also resemble us considerably in the way they experience feelings in general and in the way these feelings influence their actions. In my experience, people's empathy towards animals increases considerably if we explain to them how feelings function and if we show them that most of the feelings we experience have the same impact on animals. I am convinced that on the whole, boredom is the most severe violation against the welfare of domesticated animals, whether they are kept as pets or farm and service animals. This is incomprehensible for people who are not aware that animals (or at least mammals and birds, but probably also a lot of fish) know the feeling of being bored.

Empathy is a necessary condition to develop a concern for Animal Welfare, and a lot of educational programs can focus on empathy. Nevertheless, empathy alone is not enough.

Animals belong to other species. Other species have a different ethogram, have different senses, and some of them even have different sensory organs. Once people show a proper concern for Animal Welfare, they still require a lot of schooling to learn what is important for an animal of a certain species and what is not. A good example is doggies dressed in dog clothes. This is an example of sufficient empathy, but a lack of knowledge, which does not improve the animal's welfare, and even harms it in certain cases. We therefore need both educational programs that focus on empathy for animals, and educational programs that increase the knowledge on what is important for a certain species. The least these programs will have to do is clearly explain that people are not spontaneously aware of what is good for animals of a certain species. This can motivate people to study the species they are interested in.

Additionally, we need educational programs that explain the different functions animals can have in a human-animal relationship and point out that the animal's function in the relationship does not determine the animal's welfare. Pets are kept because people enjoy their company and for as long as people enjoy the company. People consider their individual animal as one of a kind and are often prepared to pay considerable veterinary expenses, if necessary. Still, most pets are bored the greater part of their lives and a lot of pets suffer due to inexpert care. In farming, there is a lot of care for at least certain aspects of the animal's welfare; animals are kept with other members of their species and are usually cared for by people who know a lot about the species' needs. All in all, even these animals are bored stiff. The point I wish to make is that it is wrong to

think that the distinction between pets or farm animals or service animals determines the animal's welfare, and that people still need a lot of clarification on this subject.

Finally, I believe we need educational programs that explain the difference between ethics and Animal Welfare. Ethics relate to people, welfare relates to animals. Debates on a lot of social issues would become more serene if the difference between ethics and welfare would be clear to everyone. It is not easy to ethically justify certain acts that harm Animal Welfare, but there are nevertheless a lot of acts towards animals that are not accepted by certain ethical movements, although the animals themselves would not consider them harmful for their welfare. For example, some people do not approve that certain dogs are put to work. However, certain tasks, such as pulling, hunting, or patrolling are not in the least harmful to a dog's welfare, and can even be positive for their welfare. To defend a ban on working with dogs in the name of Animal Welfare would blur the debate. People defend the ban on working with dogs, because they believe that certain functions animals have are good and that certain functions are not. We can discuss the ban from that point of view, but it is not an issue of Animal Welfare.

CATALYSING CHANGE IN THE CURRICULUM: THE VISION AND PRACTICE OF INTERNICHE

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Summary

The field of education is one location where people interact with animals. The teaching of Animal Welfare goes beyond the acquisition of knowledge about welfare and extends to the explicit and implicit lessons presented by the nature of this interaction. Animal experimentation and the dissection of purpose-killed animals in education may negate Animal Welfare Education, so replacement of harmful animal use with humane alternatives can help ensure that the teaching of Animal Welfare is effective and its realisation sustainable. The International Network for Humane Education (InterNICHE) works internationally to facilitate replacement and implement alternatives. From the InterNICHE experience, successful international work requires qualities and practices from organisations that include: a bold and positive vision, a commitment to catalyse sustainable change, the provision of resources and training for action and capacity building, and the building of democratic organisational structures.

Keywords: Humane education, alternatives, replacement, animals, dissection, experiments, teaching objectives, InterNICHE

Introduction

The relationship between people and animals covers a spectrum that ranges from healthy to abusive. The teaching of Animal Welfare is a matter that goes beyond the acquisition of knowledge about welfare and extends to the explicit and implicit lessons presented by the nature of the interaction with animals in different social contexts. One location where people interact with animals is the field of education: the school, university, or training centre. Interactions with the classroom pet, animal use within biological science, medical, and veterinary medical education and training provide lessons which may support Animal Welfare Education or may negate it.

Animal experimentation and the dissection of purpose-killed animals have been challenged widely on pedagogical, ethical, and economic grounds. Education and training aims to ensure effective knowledge and skills acquisition through a range of standard teaching objectives. Within the life sciences, these teaching objectives may achieve an appreciation of anatomical structures, an understanding of physiological and pharmacological processes, and a demonstration of clinical skills and surgical technique. When harmful animal use has been compared with humane alternative methods in published studies, however, the results demonstrate that the alternatives are as effective and often superior in terms of student and trainee performance. For the professional working with animals, therefore, the replacement of harmful animal use by alternatives in his or her education and training is a guarantee that the knowledge and skills acquisition is not just more ethical, but also more effective. This will have a direct positive impact on the nature and quality of the professional's interaction with animals.

Types of alternatives

However, addressing only standard teaching objectives has its limitations. Innovative teaching methods and learning tools can often meet new teaching objectives that harmful animal use cannot. For example, computer software can harness the power of technology to support the learning process: thousands of high quality labelled photographs and animations on DVD can support the visualisation of structure and process very effectively; interactive software can present scenarios impossible to create in vivo; and advanced virtual reality with haptic technology and training feedback can guarantee uniform acquisition of skills and allow not only for better general training, but also advance preparation for specific medical interventions.

Multimedia computer simulation is just one type of alternative amongst a wide range of tools and approaches (1):

- Film and video
- Models, mannequins, and simulators
- Multimedia computer simulation
- Ethically sourced animal cadavers and tissue
- Clinical work with patients
- Student self-experimentation
- In vitro labs
- Field studies

Teachers who have replaced harmful animal use have done so usually because they are committed to better ways of teaching. And, in some countries, humane approaches within certain fields are the tradition. 'Alternative' teaching approaches – by tradition or by modern choice – are therefore often seen as the norm. And despite the many animals that are still used in experiments or killed for dissection every year, profound changes are taking place.

The clinic as an alternative

Clinical work with animal patients will be addressed as an example of an alternative approach. Access to supervised clinical work is typical within all medical and veterinary courses and is a humane way of gaining experience as a trainee doctor or veterinarian. However, animal experimentation for clinical skills and surgery training is also sometimes performed. A progressive approach to learning veterinary surgery might therefore involve the student mastering basic skills using non-animal alternatives, moving on to ethically sourced cadavers for experience with real tissue, and finally performing a significant amount of supervised work with animal patients to gain skills such as wound management and basic surgery. Greatly extending access to clinical work through shelter sterilisation programs and other projects can therefore provide a humane alternative to harmful animal use, and bring about its replacement.

The clinic therefore provides realistic and relevant training, and can also teach students many other skills that animal experiments cannot. These include experiencing and dealing with the clinical environment and its demands, appreciation of the diversity of patients and clinical situations, and communication skills with work colleagues and animal guardians. The students will have been present and involved in the whole process from diagnosis to the operation and post-operative care. This context of healing, of being part of a process of animal care, provides not only better and more comprehensive training, but can be very empowering for the student or trainee. It connects with the roots of medicine as a healing art and science, and, along with other alternatives, illustrates a greater sensitivity towards the learning and training process.

Care as a clinical skill

Research in the field of ethology proposes that empathy as a tool of study is essential to understanding animals; similarly, ethology and animal behaviour is essential knowledge for the committed veterinarian in understanding the behavioural changes indicating disease. Within diagnostics, veterinarians need the ability to search for what the animal feels, to identify signs of suffering and pain. Care and compassion help in this process. A caring approach is also less likely to cause stress in the patient during examination, something that may mask symptoms and result in a less accurate diagnosis. The caring veterinarian will be more likely to use analgesics when appropriate, striving to avoid suffering in patients. And for effective recovery of patients, it is important that the animal is not stressed, but feels safe with the health care workers; the physiological background for stress being counterproductive to the healing process is well known. Similarly, a veterinarian who is genuinely interested in the well-being of his or her patients – for the sake of the patients – has a

motivation for revealing owner- and environment-related health problems, such as poor housing, poor guardian knowledge about animal behaviour and natural needs, and neglect.

So while veterinarians are expected to treat patients with care and compassion, and a caring approach may better enable the veterinarian to diagnose and treat his or her patients, the concept of care as an essential clinical skill is rarely emphasised in veterinary education and training. In contrast, clinical learning opportunities enable care and compassion to be developed and prioritised. The use of this alternative approach can therefore help remedy the lack of caring ability and compassion for patients sometimes found within the professions.

The hidden curriculum

This deeper look at the skills required by the professions and the teaching objectives that can help meet them, also suggests the need to identify the lessons of the 'hidden curriculum'. This comprises the range of messages that are not usually openly acknowledged and which convey certain values, attitudes, and beliefs. Often negative, some typical lessons associated with harmful animal use include the 'necessity' and 'acceptability' of the instrumental use of animals (sometimes with a view to preparing students for animal-based research); that the need for a cadaver requires killing and the need to work with a living animal requires an experiment; that desensitisation is a necessary evil, and compassion a weakness rather than an essential clinical skill, and that critical thinking is best applied only selectively so it doesn't challenge the orthodoxy.

The hidden curriculum and harmful use of animals can put off many sensitive and critical thinking students from entering the life sciences. The use of alternatives can ensure that education is inclusive and fully accessible, with students and trainees given access to best practice tools and approaches, and the lessons of the hidden curriculum obviated. As humane methods replace harmful animal use, the teaching of Animal Welfare and ethics can be said to be realised practically and in full, with respect for the integrity granted to the animal and an acknowledgement of the animal's sentience and intrinsic value.

InterNICHE: Origins and evolution

The International Network for Humane Education (InterNICHE) works internationally to facilitate replacement and implement alternatives. It was founded in 1988 by student conscientious objectors, Animal Welfare scientists, and anti-vivisectionists from Western Europe and has since expanded into a global network with National Contacts and Partners in over 50 countries and a diverse range of resources, projects, and achievements. The growth of this unique network has been achieved through much voluntary commitment and with minimal financial resources. In InterNICHE's experience, successful international work requires qualities and practices from organisations that include: a bold and positive vision; a strategic focus; a commitment to catalyse change; organisational structures conducive to participatory democracy and alliance building; support for local initiatives; and the provision of resources, support and training for action and capacity building.

Realising the vision of full replacement

The InterNICHE vision is one of a fully humane education, brought about through full replacement of harmful animal use through alternatives and by support for existing humane practice. This bold and positive vision reflects the replacement already achieved at a growing number of schools, universities, and training centres across the world, as well as the creativity, commitment, and confidence of the international network of volunteers who aim to achieve further replacement. InterNICHE campaigners keep a specific focus on alternatives in education and training, whilst staying aware of the broader impact of curricular transformation. Working with this holistic awareness creates more opportunities for alliances and allows for progressive change with multiple positive impacts that can be achieved. InterNICHE also has a strong commitment to critical thinking

and ethical literacy, qualities that are crucially important in science education and the professions. These qualities find expression in negotiations with teachers and in creating solutions to challenges. The InterNICHE Policy on the Use of Animals and Alternatives in Education and Training details in 10 sections the practical expression of this philosophy and vision, providing comprehensive guidelines to inform curricular design and feed into regulations and legislation.

Creating sustainable change

InterNICHE aims to create sustainable change by presenting the vision of full replacement and focussing on practical ways in which the vision can be implemented on the ground, taking account of each situation's unique opportunities and challenges. InterNICHE works with its National Contacts and Partners and other stakeholders to support their own initiatives, leading to change from within, rather than imposing it from outside. Rooted in and responsive to local situations and values, while drawing on existing local skills, knowledge, and experience rather than ignoring them, the change is therefore more likely to be relevant, effective, and sustainable. With this approach of solidarity and partnership rather than empire building, InterNICHE can facilitate decentralised activity that helps realise its vision across the world. The network also provides a forum and communication medium where abolitionists and animal experimenters, and all those in between, can meet to search for common ground upon which they can build progressive change involving replacement. The existence of such a medium for communication is rooted in respect for people, inclusivity, and empowerment: the recognition that everyone can be an agent for progressive change. A commitment to consensus decision-making and participatory democracy within the organisation further supports this.

Provision of resources, support and training

- Information resources

To help teachers and others make informed choices about humane learning tools and the process of curricular change, InterNICHE researches and publishes information. The organisation's primary publication, the book and database from Guinea Pig to Computer Mouse (2nd ed.), introduces alternatives and provides background information on curricular design and assessment of alternatives. It offers case studies written by university heads of department and deans who have fully replaced harmful animal use and can share their experiences on developing and implementing alternatives. The database comprises the majority of the book, providing full details of over 500 alternatives, including description, specification, and source. This is also available online at the InterNICHE website, where it is searchable by discipline and medium, and with continual updates. The book and database are available in a growing number of languages. Online databases on alternatives are often specified as 'required visiting' before teachers and researchers apply to ethics committees, as part of the moral and legal burden of proof on teachers that they have investigated 'all possible alternatives' to animal use.

- Alternative Loan Systems

Hands-on access to alternatives and opportunities to test products in advance of purchase are often essential steps leading to effective implementation. To enhance accessibility, a large international library of learning tools was established. This Alternative Loan System comprises over 100 CD/DVDs, models, mannequins, and simulators included for their pedagogical value and potential for replacement. Coordinated from Germany, the items are available for free loan to all countries worldwide, giving borrowers the opportunity to try out and become familiar with the diversity and quality of a range of existing products. Borrowers request items and sign a Borrowers Agreement Form agreeing to the strict conditions of the loan, and pay only the return shipping costs. Further Alternative Loan Systems have been established in Mexico, Peru, Brazil, Russia, Ukraine, and India, with InterNICHE National Contacts or Partners responsible for managing them. This decentralisation helps build local capacity and has practical advantages.

Several hundred loans comprising several thousand individual usages of alternatives have been recorded for the international Alternative Loan System since 2002. Borrowers include teachers, students, campaigners, organisations, animal ethics committees, and government ministries. The loans have successfully provided access to alternatives where none or little existed before, provided a resource for demonstrations at conferences, outreach tours and training, and supported the work of campaigners. As a tool for facilitating implementation, the value of the Alternative Loan Systems is indicated by a number of positive results: widespread use, particularly from teachers and campaigners, the high number and wide geographical range of loans, positive feedback on the resource(s) from borrowers, subsequent purchase and implementation of products, and direct replacement of harmful animal use.

- Humane Education Award and freeware

To further facilitate replacement, InterNICHE offers an annual Humane Education Award, an international grant programme of € 20,000 that is shared between successful applicants. While many life science courses across the world often show great similarity – reflected in practical classes, animal use, and the choice of potential replacement alternatives – other issues, such as cost, language, tailorability, and a sense of ownership all play important roles in the process of implementation. Submitted projects are judged on their potential to replace harmful animal use, potential pedagogic effectiveness, overall ethical design, commitment to open source, and other factors.

The Award supports multi-local development and implementation of new alternatives or the purchase of existing products. The replacement achieved has often been very significant: physiology and pharmacology software alternatives bought or developed through the Award have replaced the annual use of up to 1000 animals in individual universities. When software has been designated freeware, a similar degree of replacement has been achieved many times over in different locations. Translations of the freeware, especially into Russian, have been particularly effective for achieving replacement. Linked to the Award, other free or low-cost software has also been made available for widespread distribution, following negotiations with producers. In 2009 and 2010, the software distributed for free across India by InterNICHE would have cost € 500,000, if purchased.

- Support for conscientious objectors

Support for student conscientious objectors is important in the face of sometimes emotionally charged opposition to humane education and the threat of academic and psychological penalty suffered by students. Information and practical advice on how to object, step-by-step, along with testimonies from student conscientious objectors, are provided at the InterNICHE website. The shared experiences of other students who have been through similar situations, and the community of objectors and campaigners that InterNICHE has helped build, can give power to those objecting and sustain them through the process towards success. Some InterNICHE National Contacts have been conscientious objectors at the forefront of pushing for curricular change and in some cases, they are the first in their country to graduate using only alternatives. The role of conscientious objection in creating change is clearly illustrated by the example they have set within their discipline of what is possible, and by the alternative tools and approaches they may have helped implement for wider student access.

- Website: www.interniche.org

The InterNICHE website is a large resource providing a wide range of information and other free materials. These include the alternatives database, comprehensive background on the issues, Alternative Loan System borrowing information, advice on conscientious objection, conference sound files, and news. An introductory text is available in all EU languages and in another 70 languages from across the world. Translated summaries of the site have provided the first significant online text on alternatives in some languages. A new version of

the site is under development and will have a very high degree of functionality and automation. In addition to many more resources being added in multiple language versions, facilities will be available for all visitors to upload information and news and that translations can be managed with ease.

- Conferences, outreach tours, and training

InterNICHE holds a major international conference every few years, offering leading international and national speakers, challenging workshops, a Multimedia Exhibition with some of the latest teaching products, and opportunities for discussion and networking. The 2nd InterNICHE conference, 'Alternatives in the Mainstream: Innovations in life science education and training' was held in Oslo, and had delegates from 32 countries. The next is to be held in Oxford, England, in 2011. The author and InterNICHE National Contacts have co-organised and spoken at a wide range of other international and national events on alternatives. Larger outreach tours have also taken place, including visits to Russia, Ukraine, India, and across Latin America. These visits allow the presentation of the InterNICHE vision, demonstrations of alternatives, distribution of resources, one-on-one meetings, and support for local humane education initiatives.

A seven-week nationwide speaking tour of India in early 2003 allowed the distribution of 1200 copies of from Guinea Pig to Computer Mouse(2nd ed.) to teachers and students of dozens of institutes from cities across the country. In 2004 in India, using the Alternatives Loan System and the skills of local trainers, over 400 university teachers and postgraduates were trained in alternatives and Animal Welfare at joint seminars at over 10 cities. This project was organised by InterNICHE in conjunction with many committed local organisations and was the first of its kind worldwide that provided training at a national level.

The Multimedia Exhibitions and training at the 5th and 7th World Congresses on Alternatives and Animal Use in the Life Sciences in 2005 and 2009, respectively, were also organised by InterNICHE. Regional events have special value by virtue of their geographic and cultural focus. A six-week series of seminars was held across Latin America in 2008 (2). The outreach tour, titled Alternative Methods for a Humane Education: Best Practice and Innovation in the Life Sciences, was organised by InterNICHE and partner organisations in Bolivia, Peru, Brazil, Argentina, and Mexico and involved international speakers and local experts and campaigners. Full-day seminars were held at up to 6 universities and independent venues across each country. In 2009, the First Pan-African Seminar on Alternatives to Animal Experiments in Education and Training was held in Kenya and in 2010, the First North Africa and the Middle East Seminar was held, reflecting the involvement of large new geographical regions in the movement.

Evolving structure

Including the solidarity and partnership approach described earlier, the semi-autonomous National Contacts are responsible for much of the activity in their country and can ensure that the approach taken there is appropriate and effective. The Committee of National Contacts and the Core Group are also spread across the world, bringing diverse perspectives to planning and decision-making. The InterNICHE culture of consensus decision-making, whenever appropriate, supports empowerment, too. As part of the commitment to full inclusivity and equal opportunities, projects take into account the challenges from 'developing' countries, particularly those relating to funding, visas, and access to alternatives.

Organisational structure and processes should evolve over time, with regular review to ensure that they maximise the opportunities for participation and empowerment and minimise those for bureaucracy. The network's growth has indeed been followed by the creation of new roles within the organisation. The Coordinator, with support from the Core Group, performs much of the day-to-day international work. Both have autonomy for decision-making where appropriate, but are answerable to the Committee. Much general decision-making in InterNICHE is made by National Contacts at committee meetings and conferences, organised when finances allow

it. With a Committee based in over 25 countries, meetings can be a challenge both practically and financially. Many regional meetings have been held and networking opportunities at other events are used to the fullest extent. Internet mailing lists and chats are used at other times, and virtual meetings are being explored as a logistical alternative to meeting in person.

The rapid growth of the organisation, network, and indeed the movement for humane education has brought other challenges. Although most work is performed here on a voluntary basis, more funds are needed, particularly for core costs. And although positive in the sense of its success, the challenge of the workload in the organisation can be difficult. The allocation of new roles within the organisation is one approach used to solve it. These include the establishment of new international roles, such as Regional Network Support and encouraging National Contacts to build local groups. The role of Partners was established to make active involvement in the network easier and create non-executive roles with co-responsibility for major joint projects. The creation of the regional Alternatives Loan Systems is another aspect of decentralisation of resources that accommodates the growth of and meeting the needs of the network. Furthermore, the restructuring of the InterNICHE website allows for active participation by a broader network of individuals and organisations, as the movement globalises further.

Conclusion

The replacement of harmful animal use has been gaining momentum across the world, supported by developments in technology and the evolution of ethical thought. The multiple positive impact of alternatives means that this replacement benefits students, teachers, animals, and the life sciences. It is a win-win situation, with a guarantee of ethical and effective acquisition of knowledge and skills in life science education and training. The use of alternatives is therefore an essential part of Animal Welfare training, and both are behind a new generation of humane citizens and professionals.

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ABSTRACT

CATALYSING CHANGE IN THE CURRICULUM: THE VISION AND PRACTICE OF INTERNICHE

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The relationship between people and animals covers a spectrum that ranges between healthy and abusive according to social context and the choices one makes. One location where people interact with animals is the field of education: the school, university or training centre. The teaching of Animal Welfare is an issue that goes beyond the acquisition of knowledge about welfare and extends to the explicit and implicit lessons presented by the nature of the interaction with animals in education. Interactions with the classroom pet and animal use within biological science, medical, and veterinary medical education and training provide lessons which may support or negate Animal Welfare Education. Animal experimentation and the dissection of purposely killed animals provide a number of significant but negative lessons, including the 'acceptability' of the harmful, instrumental use of animals. The linking of Animal Welfare Education with the replacement of harmful animal use with humane alternative methods can help ensure that the teaching and realisation of Animal Welfare is effective and sustainable.

The International Network for Humane Education (InterNICHE) has been working internationally to promote and implement alternatives in education and training for over 20 years, facilitating replacement and building an extensive network with contacts in over 50 countries. The InterNICHE experience has shown that successful international cooperation requires certain qualities and practices from organisations, including a bold and positive vision, a strategic focus along with an awareness of the meeting point between issues; a commitment to pro-actively catalyse change and create win-win solutions; the design of organisational structures conducive to participatory democracy, alliance building and the organic growth of the network; the practice of solidarity and support for local initiatives; and the provision of resources and training for action and capacity building. InterNICHE projects include the production and translation of printed, video and website information resources; the maintenance of libraries for free trial of alternatives; an international grant programme for local development and implementation of humane learning tools, including freeware; the provision of support for student conscientious objectors; and the organisation of conferences, outreach tours, and training in alternatives for teachers. The challenges met within such work will be explored, and suggestions of how to overcome them provided.

ANIMAL WELFARE EDUCATION FOR CHILDREN

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Summary:

All relevant studies and action plans of the European Union emphasise the need for a broader education and the creation of awareness in the public on existing animal protection problems. Assuming responsibilities which result in an improvement of people-animal relations is especially durable if knowledge is transferred to children. With this in mind, the projects "Animal Welfare in the classroom" (Tierschutz im Unterricht) coordinated by the non-profit organisation "Tierschutz macht Schule" (AT) and the Erna-Graff-Foundation (D) addresses children and, therefore, future consumers, farmers, and pet owners. With the help of a comprehensive network of partners, these organisations have been able to reach more than 150,000 pupils and thousands of teachers. They are pioneers in the subject of Animal Welfare Education. At the same time, they are entering new territory with their school projects and must consequently meet the methodically increased demand of holistic learning and the new approaches of transferring sets of knowledge that are complex and continuously changing. This is the only way to satisfy the requirements of a sustainable, ethical, and ecologically-based Animal Welfare that encompasses all aspects of daily life.

Keywords: Animal Welfare, Animal Welfare Education, Animal Welfare Education, school projects, schools, teachers, children, educational magazines, quality standards, network, best practice examples, European Animal Welfare Education

1. Animal Welfare Education for Children

Oftentimes, the suffering of animals is caused by a lack of or insufficient knowledge as well as a lack of responsibilities with reference to Animal Welfare-related issues. To counteract these challenges, in-depth professional knowledge about the behaviour and needs of animals is necessary. This knowledge is best acquired at a very young age. Although this is often sneered at for being a simplified statement; scientists, parents, and teachers agree that "a tree must be bent while it's young."

Remarkable continuities have been observed in the behaviour of young people, who were followed for years that prove this fact. Therefore, lasting positive change in dealing with animals and in social behaviour can be achieved if we succeed to bring the value of an animal closer to our children and not only provide them with the knowledge about the needs of animals, but also teach them about modest use and animal-friendly consumption.

At the same time, caring for and dealing with animals often strengthens essential social and personal competencies such as empathy, consideration, and responsibility. This is particularly the case in children and young adults. They are taught to take on daily responsibilities and appropriate causal chains can simultaneously be reflected.

For several years, the projects of the non-profit organisations "Tierschutz macht Schule" (AT) and the Erna-Graff-Foundation (D) have focused on education about animal protection in Austrian and German schools and launched first pilot projects in the European Union. The following describes their projects "Tierprofi" and "Walk the dog! – The European School Project about People and Animals."

2. Animal Welfare Education Projects of the Erna-Graff-Foundation (Walk-the-dog.eu) and Tierschutz macht Schule (Tierprofi)

Walk the dog! – The European School Project about People and Animals

The project “Walk the dog! – The European School Project about People and Animals” developed by the Erna-Graff-Foundation for teaching Animal Welfare in the classroom was established three years ago. In addition, it is well on its way to becoming an international platform for classroom materials that deal with animal and Animal Welfare topics. Whether it is the “School Project about People and Animals”, the “European School Project about People and Animals,” “Školski projekat o ljudima i životinjama” (in Serbian), or “Σχολική δραστηριότητα για ανθρώπους και ζώα” (in Greek), the classroom materials and the website offer age-appropriate materials which many teachers and pupils cannot find in current school books: information about pets, farm animals, animals at the zoo, circus, and on TV, the issue of animal testing, worksheets at no cost, and a comprehensive online collection of in-depth background information, movies, recordings, and special classroom tips (the largest share of material is presently available in German, however, services in foreign languages are continually being expanded).

Within the scope of Walk the dog!, the Erna-Graff-Foundation offers two pupil magazines, one comprehensive workbook for the primary and secondary school level, a website (walk-the-dog.eu), and one DVD about farm animals. The Foundation compiled this material in cooperation with the Faculty of Veterinary Medicine at Freie Universität Berlin. It was developed together with teachers and the text written by a children’s book author. The lovingly illustrated materials convey their message by telling short stories. Additional facts provide a well-balanced treatment of the subject matter.

The main educational principle of Walk the dog! is teaching fairness and responsibility towards animals as living beings who are dependent on us humans. As consumer and future pet owners, children and young adults learn the basics of how to treat other living beings in a friendly and respectful manner. Thanks to the support of seven Länder Ministries and the Senate Departments of Berlin and Hamburg, nearly 2,200 schools in Germany now use with the teaching materials developed by the Erna-Graff-Foundation.

Even textbook publishers increasingly value the quality of Walk the dog! and are using excerpts of the project in their textbooks to a greater extent.

The Erna-Graff-Foundation very much values its strong partnerships in the educational arena. The close cooperation with the FWU – Das Medieninstitut der Länder (The Media Institute of the Länder) was highly successful and resulted in a Walk the Dog! teaching DVD “Animal Welfare: Our Dealing with Livestock” in December 2009.

Information kits about the school project can be ordered free of charge together with pupil magazines under www.walk-the-dog.eu.

About the Erna-Graff-Foundation:

Very early on, Erna Graff, the Foundation’s long-time president and the honorary president of the West Berlin Tierschutzverein (Animal Welfare organisation), recognised that the ethical treatment of animals had to be learned during childhood. Consequently, the subject Animal Welfare in the classroom has played a key role since the establishment of her foundation on 28 February 1983. During the 1990s, an Animal Welfare teacher of the foundation was able to lay the first cornerstones at numerous Berlin schools. In 2001, the first Ger-

man Animal Welfare schoolbook "Biologie: Tierschutz" (Biology: Animal Welfare) was published by Ernst Klett Verlag. The Erna-Graff-Foundation has continuously developed nationwide teaching concepts and materials. Its current project is Walk the dog!

The Project Tierprofi: A Lifetime of Animal Welfare Education!

From kindergarten and school to vocational training

The Tierprofi project of the non-profit organisation "Tierschutz macht Schule" has one key objective: Animal Welfare as an integral part of the curricula of schools, kindergarten, and vocational training programmes such as in universities' teacher programmes. To treat an animal with respect and to understand its needs are the foundation for a functional people-animal relationship. Since its establishment, "Tierschutz macht Schule" has worked closely with the Ministry of Education, programmes of education, and Austrian universities in order to achieve its goal. Over the past three years, four "Tierprofi" pupil magazines for children and young adults between the ages of 7 and 18 have been developed jointly with teaching institutions such as the University of Veterinary Medicine Vienna, the Research Institute of Wildlife Ecology, the Centre for Alternative and Complementary Methods to Animal Testing, the Austrian Federal Ministry for Education, Arts and Culture, and the Austrian Federal Ministry of Health.

Each magazine focuses on Animal Welfare issues for one specific group of animals: "Tierprofi Test Animals," "Tierprofi Farm Animals," "Tierprofi Wild Animals," and "Tierprofi Pets." For quality assurance purposes, the content of these magazines, their use in the classroom, and teacher satisfaction with the material are continuously evaluated. Additional studies on the sustainability and effectiveness of the Tierprofi magazines are underway in Great Britain and Mexico. More than 150,000 pupils and teachers in Austria, Germany, and Switzerland are using the "Tierprofi" magazines.

Starting in autumn 2010, the kindergarten booklet "Tierschutz macht Schule" is going to be released. It addresses the issue that "animals are not toys." Furthermore, parts of the pupil magazine on test animals are provided to first-year biology and veterinary medicine students.

Tierprofi Workshops

"Tierschutz macht Schule" offers "Tierprofi" workshops at animal shelters, on organic farms, at zoos, and at research institutes for students, teachers, and special vocational groups, such as farmers, in order for them to be able to implement their acquired knowledge in a practical setting. The participants of the workshops have the opportunity to observe cattle in free-stall systems, wild animal housing in zoos, and the living conditions of domestic animals in shelters. In addition, they learn how to transfer their own knowledge to others. The direct contact with the animal and its living environment provides hands-on teaching.

About the non-profit organization "Tierschutz macht Schule"

The Austrian non-profit organisation "Tierschutz macht Schule" was established because of a particularity in the Austrian legislation the Animal Protection Act. Compared to other European Union Member States, the more stringent Austrian Animal Protection Act stipulates – among other things – that the Federal Government, Länder, and municipalities are required to create and strengthen the public and youths' understanding of for Animal Welfare (Para. 2 of the Austrian Animal Protection Act). The non-profit organisation "Tierschutz macht Schule" was established to meet this requirement. It is supported by the Austrian Federal Ministry of Health, and the Austrian Federal Ministry for Education, Arts, and Culture provides content and organisational help. A network of experts from the areas of veterinary medicine, zoology, and education assures the high quality

of knowledge transfer. Scientific institutes and universities, other non-profits and organisations, as well as political institutions are partners of “Tierschutz macht Schule.” This trans-departmental and trans-disciplinary cooperation is unique and guarantees an exceptional status of the non-profit organisation in terms of realising its objectives.

Vision and Objectives

The objective of “Tierschutz macht Schule” is to make Animal Welfare based on current research an fundamental component of the educational system. Children, young adults, and adults should receive in-depth knowledge about animals’ needs. Appropriate treatment of domestic animals, wild animals, farm animals, and test animals should be communicated to all levels of society so they understand and implement it in their day-to-day lives. This increases awareness and changes consumer behaviour to consider animal wellness.

3. Educational & Didactic Approaches

Suitable classroom methods are required to teach about people-animal relations and ongoing problems with Animal Welfare. Traditional teaching methods such as presence teaching in the form of a head-on teaching approach are not very effective in transferring knowledge. Our concepts are linked to terms like teamwork, interaction, intuition, empathy, and incorporate Animal Welfare issues into holistic learning concepts involving all four levels of competence development (regular teaching contents, general knowledge, social competences, and personal competences). Our interdisciplinary approach gives pupils the possibility to understand and discuss the complex relations that exist between human beings and animals – the social, economic, and cultural questions. Furthermore, pupils are empowered to identify possible solutions: What can I do? Or: what could we do?

“Tierschutz macht Schule” and the Erna-Graff-Foundation currently implement three key approaches to transfer knowledge: teaching materials for schools, excursions to places of learning outside the classroom, and “Workshops as Multipliers.”

These approaches are briefly introduced below.

Teaching Materials for Schools

The non-profit organisation “Tierschutz macht Schule” and the Erna-Graff-Foundation continuously develop age-appropriate teaching materials for pupils. Their magazines transfer complex knowledge in a playful and interdisciplinary manner. Teachers can order and use these self-explanatory magazines in addition to their standard curriculum. Both organisations provide additional support for teacher materials with a comprehensive background information, assignments, and information about creating an interactive classroom experience on people and animals.

Unfortunately, Animal Welfare does not hold a particularly high position in current curricula. “Tierschutz macht Schule” and the Erna-Graff-Foundation endeavour to counteract this by offering attractive and contemporary material. However, the high demand by schools and teachers demonstrates that the significance of the topic Animal Welfare has gradually increased.

It would be desirable for this trend to be reflected in the curricula.

Excursions to Places of Learning Outside the Classroom

To achieve lasting successes in the improvement of the treatment of animals, it is especially important to provide children and young adults with direct contact to animals that are mentioned in the classroom in addition to teaching in the classroom. Petting a cat, visiting a stable, milking a cow – such contacts and encounters with the animal world are rudimentary for developing the foundations for responsible treatment of living beings. Outside advertisements and comics, the animals are experienced as real and leave impressions which the classroom experience by itself cannot provide.

Workshops as Multipliers

Due to a lack of knowledge, many teachers shy away from treating the topic of Animal Welfare in the classroom. This shortcoming is the result of the low importance this subject is given in curricula and consequently in the education of teachers. Until the time comes when this subject is treated adequately in study programmes for future teachers, continuing education for teachers on the topic of Animal Welfare plays a key role.

In particular, educators are social multipliers and often have a significant impact on generations of pupils. Therefore, numerous teacher workshops by “Tierschutz macht Schule” convey the key contents of the teaching magazines, develop educational ideas, and provide in-depth knowledge of animal groups (domestic animals, farm animals, wild animals, test animals).

In addition, “Tierschutz macht Schule” targets pupils with special workshops where so-called “Pet Buddies” are trained. During three afternoons, it provides children with profound insights into the needs of animals. Upon completion of this short “training session”, they become the contacts in their classrooms for questions on the topic of Animal Welfare and the needs of animals. Thereby, the children are motivated to take initiative. At the same time, this new responsibility strengthens their self-esteem and such positive experiences increase the chance that other children, too, will deal with this subject or even want to attend such a workshop.

Another promising approach in the future is to organise workshops for trainers in the area of vocational training and continuing education. The objective of this approach is to increase the Animal Welfare competencies of training personnel. At the same time, people who are involved in vocational training and who deal with animals on a professional level later in life are made aware and educated continually in questions of animal protection and Animal Welfare from the beginning.

4. Outlook

Animal Welfare Education is a sustainable and long-term approach to prevent animal suffering. At the same time, learning how to treat animals in a responsible way increases humans’ social and personal competencies. Therefore, the traditional methods in Animal Welfare Education must be improved and updated continuously. The projects “Walk the dog! – The European School Project about People and Animals” and “Tierprofi” certainly have an important pioneering role. At the same time, quality assurance and evaluation of the project must be further developed in the future as it takes place, for example, in cooperation with institutions of higher learning and universities.

In May 2010, additional important principles for such an undertaking were developed during a two-day workshop on the topic “European Animal Welfare Education: Quality Standards in European Animal Welfare Education.” The draft development for initial quality criteria for a joint European Animal Welfare Education should be stated as an example.

Furthermore, the workshop demonstrated a significant need to collect existing educational materials (such as classroom materials, movies, books, etc.) across Europe for the teaching of Animal Welfare and the establishment of a pool for best practice examples.

Subsequently, these materials could be made available online and could be evaluated more comprehensively. "Tierschutz macht Schule" and the Erna-Graff Foundation deal with the above-mentioned tasks and challenges together with an interdisciplinary and trans-disciplinary team. At this point, we would like to thank all partners for their wonderful support and hope our efforts will bring about a significant decrease in animal suffering and possibly in social conflicts.

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The workshop that was organized by "Tierschutz macht Schule," the "Erna-Graff Foundation," the Austrian Federal Ministry of Health and the European Commission's Directorate-General for Health and Consumers took place on 10 and 11 May 2010 in Vienna. <http://www.tierschutzmachtschule.at/en/WorkshopMay2010.html>.

ABSTRACT

ANIMAL WELFARE EDUCATION FOR CHILDREN

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The foundation of durable Animal Welfare Education is knowledge about the needs and behaviour of animals, as well as the respectful treatment of living beings. It is this knowledge that individuals working in the field of Animal Welfare Education communicate to the public at large, children, and young adults.

All relevant studies and action plans of the European Union emphasize the need to more extensively educate the public about human-animal relations. Animal Welfare Education is a sustainable path to preventing animal cruelty in the long-term. Often, it is a lack of knowledge or of responsibility that lead to improper treatment of animals. Therefore, informing and creating public awareness about Animal Welfare topics is a key objective.

It is especially important to familiarize children and young adults with the topic of Animal Welfare in a responsible manner. In addition to the positive effects in terms of Animal Welfare, namely, improved consumer behaviour and increased awareness of how to treat animals properly, as well as the needs of animals, children, and young adults will benefit tremendously from Animal Welfare Education.

Beyond meeting and dealing with animals directly, they acquire social competences such as empathy, consideration, and responsibilities. Thus, Animal Welfare Education plays an important role in preventing violence in schools.

The two organisations "Tierschutz macht Schule" (AT) and the Erna-Graff-Foundation (D) have joined forces with an interdisciplinary and trans-disciplinary team to deal with the above-mentioned tasks. They are considered pioneers in the topic of Animal Welfare Education. Within the framework of the school projects "Tierprofi" and "Walk the dog! – The European School Project about People and Animals", they have been able to reach more than 150,000 pupils and thousands of teachers. An important aspect of the teaching concept is holistic learning and new approaches to convey knowledge that is complex and which continually changes. In addition, they evaluate the effects of their efforts on a continuous basis (for example, in cooperation with the education departments of institutions of higher learning and universities). The three main areas for transferring knowledge include: classroom materials, excursions to "learning places outside the school environment", and "workshops as multipliers." These methods create awareness and interest among pupils, teachers, but also other adults who are interested in the topic of Animal Welfare.

Moreover, "Tierschutz macht Schule" and the Erna-Graff-Foundation are active at the European level. Together with an interdisciplinary network, they develop quality standards for a common European education in Animal Welfare. In addition, they plan to collect existing subject-related classroom materials on a European-wide level (e.g., magazines, books, movies, etc.). This allows for the evaluation of the materials and making them available as best practice examples to European educators from schools, universities, and for vocational training programmes.



ANIMALS IN SCHOOLS EDUCATION TRUST (AISET)

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Summary

The New Zealand Veterinary Association promoted the establishment of the Animals in Schools Education Trust (AISET) to foster the provision of educational resources about animals to schools. The intention is for pupils to develop an obligation to have concern for the welfare of animals and acquire knowledge about the appropriate treatment of animals; and to gain a balanced view of the human-animal relationship. AISET's principal activity is to promote the distribution of balanced materials on animals in all roles in society. New Zealand's school science curriculum encompasses the interaction of animals with the world in which we all live. Other education programmes are provided so that not only schools, but also the general public has the opportunity to learn about and understand animals.

Keywords: Animal, curriculum, education, New Zealand, school, welfare

Introduction

In the early 1990s, the New Zealand Veterinary Association became concerned about the unbalanced materials on animals being provided to schools. This made it difficult for teachers to evaluate and present information to their pupils on animal-related topics such as the use of animals in research, teaching, and testing. In response to this, the Animals in Schools Education Trust (AISET) was established and incorporated under the Charitable Trusts Act in 1993. (1)

AISET was created to promote the provision of educational resources about animals to schools to help pupils develop an obligation to have concern for the welfare of animals and to acquire knowledge about the appropriate treatment of animals and obtain a balanced view of the human-animal relationship.

Role

AISET's principal activity is to promote the distribution of balanced material on animals in all their roles in society, including as pets, as working animals, in the farming sector, as well as in research, teaching, and testing. AISET believes that such information will promote the care and welfare of animals in all these roles.

Membership

The AISET trustees include a wide range of individuals and organisations that reflect the animal-related and educational role of the organisation. The members of the Trust's Board firmly believe in humane education; learning to care for animals results in caring for each other.

The following organisations are Trustee members of AISET:

New Zealand Veterinary Association
Royal Society of New Zealand
Ministry of Education
Victoria University College of Education
An education consultant
Federated Farmers of New Zealand
Ministry of Agriculture and Forestry

New Zealand Cat Fancy

New Zealand Kennel Club

Royal New Zealand Society for the Prevention of Cruelty to Animals

The AISET board members include teachers, veterinarians, scientists, animal owners, and interest group members whose combined experiences and expertise result in the capability to identify information that meets these requirements.

Societal Trend and Education

With the increasing urbanisation of our society, many New Zealanders do not have contact with the rural sector.

Children are our future decision makers and the majority have little or no knowledge about farm animals or the farming sector. The revenue from primary sector exports is very important for New Zealand's economy.

AISET's mission is for school pupils to develop a sense of obligation to be concerned about the welfare of animals of all species and to obtain a balanced view of the people-animals relationship.

Attitudes towards animals are formed early in life. For many, school may be the place where experiences on how to handle and look after animals is gained, and where opportunities for detailed observation of animal behaviour and growth is provided.

AISET believes that teaching young people about the importance of Animal Welfare will have a positive effect on their treatment and appreciation for animals and one another.

Based on a survey of relevant teaching resources, the Animal in Schools and Education Trust identified the need for additional primary school student resources regarding the use of animals in farming. This ultimately led to the facilitation of the Cold Snap Lambs book in 2008, which was distributed to all primary and intermediate level schools.

AISET provides educational resources designed by teachers to schools in order to promote the inclusion of animal topics in New Zealand's school curriculum. AISET also promotes other animal-related educational resources so teachers and students have access to information about the care and welfare of animals in all aspects of life in New Zealand.

There are a total of 2,434 schools in New Zealand. (2)

Animals in the Classroom

The AISET-supported guide *Caring for Animals – A Guide for Teachers, Early Childhood Educators, and Students* (3) was originally published by Learning Media Limited for the Ministry of Education. It was introduced at an Animal Welfare and ethics conference in Wellington in 1999. This illustrated book provides educators legal, ethical, and practical information on the use of small animals in early childhood education centres and schools.

The guide replaced the former publication of the Department of Education from 1981, *Keeping Small Animals in the Classroom*. The "duty of care" for animals is a key feature of the Animal Welfare Act of 1999. This Act placed new restrictions on the use of animals in schools and early childhood centres.

The guide explains both the ethical and legal obligations for boards of trustees, teachers, early childhood educators, and pupils when observing or studying animals. It also outlines the needs of various invertebrates

and vertebrates to ensure that they remain healthy and well cared for. It should be noted that the content was reviewed by the Schools Animal Ethics Committee, which convened its first meeting in August 2005, to update the information. However, the revised edition has not yet been published due to a lack of funding.

The guide explains the proper care of axolotls, goldfish, terrapins, birds, guinea pigs, rabbits, rats, mice, field crickets, slaters, garden snails, and compost worms.

Contributors to the guide include the Ministry of Education, the Ministry of Agriculture and Forestry, and the Animals in Schools Education Trust.

Schools Animal Ethics Committees

The Animal Welfare Act (1999) requires research and teaching that involves the manipulation of animals to be subject to ethics approval. This applies to animals used in schools and in school activities. The Schools Animal Ethics Committee was established in 2005 to help schools meet these legal requirements.

Nearly all manipulations now have minor adverse impacts on the welfare of the animals. In fact, those involving pets may have had a positive impact because of the additional attention they undoubtedly have received.

Endorsement

AISET applies a rigorous educational resource endorsement plan that relates to animal-based educational resources produced by other organisations that seek AISET approval.

AISET believes that it is in a valid position to evaluate new teaching resources on Animal Welfare. The Trust's endorsement of such material encourages teachers to look for information based on sound principles which ultimately lead to a more balanced point of view on animals and their place in society.

AISET's endorsement of educational materials about animals – their treatment and welfare, and their role in both society and the environment – adds value and credibility to the material. The Trust is particularly interested in facilitating the production of educational materials for use by teachers, but also endorses any material that meets the Trust's criteria.

As already mentioned, endorsement by AISET adds value to any course material. In order to be endorsed, the material must reflect a balanced view, be technically accurate, relate to New Zealand's school curriculum and promote the principles of humane education.

The AISET Board welcomes any questions about the endorsement of materials or the role of the organisation.

There is a nominal endorsement fee which is determined based on the given circumstances.

The New Zealand Companion Animal Council supports the AISET endorsement plan to assist it in its promotion of consistent, technically accurate, and balanced information on Animal Welfare and management.

The New Zealand School Science Curriculum

The curriculum (4) consistently emphasises the importance of providing the learning of science concepts via familiar and interesting contexts, which will make learning more accessible.

The school curriculum, through its practices and procedures, reinforces the commonly held values of individual and collective responsibility which underpin New Zealand's society.

Values are mostly acquired through pupils' experiences of their complete environment, rather than through direct instruction. Reliability and caring are specifically identified as values to be fostered actively.

In their study of the living world, pupils will use their developing scientific knowledge, skills, and attitudes to:

- (1) gain an understanding of order and patterns in the diversity of living organisms, including the special characteristics of New Zealand's plants and animals;
- (2) investigate and understand relationships between structure and function in living organisms;
- (3) investigate and understand how organisms grow, reproduce, and change over generations;
- (4) investigate local ecosystems and understand the interdependence of living organisms, including humans, and their relationship with their physical environment.

Students need to be encouraged to consider the social and ethical implications involved in order to make responsible decisions about living beings.

Publications

AISSET aims to compile an educational resource to complement each NAWAC code of Animal Welfare.

To date, AISSET has facilitated the publication of:

- "Our Pet Dog and its Welfare"
- "Rebecca's Cats and How She Cares for Them"
- "Cold Snap Lambs" for 9–12 year olds. This book explains the reasons for early lambing and good animal husbandry practices by farmers to ensure the well-being of lambs during cold snap weather in early spring and to offset media headlines during cold snap events when listeners and viewers only hear or see emotional material which portrays dead lambs. This educational resource was very well received.
- "Brandy the Budgerigar" consists of a video, teachers' notes, and a student workbook.

These have been widely sold and distributed to many schools in New Zealand and are also available on AISSET's website www.aiset.org.nz.

The endorsed publications include:

- "Safe Fun with Animals" – video, parent/ teacher notes
- NZVA kit for veterinarians to use when visiting schools
- "Poultry Biology – course book for teachers"

- “The Chook Book”
- “Pets or Pests?” – Alpha series published by the Royal Society of New Zealand
- “Talking about dogs in the community” – a teaching kit for use by animal control officers
- “Friends of the Family” – by Dr. Virginia Williams
- “Caring for Animals” – A guide for teachers, early childhood educators, and pupils – in association with the Ministry of Education and MAF
- “Dog Do’s and Don’ts – Animal Management School” –educational programme for teachers, children and parents.

AISET further promotes the welfare of animals by having a visible presence with displays at meetings and conferences including NZVA conferences, science teacher conferences, commercial expos, and companion animal shows. High quality display panels have been produced for use at these meetings and flyers are distributed to attendees.

Changes are visible in the attitudes regarding the need for educational resources. When AISET first lobbied for the lamb book in 2004, the response was lukewarm and it was considered a nice idea, but no funding was made available. By 2007, the political environment had changed and AISET was successful in obtaining funding to produce the educational resource guide MAF Animal Welfare, New Zealand Veterinary Association Sheep and Beef Cattle Society, and Meat and Wool NZ.

Current AISET Projects

AISET is currently developing an educational resource about dairy calves. The book will explain the reasons for common practices on dairy farms and good animal husbandry practices by farmers to ensure the well-being of their cows.

AISET has established a partnership with the sponsors DairyNZ and MAF Animal Welfare. A book, a resource for teachers, is currently being written. Once it has been edited, illustrated, and approved, it will be distributed to all schools in New Zealand with 9–12 year old pupils free of charge where it will be available for use by teachers and pupils. The contents of the book will be directly related to the social studies and the science school curricula. The book will be fully illustrated with photographs.

The content will include but not be limited to:

- a calf is born – weather, feeding, colostrums, transition of feeding from milk to grass, etc., follow progress to heifer paddock, bobby calves;
- mother cow – happy cow = healthy cow, milk quality, dairy routine;
- general farm management;
- animal health and Animal Welfare.

The desired objectives are to:

- raise awareness about the importance of Animal Welfare;
- increase knowledge of farming practices;
- close the gap between town and country;
- increase children's knowledge of dairy farming;
- increase parents' knowledge of dairy farming;
- engage children interested in farming early for them to:
 - (a) have some knowledge of rural New Zealand;
 - (b) choose to further this interest through their education at secondary or tertiary levels;
 - (c) become interested in seeking employment in the agricultural sector.

AISET Future Projects or What's Next

AISET has a number of initiatives that include:

- consulting with Companion Animal Society, a special Interest branch of NZVA, to revamp the 'veterinarians talking in schools' resource;
- camelids in New Zealand;
- emus and ostriches in New Zealand;
- other activities include liaising with the Companion Animal Society of the NZVA, the New Zealand Companion Animal Council and Animal Behaviour, and Welfare Consultative Committee.

Additional Educational Resources of the AISET Programme

ANZCCART

The Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) is an independent body which was established to provide a focus for consideration of the scientific, ethical, and social issues associated with the use of animals in research and teaching. Such use is often the subject of lively debate. (5)

ANZCCART has developed a new science resource for 13–14 year old pupils. Its aim is to promote informed discussion about the care of animals in research. It consists of a DVD featuring prominent New Zealand scientists talking about their research and a CD of educational material based on the interviews. Two copies of the resource will be provided free of charge to each secondary school.

The centre piece of the educational resource is the DVD which features a wide range of socio-scientific issues relevant in today's world. Dr. Jessie Jacobson, the 2007 MacDiarmid Young Scientist of the Year, narrates an overview of the seven interviews and talks about reasons why animals are used in research.

Each of the interviews is accompanied by a series of lessons. Each series has relevant achievement objectives with a focus on the new overarching element, The Nature of Science in the school science curriculum.

Agriculture in Schools

Some schools outside the main urban areas have programmes to introduce children to farming and self-sufficiency. There are classroom pets in city schools and there may even be room for a school garden in urban areas where pupils can grow vegetables and flowers. Many of the country schools organise an annual pet day where pupils bring a lamb, calf, pony or other animal for display. Activities include handling, leading, and calling the animal. This requires pupils to have been involved in the rearing and training of these animals. (6) Other schools have had skills courses for animal care such as handling and caring for horses.

A number of schools throughout the country have offered farm training for many years. Some may even have farms that are run in conjunction with a farm manager. (7) Students who take agriculture courses may be rostered for farm duty where they are out of class for up to two consecutive days a week. They work with the farm manager and carry out the daily tasks required to run the units, milking cows, calf rearing, docking, drenching, crutching, shearing, feeding pigs, fencing, etc.

Annual Farm Day

Federated Farmers has introduced an annual Farm Day and invites all New Zealanders to visit a farm and meet real farmers. The invitation is open to everyone to see for themselves what farmers do and how they do it. Visitors are invited try their hand at some farm work, ask questions, and to have fun. No questions are 'off limits'. (8)

Farms are highly visible operations that come under scrutiny daily, but the public does not often get the chance to talk to a farmer face-to-face and to find out what really happens on a working farm. Federated Farmers want to help people become better informed and Farm Day is a fun way to share the farm as a workplace.

The Royal New Zealand Society for the Prevention of Cruelty to Animals has an educational programme and local animal control officers often visit primary schools.

Research and Education

The agricultural research organisation, AgResearch, has established a community relations programme that focuses on working with school students, the community, and key stakeholders to increase the understanding and appreciation of science, and particularly, the value of pastoral sector science in keeping New Zealand prosperous. AgResearch recognises the need for greater awareness of the value of science and technology and the need to encourage school students to study science and consider science careers. (9)

Auckland University Liggins Institute

LENScience brings school teachers and students in contact with scientific research communities. They aim to inspire schools to maximise student potential through high quality learning opportunities.

Television

TVNZ Country Calendar is the longest running TV show in New Zealand and occupies a prime time slot. Currently, that time is 7.00 p.m. Saturdays on TVOne. (10)

SKY Channel 99 – The Farming Channel

Country 99 TV is a channel addressing farmers. It is a dedicated farming news, information, and lifestyle channel and features daily updates on new products and systems, as well as rural-based news. While it is subscription based, it is also available for the urban and education sectors. (11)

Acknowledgements

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WORLD SOCIETY FOR THE PROTECTION OF ANIMALS – ADVANCED CONCEPTS IN THE ANIMAL WELFARE PRO- GRAMME FOR VETERINARY SCHOOLS

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Summary:

Veterinary students throughout the world are exposed to varying degrees of Animal Welfare content throughout their studies and as a result their attitudes and behaviour towards the animals in their care may be less than satisfactory. However, the acknowledgement of the importance of the subject by such organisations as the World Organisation for Animal Health (OIE), the World Veterinary Association (WVA), and the Food and Agriculture Organisation (FAO) indicates that Animal Welfare science, ethics, and values should be incorporated into the veterinary curriculum worldwide.

The World Society for the Protection of Animals (WSPA) is successful in this field by providing educational programmes that deliver robust resources and effective training to lecturers in veterinary schools around the world. This has resulted in greater understanding of the science of Animal Welfare, as well as inclusion of the subject in the curriculum of the faculties with which we work.

Keywords: Concepts in Animal Welfare, veterinary science, animal science, veterinary curriculum

Who is the World Society for the Protection of Animals (WSPA)?

WSPA is the world's largest alliance of Animal Welfare societies with approximately 1,000 member groups in over 150 countries worldwide. We have been promoting Animal Welfare for more than 25 years and our work and growing reputation has enabled us to achieve consultative status at the United Nations and the Council of Europe. WSPA's vision is of a world where Animal Welfare matters and animal cruelty comes to an end. WSPA has 16 offices worldwide and we are most widely known for our work on companion animals (responsible pet ownership, humane stray management, and prevention of cruelty); the commercial exploitation of wildlife (the cruel management and killing of wild animals for food or by-products); farm animals (intensive farming, long distance transport, and slaughter of animals for food) and disaster management (providing care to animals suffering as a result of disasters, and thereby protecting people's livelihoods).

How does Education Fit In?

Many instances of cruelty and neglect arise for a number of socioeconomic reasons as well as through ignorance or through societies with traditions that are rarely challenged. While it is essential that WSPA continues to work on the frontline and helping animals in desperate need through our other projects, this problem will continue and the projects addressing them will be necessary forever unless animal neglect and abuse is addressed at its source. When we teach people to have compassion, empathy, and respect for animals, we are not just cultivating the humane treatment of all animals, but a more humane society in general. Animal Welfare is naturally gaining attention throughout the veterinary world and major organisations, such as the World Veterinary Association (WVA), advocate a higher profile for Animal Welfare matters in veterinary curricula (Edwards & Schneider, 2005). By working at the curricular level in schools and higher education faculties, WSPA is working towards creating a long lasting change that allows educators to continue passing on the message throughout their everyday roles.

WSPA has two formal education programmes. First, Concepts in Animal Welfare (FCAW) encompasses all activity that revolves around introductory level Animal Welfare Education. This includes the old International Animal Welfare Education (IN AWE) programme targeting education ministries and training teachers to teach Animal

Welfare to 5–16 year olds. Education ministries and educational authorities are essential partners in achieving the long-term goal of including Animal Welfare into the formal curriculum. The FCAW programme also allows for the inclusion of future educational programmes or resources that are aimed at introductory level welfare issues. Examples of this might be adults with lower literacy levels or adults who are being taught the basic needs of the animals in their care.

Advanced Concepts in Animal Welfare (ACAW) encompasses all activity that revolves around the dissemination of complex Animal Welfare Educational content. This includes the old Tertiary Animal Welfare Education (TAWÉ) programme targeting veterinary and animal science faculties at universities and Agriculture and Livestock Training Institutes (ALTIs). The programme has been extended to enable the inclusion of all educational programmes or resources that are advanced in their academic content and are aimed at groups such as trainee or in-service professionals. This assumes prior biological or veterinary knowledge.

ACAW: Contributing to a Humane Veterinary Curriculum Worldwide

Veterinary students often have poor attitudes and behaviour towards the animals in their care; with some surveys even finding that the empathy of male students decreases over the course of their studies (Paul & Podberscek 2000). The goal of the ACAW programme is to improve the knowledge and skills of veterinary lecturers in the science of Animal Welfare in order for this discipline to be fully incorporated into the teaching of veterinary science worldwide. Once achieved, this will influence the students and create the positive attitudes necessary for treating animals appropriately and for providing proper advice on welfare issues to clients.

The approach implemented by WSPA Education team members remains similar throughout the countries in which we work. Deans of faculty of vet schools are initially approached about the inclusion of Animal Welfare in the curriculum. With their approval, lecturers are then trained in the use and implementation of our main teaching resource the “Concepts in Animal Welfare” (CAW) CD ROM. The CAW CD ROM was produced in 2003 in collaboration with the University of Bristol and revised in 2007. It consists of 34 PowerPoint modules, each with a list of assessment questions, suggested group discussions, project work, and suggested reading lists. To date, the resource is available in English, Japanese, Spanish, Portuguese, Chinese, and Indonesian while the Korean, Vietnamese, and Thai translations are in progress.

We recognise the need for in-country Animal Welfare expertise and, where possible, we provide assistance to support interested lecturers acquire external qualifications in Animal Welfare science. In addition to this, we develop “Key Drivers” within countries to take the programme forward independently of WSPA. An additional area of focus for the WSPA Education team is the promotion of the 3 R’s (Reduction, Refinement, and Replacement) in the use of animals in the practical elements of teaching. Humans learn by imitation and therefore we must ensure that lecturers practice what they preach; the clinical aspects of the veterinary curriculum must match the theory and consider Animal Welfare issues.

Implementation of ACAW Around the World

Of the 16 WSPA offices, five possess dedicated education teams that deliver one or both of our formal education programmes, each with responsibility for a number of countries.

South and Central America

Delivery of the ACAW programme began in Brazil in 2000, followed by Mexico in 2006, and spread to Peru, Chile, Argentina, and Colombia in 2009. Workshops and induction courses have been delivered to representatives from at least 31 veterinary faculties across those countries with an additional 350 lecturers and deans from colleges of veterinary medicine and animal sciences across Brazil. Formal relations with veterinary asso-

ciations are essential not only to the credibility of the ACAW programme, but also to ensure the support of the faculties themselves, and we have successfully created working relationships with the Mexican National Council of Veterinary Education (COPEVET); the Pan-American Congress of Veterinary Sciences (PANVET); the World Organisation for Animal Health (OIE), the collaborative Centre for Animal Welfare in Chile: Universidad Austral; the Veterinary Association of Chile, COLMEVET; the Vet Faculties Association of Colombia (ASFAMEVEZ), and the Veterinary Society of Argentina (SOMEVET).

In 2009, collaboration between the Spanish-speaking education teams resulted in the successful development of the online CAW training programme. The free Virtual Learning Environment (VLE) called “Moodle” was utilised to upload and deliver the Spanish version of CAW in a pilot test to selected academics across the Central and South American Region. This VLE has the capacity to reach more lecturers from a varied geographical base than is possible to target with workshops and ensures a considerable grounding in their AW knowledge before they go on to teach their students. The pilot test of this facility indicated that both tutors and participants viewed the course as a practical, economic, and useful way of implementing Animal Welfare Education for professionals. Most participants were satisfied with the usability of the VLE as this allowed them to complete course activities in their own time.

Africa

The work of the Africa ACAW team is focused on Kenya, Uganda, and Tanzania. Three key vet schools were identified and collaborated with to support the inclusion of Animal Welfare into the curriculum and the University of Nairobi, Makerere University, and Sokoine University now incorporate the subject as a mandatory discipline for undergraduate Bachelor of Veterinary Medicine students. Additional extra-curricular classes are provided for those students who will graduate before the curriculum is implemented to ensure that no students miss out on the valuable content.

An additional area of focus for the African education team is the Agriculture and Livestock Training Institute (ALTIs). Within the African context, vets and veterinary students are rare and much of the handling of animals occurs through agriculture as well as through the para-vets that operate in remote towns and villages. Those individuals studying at ALTIs at certificate or diploma level are therefore exposed to an Animal Welfare Education programme developed in collaboration with the University of Nairobi, simplifying the content on the CAW CD ROM and tailoring it to the needs of the diploma student. To date, two ALTIs in Kenya, two in Uganda and all six in Tanzania have incorporated the Animal Welfare curriculum.

Asia

The ACAW programme has been implemented across the Asia region since 2004 with 16 countries benefitting from ACAW workshops and the CAW resource. In addition to the training of groups of lecturers, 12 enthusiastic and competent individuals were identified as “Key Drivers” across eight countries. The intention is for these individuals to ensure the sustainability of the programme by taking responsibility for the future training of other lecturers in their own country. They have been provided with specific training on programme delivery and the running of workshops, as well as being provided with opportunities to further their own Animal Welfare expertise by acquiring qualifications in the subject area. This approach is already showing rewards as these individuals are now leading on national steering committees, organising workshops, and disseminating resources independently of WSPA.

Key Learning Points

Our experience gained from implementing a similar programme of work across varied regions has revealed a number of key learning points. Firstly, endorsement from professional veterinary associations is extremely

useful. The credibility this provides to the ACAW programme allows the deans of faculty to have faith in the content of the resource and its applicability. It also provides extra weight to the argument for inclusion in the already overcrowded curriculum. Secondly, it is essential that we approach the programme with a view to sustainability. We endeavour to support the creation of Animal Welfare expertise within each country. In order to do this, it is important to provide lecturers with the opportunity to develop their own knowledge of the subject to increase buy-in and improve the quality of teaching.

Conclusions

WSPA's goal is to improve the knowledge of veterinary lecturers and students around the world in the science of Animal Welfare to create the positive attitudes necessary for treating animals and providing advice on welfare. In order to achieve this goal, WSPA provides an excellent teaching and learning tool that enables lecturers to gain expertise in the field of Animal Welfare and educate their students with the appropriate content. Our approach is comprehensive in targeting professional bodies and deans of faculty, ensuring that lecturers are well trained and supported as they embark on the implementation process. As a result of our efforts and the raised profile provided by organisations such as the WVA, OIE, and FAO, increasing numbers of veterinary schools and animal science faculties are incorporating Animal Welfare as a mandatory subject.

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ABSTRACT

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YOU LOVE ANIMALS? BECOME A VET!

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“When I grow up I want to be a veterinary surgeon because I love animals so much!” Who has not heard this statement from young people before? Once they turn 18 years old, D-day arrives and they begin studying veterinary studies at a higher education level. But are they really aware of the scope of this profession? From our experience, the response is ‘no’; they are not aware of how broad and diversified their training and profession can be.

Veterinary medicine is indeed at the crossroads of several professions including, among others: Human medicine, biology, ecology, agronomy, psychology, and pharmacology. It is the science of animal health that focuses on farm animals (collective medicine: herd guidance, public health, dietary needs, genetics, hygiene, environmental protection) and on domestic pets (individual medicine where the affective and emotional aspects dominate on the financial side and where specific skills are required: dermatology, orthopaedics, cardiology, etc.). Zoo and laboratory animals are also part of the programme.

From this description alone, it is clear that veterinary surgeons do not only deal with the health of animals, but also with human health, the security of the food chain, and the protection of the environment.

Veterinary studies in Belgium are organised in a 6-year programme, in accordance with the Bologna Convention: the Bachelor’s degree (3 years of undergraduate studies with a focus on ‘normal’ (healthy) animals) and the Master’s degree (3 years of graduate studies with a focus on ‘sick’ (pathological) animals).

The University of Namur (FUNDP) only offers a Bachelor programme and we aim to sensitise our students to certain aspects of the human-animal relationship before they begin studying the pathologies of animals, diagnosing and treating them at another institution. Subsequently, they can rejoin our institution to prepare and defend their Ph.D. in Veterinary Sciences.

Bachelor 1 at the University of Namur (FUNDP)

In the first year, the classes mainly focus on basic sciences to better understand veterinary medicine (biology, physics, chemistry, etc.), along with the basics in anatomy.

Furthermore, an ethology course (30h+12h of practical training) introduces the principles of ethology (phylogenetic and ontogenetic behaviour, domestication, human-animal relationships, and description of behavioural systems) and the ethogram of domestic animal species (horse, cattle, pig, sheep, dog, cat, rabbit, poultry). The key objective is to train students to observe the animals and be able to identify their normal behaviours. This aim is attained with the help of practical training and individual projects that are problem-based.

A philosophic and humane sciences course (22.5h) induces students to think about veterinary socio-professional issues in terms of development, health, research, education, ethics, rural and urban settings, and the environment.

Bachelor 2 at the University of Namur (FUNDP)

In the second year, the healthy animal is the main object of study, with lectures on anatomy, embryology, physiology, immunology, histology or statistics.

With reference to the human-animal relationship, a veterinary medicine and society course (15h) asks the students to think about sciences, health, the industrialisation of the rural environment, urban organisation involving socio-professional surveys including veterinary practitioners or specialised organisations, based on specialised literature. For example: the role of the veterinary surgeon at slaughterhouses, the veterinary surgeon facing the ill-treatment phenomenon, the veterinary surgeon and professional errors and failures, cloning, the role of the veterinary surgeon in the assistance of handicapped persons, the veterinary surgeon and animal euthanasia, etc.

Bachelor 3 at the University of Namur (FUNDP)

In the third year, in addition to the continuation of healthy animal study (anatomy, biochemistry, genetics, microbiology, etc.), an applied ethology course (15h) deals with behavioural problems of horses, dogs and cats, the description of behavioural therapies, welfare assessment, and abnormal behaviour in farm animals. The importance of dialogue with the client is also approached, including the loss of an animal or the expenses related to its treatment. Seminars in applied ethology, the human-animal relationship and ethics (27h) is also compulsory for Bachelor 2 students. Each year, two topics alternate: farm animals and domestic pets. After an introductory conference, students have to lead a 1.5 hour discussion. The evaluation rests on a real case analysis, implementing the three topics of those seminars. Finally, a literature review has to be carried out and orally defended: each year; some of the recommended subjects concern applied ethology, the human-animal relationship, and ethics. For example: pet bereavement, dog behaviour in shelters, the horse-rider relationship.

Conclusion

To summarize the objective of veterinary medicine, we could say that it aims to improve humans' health and wellbeing through the domestic animal's health and well-being.

Each year, an internal survey confirms that a majority of our first year veterinary students have chosen this field because of their love for animals. Paradoxically, most of them are city residents, who are very far removed from the reality in the field: to treat, to prevent suffering, to face death or to put to sleep, in addition to certain socio-economic pressures. Thanks to our programme, we prepare our students for their future profession.

We have an obligation to open our students' minds, to help them grow in the professional world as the young veterinary surgeon is at present confronted with an extensive field of professional activities: rural animal or pet or mixed practice, meat inspection, artificial insemination, medical science research, technical-commercial sector, education, and public services.

FAO EDUCATIONAL PROGRAMMES

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ABSTRACT

Animal welfare is recognized as a core component of a responsible livestock sector. FAO recognizes, on the other hand, that animal welfare, despite its evident positive impacts, is often unsatisfactory throughout the livestock sector, both in traditional and modern systems. Education is needed to create awareness of animal welfare and a greater understanding of the significance of animal welfare for successful animal production. In the case of animal producers and handlers, such education may ultimately lead to the implementation of new procedures that improve animal welfare outcomes. Education directed to the general population may lead eventually to people supporting forms of animal production that involve enhanced animal welfare. Animal welfare education needs to take cultural, political, economic and religious considerations into account, so as to be locally relevant. Animal welfare education can occur at all levels of a country's education system. At lower levels, animal welfare education can take the form of simple principles such as the "Five Freedoms". In higher education it can take the form of scientific and conceptual understanding of the place of animal welfare in animal health, productivity and product quality. Especially in countries where a high proportion of the population is engaged in agriculture, education of children in the school system may be the best long-term strategy for achieving change; and in countries where women play key roles in animal care, it is particularly important that such education include girls and women. Training and education need to be sympathetic to local knowledge and resources and should be done by local organizations and personnel; external expertise is most efficiently used to train future trainers.

FAO counts on a large number of education and training programmes that have been developed and implemented throughout the years worldwide: farmer field schools; rural radio programmes; school gardens; Education for Rural People Partnership, rural youth development work; virtual international classrooms with lesson modules for teachers, resources and activities for young people, interactive fora for exchanging information and experiences around the world.

Finally, FAO, in collaboration with other partners, including the European Commission, has started in May 2010 in Latin America, a series of regional workshops that aim at presenting the existing educational strategies to promote animal welfare concepts and practices and at discussing relevant issues for new developments.

Keywords: animal welfare, education, training

ANIMAL WELFARE EDUCATION IN LATIN AMERICA

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Summary

In Latin America, Animal Welfare is an emerging topic that has rapidly gained attention throughout the 2000s, mainly because of its impact on animal health, product quality, international trade, as well as consumer perception. Animal Welfare-related education must be provided at different levels, from programmes specially developed for children at primary schools to the training of animal handlers or others responsible for farm animals, and the university level where it should be offered at undergraduate, as well as post-graduate level, including scientific research. The range of people involved, in terms of age and educational and cultural background, is so broad that different teaching strategies must be adopted. This paper explains various strategies that are being used in Latin America to deliver Animal Welfare Education for children at primary schools, to train farmers, animal transporters, and other animal handlers involved in the food production chain.

Keywords: Animal Welfare, education, production animals, strategies, Latin America

Introduction

Animal Welfare as a scientific discipline has its origins in the studies of motivation, stress, and veterinary science that developed between the 1960s and 1980s (Broom, 2010 a). In Latin America, Animal Welfare is an emerging topic that has rapidly gained attention throughout the 2000's, mainly because of its impact on animal health, product quality, international trade, as well as consumer perception (Tadich et al, 2010).

Because of the knowledge involved in Animal Welfare science, it is an issue that directly impacts the veterinary profession, as well as other animal science and biology-related lines of work. In order to create sustainable animal production systems, effectively use available resources, ensure good human health, develop relevant legislation, and generate social, cultural, and environmental responsibility, it is necessary to educate individuals at all levels about animal needs and Animal Welfare (Broom, 2010 a; Paranhos da Costa, 2010).

In 2006, a survey was carried out as a technical item to be presented to the Regional Commission of the OIE for the Americas in order to determine at what levels Animal Welfare Education had been carried out so far (Gallo, 2006). Of the 22 countries that replied to the questionnaire, 15 stated that they had provided training courses for their veterinary services personnel and the same number of countries offered courses on Animal Welfare at veterinary faculties and other educational institutions. Eight countries had provided training for their producers, seven for private veterinarians, seven for agri-food industry personnel, and only two for consumers.

Animal Welfare-related education must be provided at different levels, ranging from programmes specially developed for children at primary schools to the training of animal handlers or others responsible for farm animals, to the university level where it should be provided at undergraduate, as well as post-graduate level, including scientific research. In the case of Latin America in particular, the number of people involved in

handling or working with animals is high, owing to the existence of large numbers of smallholder farms. Their educational level is, in general, low so many of these farmers may not be able to read or understand some of the available information on how to improve Animal Welfare. The range of people involved, in terms of age and educational and cultural backgrounds, is so broad that different teaching strategies must be adopted.

This paper focuses on the state-of-art of Animal Welfare Education in Latin America, in special consideration of the presentations and results of the workshop “Educational strategies to promote Animal Welfare concepts and practices”, held in June 2010 in Jaboticabal, Brazil (www.grupoetco.org.br). The aim of this workshop was to present existing educational strategies to promote Animal Welfare concepts and practices in Latin America and discuss relevant issues to foster new developments.

Animal Welfare Education at Primary School Level

At the primary school level, Animal Welfare Education usually focuses on increasing awareness about responsible care of pets and environmental education. For example, in 2007 Uruguay carried out a project for the training of rural teachers in animal disease and Animal Welfare issues; the aim of the project was to develop awareness of zoonoses, production diseases and Animal Welfare among children at primary school level. The project was implemented by several institutions led by the Ministry of Agriculture, Livestock and Fisheries with the support of the Veterinary Medical Association, the National Veterinary Academy, the Veterinary Faculty and the Plan Agropecuario Institute. The project was able to train 1,461 teachers and included 1,083 rural primary schools. The Ceibal Plan, an initiative of the Uruguayan Government, has considerably contributed to training programmes since each teacher and each student in the Uruguayan public school system now has a laptop computer with internet access because of this plan (César, 2010).

In the case of Chile, similar strategies have been applied; the World Society for the Protection of Animal's (WSPA) International Animal Welfare Education Programme directed at teachers of children between 5–16 years has been implemented in several cities with the collaboration of the Chilean Ministry of Education since 2006. The same WSPA programme has been implemented in Costa Rica for over 18 years and more recently in Peru. Smaller projects have also been launched in some veterinary schools, e.g., the environmental education project at the Universidad Austral de Chile, a project that is carried out by students from the Veterinary Faculty in Valdivia under the coordination of a veterinarian; they work with children from public schools to create awareness of the wild life present in the region and the impact that humans can have on them. Other projects from the same veterinary school focus on responsible care of pets. Such projects do not only educate children, but also increase social responsibility in veterinary students.

Animal Welfare Training for Producers and Animal Handlers

The lack of knowledge and suitable training opportunities for people who work with animals on a daily basis represents the main problem that affects farm Animal Welfare. The strategies implemented should include the generation of skills (how to do things), and the development of models that promote humanitarian treatment of animals and apply quality controls (Ghezzi, 2010).

In several Latin American countries over the past 5 to 10 years, awareness of Animal Welfare has increased among stakeholders involved in the animal food chain, such as producers, farmers, animal handlers on farms, livestock markets and slaughterhouses, professionals, and livestock truck drivers, among others. In this case, information about good veterinary and management practices has been transmitted through courses and seminars. In order to gain stakeholders' and animal handlers' attention, the strategy to promote Animal Welfare has involved demonstrating how the bad handling of meat animals on farms, during transportation, and at slaughterhouses results in economic losses by increasing the number of animal deaths, carcass weight loss, trimmings due to injections and bruising, and negatively affecting meat quality (high muscle pH, dark

cutting). In addition to theoretical aspects, the courses usually include practical demonstrations of animal handling at local facilities and visual appraisals of the damage on the carcasses (Gallo, 2009; Huertas, 2010; Huertas et al, 2010; Paranhos da Costa, 2010). A similar strategy is being used in the case of the dairy chain. Surveys in Chile have revealed the significance of understanding the needs of dairy cows and how these can be satisfied, for instance, by properly designing and constructing buildings and equipment and minimising pain in lame cows (Arraño et al 2007, Tadich 2010). Training farm workers involved in the milk production industry can also considerably improve the welfare of the animals, increase milk yields, decrease calf mortality and even enhance job satisfaction among workers (Paranhos da Costa, 2010).

On the other hand, training workshops for abattoir personnel have been used in intervention studies and their effectiveness assessed after the training, using animal behaviour and meat quality measures in slaughter plants (Gallo et al, 2003). The Welfare Quality® project in Chile, Brazil, and Uruguay has also been useful in assessing Animal Welfare through the use of their protocols in Latin America (although some modifications are needed due to differences in their production systems), in the creation of links between different research institutes, and it has the potential to be used as a basis for educational activities in the future (Huertas et al, 2010; Manteca & Köbrich, 2010). Resources for improving animal handling skills of slaughterhouse staff have also been made available in Brazil by WSPA (Lüdcke, 2010); courses have been attended by many people who work in slaughterhouses and videos have been produced that focus on the training of technical and practical details about stunning methods and equipment to be used for cattle, pigs, and poultry.

All of the above-mentioned training is related to animals that produce food for human consumption, mainly ruminants, pigs, and poultry; but in the case of animals such as equines, which are mainly used for food and work but are also considered companion animals for pleasure or sports, the situation is completely different. For example, in the case of Chile, a study showed that less than 50% of the personnel in charge of horses had training of some kind in equine handling and less than 10% in Animal Welfare (Márquez et al, in press).

Methods to educate people involved in other aspects of animal handling are also being put into practice in Brazil. Control officers are being trained to catch, handle, and keep stray dogs and cats, using techniques both to minimise the adverse effects of stray dogs and cats and to reduce any adverse effects on the welfare of these animals (García & Plaza Nunes, 2010).

Generally speaking, an aspect that has encouraged the training of stakeholders in the food chain from a governmental level in Argentina, Chile, Brazil, and Uruguay has been the fact that the adoption of Animal Welfare practices facilitates trade agreements. In the case of Chile, the free trade agreement with the European Union has been key for improving the welfare of beef cattle. This is probably the reason why most of the training has taken place at one or more levels of the food producing chain. At farm level, the adoption of “good management practices” and “animal farms under official control” (PABCO-Chile) certifications, which include some Animal Welfare aspects, are schemes provided by the National Agricultural Service (SAG) (Gonzalez et al, 2004). It is important to communicate information about AW to all veterinarians, especially those working for the government, as well as to the owners of farms, workers in all areas of animal production and, to some degree, to the general public. Similar educational activities, as well as the existence of governmental “Animal Welfare Commissions” were reported for several other Latin American countries at the workshop held in Jaboticabal, Brazil (Argentina, Brazil, Cuba, Uruguay).

On the other hand, the OIE is also encouraging its member states to implement Animal Welfare standards (OIE, 2009); therefore, an Animal Welfare Focal Person has been appointed in each member state whose mission it is to promote AW locally. However, in Latin America, the AW Focal Person is usually a member of the official veterinary services of the given country, and does not have specific knowledge in AW. Focal Persons thus need to be trained in AW before they can start promoting the issue in their country. Consequently, workshops with experts are being organised in different countries by the OIE in order to train Focal Persons for their new mission.

Animal Welfare Education at the Undergraduate and Post-Graduate Level

With regard to the inclusion of Animal Welfare topics at the university level in veterinary faculties or other higher educational institutions, countries such as Brazil, Colombia, Costa Rica, Honduras, Peru, Chile, and Argentina offer specific courses on the subject, while other countries include the topic as part of other courses (Gallo, 2006). In fact, one of the recommendations as a result of the 18th Conference of the Regional Commission of the OIE for the Americas was to stimulate the creation of Animal Welfare-related courses in order to improve knowledge of the issue not only among students, but also among professionals, and that these courses should include the teaching of the OIE's Animal Welfare standards (OIE, 2006).

Training academic staff in Animal Welfare is essential for designing a course that meets student requirements and inspires them to acquire more knowledge on the subject, applying concepts learned at the university to their professional practice or developing research in these areas. Tadich et al (2009) state that one limitation of AW teaching in Chile is the lack of instructors with adequate training. It can be said that this is a limitation in most Latin American countries which is, in part, a consequence of the lack of the issue of AW in the courses today's teachers took when they themselves were students. Courses on animal nutrition and animal genetics, for example, rarely make any reference to behaviour or welfare, despite the obvious overlap between the subject areas and the relevance of one for the other (workshop report 2010). As has been said before, AW is an emerging topic in Latin America and the lack of instructors with knowledge of AW should be improving.

One strategy used in Latin American countries to implement Animal Welfare Education at the university level has been through the use of WSPA's and the University of Bristol's "Concepts in Animal Welfare" (CAW) programme; although this course only provides a guidance to instructors and is not equivalent to a continuing education programme, it has been used to train instructors in Colombia, Chile, Brazil, and Uruguay.

In the case of Chile, the topics included in CAW have been taught to second year students of Veterinary Medicine at the Universidad Austral de Chile in an optional Animal Welfare course since 2006; later, in their final year, students have a course on applied Animal Welfare, where they can study professional applications of the subject in more detail. The course was only introduced in 2008. Another Chilean university that has specific courses on Animal Welfare is the Universidad Mayor, the first school to introduce a mandatory course on Animal Welfare in its curriculum in 2002. In the case of Chile, in particular, the emphasis on Animal Welfare appears to have emerged in the past 10 years because of some professionals' training in this area and because of academic links with specialised groups, especially British groups (Tadich et al, 2010).

In the case of Brazil, some of those who now offer Animal Welfare courses participated in courses on the science and teaching of applied animal behaviour and Animal Welfare which were organised between 1992 and 2009 at UNESP, Jaboticabal, by Dr. Mateus Paranhos da Costa with Prof. Donald Broom as one of the lecturers. Conferences relating to Animal Welfare during housing, transport, and slaughter have been arranged in Jaboticabal, Porto Alegre, Concordia, Campo Grande, Brasília, Goiania, Curitiba, and Rio de Janeiro by Paranhos da Costa, Adroaldo Zanella, Carla Molento, WSPA, and others during the last 15 years. External speakers such as Broom, Neville Gregory, and Ana Pinto have contributed. The first Animal Welfare course taught to veterinary students by Brazilian lecturers was in 1999 at the Universidade de Brasília. Today, one third of the 160 institutions offering veterinary programmes in Brazil offer Animal Welfare teaching courses (Molento, 2008; Molento & Calderón, 2009; Tadich et al, 2009).

Four courses of applied ethology and Animal Welfare taught by Professor Donald Broom, Dr. Temple Grandin, and Dr. Gerrit van Putten at the Universidad Nacional Autónoma de México (UNAM) between 1989 and 1993 were organised, with the aim of training academics that would later be in charge of lecturing the applied ethology and Animal Welfare courses, which were already included in the curriculum of the university in 1993. In 2003, the curriculum was modified so that it would include mandatory, as well as optional Animal Welfare courses (Galindo, 2010).

The topics emphasised in the undergraduate teaching of Animal Welfare at the different schools in Latin America include farm animals, companion animals, working animals, wildlife, zoo animals, and to a lesser degree laboratory animals (Tadich et al, 2010). How much emphasis is given to each topic depends on the university's research and academic strengths.

Postgraduate Master's and Doctoral degrees also offer courses on the subject in some countries. In Brazil, the first postgraduate course on AW was taught in 1998 at the Universidade Federal Fluminense, whilst in Chile, Animal Welfare is included as a topic for postgraduate research at the Universidad Austral de Chile. In 2010, the Universidad Mayor introduced a Diploma in Veterinary Clinical Ethology and Animal Welfare. Applied ethology and Animal Welfare was included in the postgraduate programme at the UNAM in Mexico in 1998, with over 30 graduates in the area so far (Galindo, 2010).

Even though the teaching strategies might differ between countries, they all seem to agree on the concepts that Animal Welfare courses must include, such as ethics and scientific concepts of Animal Welfare, animal behaviour and animal needs, legislation, uses of animals, and Animal Welfare assessment strategies (Broom, 2005). In each country, these concepts are taught in accordance with the country's social and religious views. Consequently, the main research topics in relation to Animal Welfare at some veterinary schools in Latin America are related to the humane slaughter of farm animals, wild animals, transport of animals, husbandry of animals (with an emphasis on cattle, pigs, and poultry), control of stray dogs, laboratory animals, working animals (horses and donkeys), animals used for traditional festivities and sports, and the humane slaughter during disease outbreaks (Tadich et al, 2010). Animal Welfare is part of the broader aspect of sustainability in agriculture and of product quality and can be introduced to the curriculum in this way (Broom 2001, 2010).

Other Strategies for Animal Welfare Education

Another way of disseminating information about Animal Welfare topics and relevant research on the subject is through the organisation of conferences, workshops, and seminars. Since 2004, numerous national and international meetings dealing with Animal Welfare have been organised in countries such as Argentina, Brazil, Chile, Colombia, and Uruguay. During 2009, the Animal Welfare Programmes of the Universidad Austral de Chile and the Universidad de la República del Uruguay were officially recognised by the OIE as a Collaborating Centre for Animal Welfare Research Chile-Uruguay; the first event organised by the new Collaborating Centre was the 1st Meeting of Animal Welfare Researchers, which was held in Valdivia, Chile, in November 2009. This meeting attracted more than 140 people from 12 Latin American countries, who presented 60 posters displaying research activities currently ongoing in the region. Most National and Pan-American Veterinary Congresses in Latin America today include a specific topic on Animal Welfare.

The use of new technologies for Animal Welfare teaching or the delivery of information related to research in the area is also important, since these allow a higher number of persons to be reached at lower costs. Many Latin American university teachers took the on-line Cambridge e-learning course on Animal Welfare in English and Portuguese offered by Cambridge, U.K. by Dr Ana Pinto. Several Animal Welfare groups in Latin America have their own websites with free access to information; scientific papers and other helpful documents and didactic material can be downloaded; news on courses and conferences are disseminated and visitors can send their inquiries to researchers. Some examples of these websites are: www.bienestaranimal.cl by the Animal Welfare Programme of the Universidad Austral de Chile; www.bienestaranimal.org.uy by the Animal Welfare Group of the Universidad de la República, Uruguay; www.grupoetco.org.br by the Ethology and Animal Ecology Group at the São Paulo State University, Brazil. Some e-learning material is also being integrated in some of these web pages, as is the case of the "Interactive guide for the handling of cattle", recently made available on the Chilean webpage.

Another strategy used to promote Animal Welfare at different levels in Latin America has been the development of written materials such as fact sheets, booklets, and other didactic material containing information

on how to properly handle production animals on farms, during transport and slaughter; some of them have also been developed for children at school level. All three groups mentioned above are continuously producing such materials, which include plenty of photographs, drawings, and diagrams that make Animal Welfare easy to understand even for people with little education.

Strategic alliances between countries are necessary in order to put internationally accepted standards (OIE, 2009) into practice and complement the efforts of different groups working in Animal Welfare within Latin America.

Conclusions

The conclusions of the general discussion during the workshop held in Brazil in June about the future of Animal Welfare teaching were summarized by Broom (2010 b); they partly focused on advocating the occurrence of such courses and partly on the practicalities of preparing and presenting courses on Animal Welfare.

Children in schools can be taught about the basic functioning of animals as individuals with brains and abilities to control their environments. They can also be taught to respect living beings and be introduced to basic ethical issues of what is right or wrong in this regard.

The idea can be introduced that individuals, including commonly encountered animals, have diseases, pain systems, and welfare that can be assessed using measurements. At universities, all students who work with or study animals should receive some instruction about Animal Welfare. The courses can be based on those described above and are important because these students will eventually be the teachers of the future. It was generally agreed that all those who work with mammals, birds and fish, for example, on farms or in laboratories, should be required to attend courses on Animal Welfare, including information about animal diseases. Much of the key information required in these courses concerns simpler or more elaborate descriptions, depending on the educational level of the recipient. Although face-to-face training in courses is the best method of instruction, booklets and other documents and materials, including videos on the internet, are also valuable.

It was deemed that a summary of the information presented in the workshops could be made available to the public and presented to relevant government departments in Latin America.

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ANIMAL WELFARE IN HIGHER EDUCATION COURSES

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Summary

Animal Welfare is an expanding academic discipline. Higher education courses are now available in the UK providing a multi-disciplinary education. The key components of Animal Welfare Education at a higher education level should include the quantification of the impact of humans on animals (welfare science), analysis of our moral obligations (welfare ethics), and knowledge of minimum welfare standards (welfare policy). There have also been recent initiatives to promote Animal Welfare within the veterinary curriculum, as veterinary surgeons have an important role in developing and implementing Animal Welfare policy at both individual animal, group, national, and international level.

Keywords: Animal Welfare, higher education, veterinary science

Introduction

As the academic discipline associated with Animal Welfare expands, there is any increasing number of Animal Welfare and behaviour-related courses available to school leavers. This is in addition to more traditional animal science and veterinary courses which now often include some Animal Welfare Education. This expansion reflects the increased research into Animal Welfare as well as the need for suitably trained scientists for research, industry, charity, and government roles.

Animal Welfare is a unique academic discipline as it requires a multi-disciplinary approach. Welfare will never be assessed by a single “gold standard” measure (4), so future scientists need to understand the strengths and weaknesses of a multitude of possible techniques. Moreover, an understanding of ethics is essential as the interpretation of scientific information requires integration with other ethical concerns. Furthermore, since the welfare of domesticated animals is normally entirely dependent upon human actions, an understanding of social science including economics and Animal Welfare policy is another important requirement for Animal Welfare scientists.

Pre-University Education

Undergraduates in most animal science-related courses should hopefully have been exposed to some core material before they enter university. For any science-based course, this should obviously include core skills in numeracy, literacy, and scientific methods. However, it is also reasonable to expect that some animal-specific education is taught in secondary schools. Promoting respect for and a basic understanding of animals seems an important goal of school education.

As a minimum, it is also reasonable to expect that new undergraduates have already achieved some animal-related educational goals. For example, pet ownership is very common in the UK and previous surveys have shown that 31% of households own a dog and 26% own a cat (5). It is, therefore, reasonable to assume that all children, as possible future carers of animals, should have a fundamental understanding of animals. This should include an understanding that animals are sentient beings and the legal responsibility of owners. In the UK, this should include the duties to provide appropriate care and to avoid unnecessary suffering (Animal Welfare Act, 2006). As future consumers of animal products, all children should understand the role of farm animals in the food chain and the potential influence of consumers on these issues. Also, children should have some understanding of the consideration of animals within ethical frameworks, i.e., the moral responsibilities of individuals and society to care for animals.

Higher Education Courses

In the UK, there is a considerable number of Animal Welfare-related higher education courses. In 2010, there were 293 animal-related courses of which 72 are defined as being within the Animal Welfare subject category (7). It would be reasonable to expect that any animal-related course includes some Animal Welfare materials. At the very least, all graduates who are potentially working with animals should have an understanding of the relevant legal requirements. In addition, some post-graduate courses that are taught are available in a variety of formats. Any higher education courses that include Animal Welfare as a subject area should then build upon the basic building blocks provided by school. The University of Bristol, which has an international research reputation, operates an undergraduate degree BSc in Animal Behaviour and Welfare (Table 1).

Table 1. The programme structure for University of Bristol BSc Animal Behaviour and Welfare (D390)

YEAR 1:
BIOLOGY 1A: DIVERSITY OF LIFE
BIOLOGY 1B: LIFE PROCESSES
INTRODUCTION TO ANIMAL BEHAVIOUR AND WELFARE
OPTIONAL UNIT
YEAR 2:
ANIMAL WELFARE
ANIMAL BEHAVIOUR
SCIENTIFIC METHOD AND ETHICS
WORK PLACEMENT
YEAR 3:
ANIMAL WELFARE
ANIMAL BEHAVIOUR
SCIENTIFIC METHOD AND APPLICATION OF ANIMAL BEHAVIOUR
DISSERTATION

Any higher education course that covers Animal Welfare should address the following three components of Animal Welfare, namely, welfare science, ethics, and policy.

a) Welfare science. The estimate of the welfare of an animal and the factors that influence it require detailed training of the available measures and means of assessment. Thus, Animal Welfare science would include defining 'welfare', measuring welfare (for example, methods of assessing well-being, indicators of good and poor welfare, and determining animal needs, motivations, and desires) and interpreting welfare science (for example, why some measurements are more meaningful than others). An understanding of animal behaviour is essential in Animal Welfare science. For example, the presence of abnormal behaviours (such as stereotypy) may indicate previous welfare problems. An assessment of behaviour in both experimental and "commercial" systems may also provide information on the preferences of animals. In particular, it can yield information on the relative motivation of an animal to be provided with a certain resource.

b) Welfare ethics. This involves examining the morality of human actions towards animals. Ethical theories attempt to explain the reasoning behind our moral thinking and why actions are considered right or wrong.

Ethics can be descriptive (explaining why we do what we do, or what is) or normative (formulating frameworks or rules to guide future actions, or what ought to be). The major philosophical theories taught might include utilitarianism (and its branches), deontology, rights-based theories, virtue (character) ethics, principle-based ethics, and social justice. In addition, value systems, values, and value judgements should be addressed, as well as how to understand alternative views, conflict resolution, and decision making processes. Current frameworks for applying ethics with particular reference to animal use such as the 'three Rs' and the Five Freedoms should be reviewed. Ethics in veterinary medicine can also be compared to ethics in other professions, particularly healthcare ethics (medical ethics, nursing ethics, etc.). The role of professional ethics or etiquette, which concerns the relationship between veterinary surgeons and other members of their profession, their clients, and their patients, is also important.

c) Welfare policy. The output of scientific investigations and ethical analysis may include the formulation of standards in the form of legislation, codes of practice or increasingly for farm animals, the retailer / farm assurance requirements. Animal Welfare law would include the principal national and EU legislation as it relates directly to Animal Welfare. Other laws that refer to animal use and reflect society's view of animals (for example, pets as property, protected species, and wild animals) should also be examined. In addition, the inconsistencies in legislation, for example, the existence of different laws for different species and different laws for the same species undergoing different uses, should be examined. An analysis of the role and impact of international law on Animal Welfare should also be included.

Veterinary Courses

Veterinary surgeons acting as clinicians or policy advisors have a unique role to act as "animal advocates" whilst understanding the considerations of individual carers, animal industries, and governments. This requires significant knowledge of the welfare impact of certain husbandry and clinical practices and an ability to logically analyse the (often competing) different human interests. A key objective of this education input is to make a difference with reference to the welfare of the animals under the care of veterinary surgeons. Surveys of the routine use of analgesics in routine neutering are an interesting example of the differential treatment of animals (1). In one survey, male veterinary surgeons used analgesics less often compared with female veterinary surgeons. This may be associated with the lower empathy levels of male veterinary graduates (6). Where such differences exist for no obvious clinical reason, an increased awareness of welfare science and ethics should raise the standards of veterinary care.

In the UK, the British Veterinary Association Animal Welfare Foundation has funded three lectureships in Animal Welfare in order to increase the Animal Welfare content of the veterinary curriculum. There has also been increasing recognition of the need to increase Animal Welfare in the veterinary curriculum in many countries. For example, the World Society for the Protection of Animals has developed and promoted an education resource for veterinary schools (2). In USA, a recent conference (AVMA/AAVMC International Symposium to address veterinarians' roles in Animal Welfare) highlighted the importance of Animal Welfare within the curriculum. A special edition of the Journal of Veterinary Medical Education (March 2010) was published. Also included in the proceedings is a more detailed account of the essential and desirable learning outcomes for Animal Welfare science, ethics, and law for newly-qualified veterinary surgeons (3).

In addition to undergraduate education, there is an interest in post-graduate specialisation within the veterinary profession. The UK already has a system for recognising RCVS' specialist status in Animal Welfare science, ethics, and law. It is also intended to establish an Animal Welfare college in accordance with the procedures of the European Board of Veterinary Specialisation.

Summary

There is a considerable number of higher education level courses in Animal Welfare. This reflects the widespread interests of young people in animals, but also the increasing research activity in this area. For Animal Welfare courses, it is important that the three components of Animal Welfare (welfare science, ethics, and policy) are addressed. In particular, newly qualified veterinary undergraduates need core skills of welfare assessment and ethical analysis, as well as knowledge of minimum welfare standards. The goal of such education should be to improve Animal Welfare. In order to promote improved consideration of animals, it is also important that we also understand the influence that the educational process has on the attitude and behaviour of students towards animals.

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ABSTRACT**TITLE : ANIMAL WELFARE IN HIGHER EDUCATION COURSES**

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Animal Welfare is a growing academic discipline. Higher education courses are now available in the UK and provide a multi-disciplinary education. The key components of Animal Welfare Education at a higher education level should include the quantification of the impact of humans on animals (welfare science), an analysis of our moral obligations (welfare ethics), and knowledge of minimum welfare standards (welfare policy). There have also been recent initiatives to promote Animal Welfare within the veterinary curriculum, as veterinary surgeons have an important role in developing and implementing Animal Welfare policy at both individual animal, group, national, and international level.



SCHOOL TEACHERS – AMBASSADORS OF ANIMAL WELFARE IN ROMANIA

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Summary

The educational system offers children the possibility to develop capacities to understand their living environments, to react and to take a position in different situations, to develop principles and responsibilities, and to become sensitive and empathic. One key person in this process during an individual's school years is the teacher who guides the children and supervises their process of thinking and knowledge. Animal Welfare has to be part of this process, as children are the future adults that can protect and defend animals' rights. The school curriculum in Romania has only little to offer in this respect. However, the alternative teaching and learning methods that are part of teachers' professional training can be successfully applied in the Animal Welfare field as school study subject. Targeting pupils from 3rd and 4th grade in primary school, VIER PFOTEN's project "Children learn to protect animals" is a representative example of how teachers and children can take an active part in a fairly new social field in Romania – animal protection and welfare.

Keywords: Children, teachers, animals, welfare, education, school, curriculum, schoolbook, methods

Educational System in Romania

One of the biggest legislative steps taken in animal protection in Romania since 2008, a new Article in animal protection legislation which stipulates that the Education Ministry is responsible for developing activities with a particular focus on animal protection principles to be integrated into the school curriculum, was brought about by others (2).

It was the first time in Romania that the authorities at the national level agreed that animal protection should be part of the educational system. But this opportunity has not yet been used to its fullest potential.

For several years now, Romania has benefitted from EU programmes such as "Leonardo da Vinci" and "Socrates" and the improvement of the educational system is evident, especially at the level of training of teachers. Nevertheless, teaching animal protection still depends on teachers' capacity and sensitivity to raise children's awareness of what responsibility towards animals means. At present, pupils leave school with little knowledge about animal behaviour in different situations and with limited information about what makes a good animal owner. The Romanian educational system from kindergarten to university integrates the strategies and objectives established by the European Commission at the European Council Barcelona, as well as the decisions taken at the European level within the "Bologna process". All of these developments have led to an ongoing reform and restructuring of Romania's educational system.

In this context, VIER PFOTEN's project "Children learn to protect animals" targets pupils from primary school – ISCED 1 (International Standard Classification on Education) aged between 6 and 11 years.

According to official statistics in Romania for the school year 2008/2009, primary schools included 859,169 pupils and 51,696 teachers. 98.8% represented qualified teachers, and there were 16 pupils for each teacher (5).

At this level, the school curriculum offers pupils school subjects such as "environmental knowledge", "natural science", and "civic education" – subjects that are remotely related to animal protection and welfare.

The key person that provides children with this type of knowledge is always the teacher. Teachers now benefit from the possibility to participate in trainings on alternative teaching methods or to develop the lesson in a traditional way. Regardless of the method used, at the end of the 3rd school year, pupils have to have a certain degree of knowledge about animals in accordance with the school curriculum, including, for example: identification of the animal as a carnivore or herbivore, identification of parts of the animal body, classification of the animal, identification of changelings from plants, knowledge of animal and human life based on a variation of different indicators, the influence of environmental pollution on people, plants, and animal life, awareness of human activities' impact on the natural environment, and taking care of animals in the classroom (3).

More progress has been made in the "civic education" curriculum: pupils are taught about the relations between humans, plants, and animals, attitudes towards animals, and animal care (4).

The Romanian educational system now gives teachers the possibility to choose from schoolbooks that are approved each year by the Education Ministry. During one school year, i.e., within a 36 week learning period, primary school teachers can only teach the principles of Animal Welfare and protection for a total of only 2 or 3 school hours in keeping to the current school curriculum (6). This is only the case if the schoolbook the teacher selected offers such information.

Developing an Animal Welfare Educational Programme – "Children learn to protect animals"

Faced with an educational system that dedicated on average two hours of Animal Welfare teaching during the entire primary school year, VIER PFOTEN launched the "Children learn to protect animals" programme in 2004. The first step was to find school principals and teachers who were interested in teaching pupils more about animal life, behaviour, welfare, and protection. The most efficient and easiest way to get pupils' attention was to present them large photos of VIER PFOTEN's projects. The school hour was based on open discussions and the children were taught to develop sensitivity and responsibility towards abused wild animals and later towards animals that are part of their daily life –stray dogs. The pupils were encouraged to share good or bad experiences with the stray animals. Then, they were provided with feedback with possible explanations on the animal's behaviour. One of the biggest successes of this method is that children not only acquire information about animals, but also on what they can do to minimize traumatic interactions and to learn about the proper ways to conduct oneself when in contact with a stray dog.

Based on all of the discussions we had with the pupils, and with the help of two teachers, Sorina Cuzum and Gina Velcu, VIER PFOTEN produced the "Close to animals" schoolbook.

The methods applied are based on active learning that offers pupils a number of opportunities, including:

- active participation in the class;
- creative thinking – the pupils offer their own suggestions and propose new interpretations to specific problems;
- applied learning – the pupils are able to apply a learning strategy, and
- building knowledge – the pupils are active and fulfil the tasks that will lead them to a higher level of understanding and internalising the information.

The methods of teaching that are specific to interactive groups include: learning methods in small groups, brainstorming, the round table, four corners, group portfolio, and group research projects (7).

Creating a Schoolbook for Teaching Animal Welfare

The approach to creating the schoolbook focused on the involvement of teachers to develop school lessons on Animal Welfare and protection.

Between the ages of 7 to 11 years, a child develops new ways of understanding. During the learning process, the child frequently uses schemes and images that facilitate information processing. This provides the foundation for developing symbols and concepts. (1)

At this age level, learning to read and write gives the child the possibility to better express his/her feelings and thoughts and to find new ways to develop his/her imagination. Considering a child's emotional, cognitive, and intellectual evolution at this age level, the schoolbook "Close to animals" was created targeting pupils in 3rd and 4th grade (8–11 years old).

The book proposes a new, interactive approach through which children discover aspects related to animal life and they can get directly involved in debates and activities based on the themes presented. Participation is stimulated by different requests that promote the learning process such as: "Imagine that...", "Group activity", "Let's talk!", "Tell your opinion!".

The nine chapters include drawings and photos that draw attention to the problems animals face and the necessity to protect them:

For 3rd grade: "Animals have a home, too", "Animals do feel", "Stray animals", "Pets".

For 4th grade: "Animals have magic powers", "The animal's unseen world", "Animals work, too", "If I only was a bird...", "Altering animals' behaviour".

Here is an example of how one of the lessons is set up (Photo 1 and 2 – Illustrations and lesson "Animals do feel"):

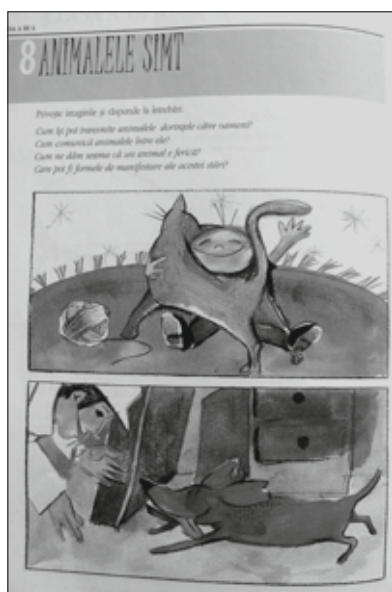


Photo 1: Animals do feel, page 8



Photo 2: Animals do feel, page 9

"Animals do feel"

Look at the following images and answer the questions.

- How can animals communicate their wants to humans?
- How do animals communicate with each other?
- How do we figure out when an animal is happy?
- How do animals express their happiness?

LET'S TALK...

Write down in two columns the feelings animals and humans may have.

GROUP ACTIVITY

Choose someone from your team to present situations that express the needs of an animal to the other team, using body language and specific sounds.

Examples: A thirsty puppy preys on his master to give him water; the bear is searching for a hibernation den.

LET'S TALK...

- How do humans express their feelings towards an animal, and especially towards the ones they live with?
- Is it enough to play with our pet in order to demonstrate our love? What else do we have to do for it?
- Animals also communicate with each other.
- Comment on their reactions as signs of communication.
- Compare the way a parent brings up his/her child to the way an animal-parent raises its cub.

DID YOU KNOW...

...that many animals live together as families or societies?

For example: penguins, chimpanzees, ants, bees, wolves, elephants, etc.

Come up with information on this topic and develop a project.

LET'S TALK...

There are cases of animals that have adopted other animals' cubs. Give examples of stories on cases in which children were adopted by animals.

What are the criteria an adult should fulfil for his/her child/cub to grow up normally?

Here are a few examples on how a cub may become an orphan.

What could happen to the orphan cubs?

How can they survive and how may humans ought to intervene in this matter?

Humans, by negligence, may cause suffering to both wild animals and pets.

GROUP ACTIVITY

Create a newspaper page, including:

- a. a case on (human-related) pollution that causes animals from a certain area to suffer;
- b. a situation in which people have saved animals by creating better life conditions;
- c. a story about a man who saved a wild animal;
- d. the story of a man saved by an animal.

Pick up a suggestive title, add photos, drawings, etc.

Collect aspects from the animals' different environments and habitats presented in the book, thus providing children with the perspective that animal protection and welfare have no borders and are not restricted.

By using this book, teachers have the opportunity to teach children about a new field with an interdisciplinary character which integrates knowledge from other disciplines (natural science, geography, biology, religion, etc.), and underlines the fact that by developing the sensitivity and responsibility of children, they will be better capable, as adults, to understand their fellow human beings.

A handout has been created for each lesson describing the specific objectives, suggestions for teaching, and expected results. In this respect, we will present the examples from the lessons "Animals work, too" here:

"Animals work too" – Lesson's specific objectives

The pupils have to:

- compare man's characteristics to those of animals;
- determine similarities between certain features of both humans and animals;
- realise that animals work, too, just like people (in order to obtain food, to build their homes, to raise their babies, etc.);
- identify the situations in which animals don't "work" exclusively for themselves;
- exemplify the situations in which humans exploit animals;
- offer pro and contra opinions on the solutions for certain dilemmas.

In the end, a conclusion will be drawn focussing on the fact that the man, as the superior being, must protect animals and eliminate their exploitation.

The problem of wild animals being used as certain models will also be tackled.

The text “Animals can be saved” will be read in class and, afterwards, each pupil will have the possibility to express his/her own opinion.

Activity divided into groups: enumerate 10 measures intended to stop animal exploitation, by:

Brainstorming:

- all the pupils’ ideas will be written down on a big sheet of paper in marker pen
- after evaluating them, 10 measures will be selected.

Owing to their content, the major advantage for teachers is that the information from the lessons of “Close to the animals” can also be used for other school subjects for the 3rd and 4th study level, such as: natural science, civic education, religion, practical abilities, etc.

To date, VIER PFOTEN’s schoolbook has been translated into English, Bulgarian, Hungarian, and German.

Implementing an Educational Programme on Animal Welfare

Creating a project to support teachers gave us the possibility to propose alternative methods of teaching to the responsible authorities, a new approach in the field of educating primary school children, as well as the possibility to integrate animal protection and welfare into pupils’ school schedule. The project was approved as an extracurricular project by the School Inspectorate Bucharest, which is part of the Education Ministry, implying that teachers can choose when and where the animal protection hour is integrated. The best option for the teachers was to run the project during one school semester, in consideration of the fact that extracurricular projects play a significant role in 3rd and 4th grade.

In spring 2004, the project was implemented for the first time as a pilot project in 13 schools in Bucharest, i.e., in one class in each school, targeting 325 pupils. The next step was to extend the project in Bucharest to 30 schools and across the country in collaboration with the local School Inspectorates. From 2004 until today, over 8,500 pupils participating in the project and 340 teachers and school inspectors from 32 Romanian towns have participated in the project. This number shows that teachers can be the best ambassadors of successful Animal Welfare programmes.

For the teacher, the advantage of participating in an extracurricular program means a better qualification. The involvement, responsibility, and results are recognised and rewarded by the School Inspectorates. The teacher plays a key role in the school’s educational process and becomes a “model” for the pupils, being the one that can make the children better understand the information, help and encourage them to create their own opinions and to develop ways of expression and their own sense of value. (1)

Therefore, teacher and school selection represented a very important part of the project. A school inspector for each county and another one for Bucharest are responsible for supervising the educational system at the primary school level. Hence, the school inspector is the key person in the selection process of teachers to implement the project. The selection is based on several criteria:

- number of projects that were implemented by the teacher:
- number of projects implemented in the school;
- professional training level of the teacher, and
- socio-economic background of the pupils – this depends on the area where the school is located.

Based on these criteria, the number of teachers has to furthermore be balanced, meaning that mostly lightly trained teachers as well as teachers who are less qualified for different types of projects are selected.

The schools are chosen in such a way that the equilibrium is maintained, meaning that schools from different neighbourhoods, pupils with different socio-economic backgrounds and schools for the national minorities are included. Hungarian and German minorities from Romania are also involved in the project and the teachers have the opportunity to develop the lessons in the children's mother tongue.

The representatives of the school inspectorate who have a special qualification monitor the project.

All the schools, teachers, and supervisors are mentioned in the protocol that is signed by the general school inspector.

The next step involves the training course for the teachers. In addition to the lesson objectives the teachers receive along with the schoolbook "Close to animals", they are trained on how to use different alternative methods of teaching and how to apply these methods during the school hour. Traditional methods such as conversation, speech, and observation are combined with more interactive ones focussing on the dialogue between the children and teacher, aiming to encourage children to express their feelings and solutions for different situations animals may be in and to develop empathy for different aspects of animal life and behaviour.



Photo 3: Teachers training course



Photo 4: Teachers training course

The lessons from the “Close to animals” schoolbook are conceived to focus children’s attention on the cause - effect principle and to induce them to find solutions to problems that are debated in class under the teacher’s supervision.

The learning strategies we chose include: the round table, concept network, list of values, four corners, co – op, co – op, inner circle – outer circle (Photos 3 and 4)

For this presentation, we have chosen three lessons from the “Close to animals” schoolbook with the proposed learning strategies from the teachers training course. The learning methods are developed based on lesson-specific objectives:

“Pets”

1. The trainers read the specific objectives of the topic.
2. In order to perform one of the learning tasks for this topic, the cooperation strategy “Round Table” is be used:

All participants are asked the following question: “Which are the criteria you must consider when choosing a pet?”

3. The participants are divided into two groups. Each group receives a piece of paper and a pen which are passed from one person to the next. Each person quickly writes an answer without reading the previously written ones.
4. The trainers process the answers received from the entire group.

5. Conclusion:

Before choosing a pet, you must acknowledge that you are responsible for its life and you must consider the needs of each species and your ability to satisfy such needs.

“Animals work, too”

1. The trainers read the targets specific to the topic out loud.
2. To approach one of the subjects which can be discussed on the suggested topic, we propose using the strategy of learning by cooperation, “Concept Network”:
 - a. The participants are divided into four groups by drawing numbers from 1 to 4. Each team will have four minutes to discuss the given topic.
 - b. Each member of each team receives crayons or pencils in different colours.
 - c. The trainer writes the subject on the flipchart and draws a rectangle around it.
 - d. In turn, each team approaches the flipchart and each member of the team writes down a concept related to the respective subject.
 - e. Each member of the team writes down a basic concept and an additional one and circles them with the same colour. If he/she does not find it, he/she can establish links between the concepts already specified.
3. Conclusion:

Man as a being who is superior to other living creatures must protect them and eliminate their exploitation.

“Animals do feel”

1. The trainers read the targets specific to the topic out loud.
2. Learning task: the participants write down in a list on two columns the emotions animals and people can feel.

For this, we suggest using the strategy “List of Values” (the criterion for the division into teams: notes with animals; four teams are formed):

- a. Two of the teams list the emotions people can feel and the other two teams list those animals can feel
- b. The trainers write down the teams’ answers on the flipchart in two columns; the common answers are highlighted

3. Conclusion:

The emotions of animals are the expression of their communication either among themselves or with humans.

After the teachers training has been completed, the “Close to the animals” schoolbook is distributed to the children, the book is offered free of charge and the children may keep it. To support the teachers, VIER PFOTEN representatives provide different school materials and information on the topics of the different lessons.

The evaluation of the project is carried out together with representatives from the School Inspectorate, involving two target groups: teachers and children. Since spring 2010, the project evaluation has been conducted with the support of the Babeş-Bolyai University Cluj, Faculty of Psychology and Science of Education.

Activities with Children

With reference to the activities developed for the classroom, the children are provided the opportunity to interact with animals, to learn about them, identify and find new solutions for the situations animals find themselves in.

The courses are fully interactive and are in line with the emotional development of the children; therefore, they do not involve homework. At the end of each lesson, a group or a practical activity is undertaken, so the kids have the possibility to express themselves through drawings or essays on different issues, small theatre performances or small projects. (Photos 5 and 6)



Photo 5: Children participating in a group activity.



Photo 6: Collage of wild animals

One of the most important project activities is the children's meeting with VIER PFOTEN's "Dogs for People" team. During this activity, therapy, search and rescue dogs accompanied by their trainers show children what a stray dog can do if it is loved and taken care of. The seven former stray dogs perform for the children and teachers participating in the project. It is a dog performance in which children realise that a stray dog can become man's best friend. The demonstration is followed by an interaction between the dogs and children, supervised by the dogs' trainers. The children are encouraged to share their own experiences with stray animals and with the help of VIER PFOTEN's dog trainers, kids can learn about the behaviours of stray dogs and of their own dogs. (Photos 7 and 8)



Photo 7: Dog training demonstration



Photo 8: Children interacting with the dogs.

At the end of the project, VIER PFOTEN organises exhibitions together with participating children and teachers and the help of the School Inspectorate at which the children's project output is presented and shared. One of the most important events was established in collaboration with the Romanian Farmer Museum in Bucharest, gathering 200 participants for different activities. (Photos 9 and 10)



Photo 9: Children at the exhibition



Photo 10: Children's drawings

Conclusions

Romania is a country in which Animal Welfare and protection principles are still not part of people's mentality. The most effective way of confronting the lack of empathy towards animals is educational programmes that provide children with basic knowledge on Animal Welfare. During a child's first school years, teachers have the chance to develop and guide their pupils' sensitivity and responsibility towards animals. Through VIER PFOTEN's educational project, teachers become ambassadors of Animal Welfare. Eventually, educated children will turn into adults who are better aware and are able to take the right decisions regarding Animal Welfare and protection and to defend animals' rights.

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ABSTRACT

SCHOOL TEACHERS – AMBASSADORS OF ANIMAL WELFARE IN ROMANIA

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Owing to families' neglect, children regularly witness animals' suffering: stray animals, animals sacrificed in public or private places, molested pets, wild animals used as "models", animals locked up in zoos and circuses, animals ceased without any restrictions, etc. Adults' indifference towards animals is unfortunately an example for children. The animal protection organisation VIER PFOTEN has developed the "Children Learn to Protect the Animals" project, which aims to demonstrate that, by means of education, this attitude can change over time. Adapting to the Romanian education system, the project targets teachers and pupils from primary school, 3rd and 4th grade, as one of the most important periods of educational development, involving them in a project that aims to show that the study of animal protection is necessary in schools, since it supports the children's education by sensitising them and helping them develop a sense of responsibility towards animals – thus emphasising that animal protection must be a part of their basic education. For this purpose, an interactive schoolbook "Close to animals" has been created, training courses for teachers based on alternative teaching methods are offered, teaching guidelines and activities that provide children the opportunity to interact with animals are provided.

The teachers, as key persons in the guidance of pupils with reference to ethical, moral, and social values have the opportunity of becoming ambassadors of Animal Welfare.

Based on these considerations, the project initiated by VIER PFOTEN aims to introduce the study of animal protection in the primary school curriculum in those countries in which the project is already running, Romania and Bulgaria, and to offer the knowledge and know-how in countries where the project is needed.

POULTRY WELFARE AND THE POULTRY MEAT TRAINING INITIATIVE

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Summary

The competence of a stockman is vital to bird welfare. Both the Broiler Welfare Directive (BWD) and the Red Tractor Assurance Scheme (the main scheme within the UK) stipulate that keepers of chicken must have received sufficient training before being given responsibility to care for the birds. This training must cover areas such as the physiology of the birds, handling, emergency care, and biosecurity measures.

The Poultry Meat Training Initiative (PMTI) was established by the poultry industry in the UK to meet the requirements of the BWD and the Red Tractor Assurance Scheme. The PMTI sets minimum training requirements for each role within the poultry sector and course content for poultry qualifications. It is also responsible for the poultry passport scheme, an online training recording system for individuals within the poultry industry.

Keywords: Poultry meat training initiative, poultry passport, poultry welfare, broiler welfare directive, assurance

Introduction

Poultry meat in the UK is produced in a number of production systems, some of which will be perceived as higher welfare systems. However, in any production system the competence of the stockman is likely to be the biggest factor affecting bird welfare.

Legislation and Assurance Scheme Requirements

The importance of trained and qualified staff has been recognised within the Broiler Welfare Directive (BWD) (Council Directive 2007/43/EC) which comes into force across the EU in 2010. This Directive lays down minimum standards for the production of meat chicken and Article 4 deals with the training and guidance for persons dealing with chickens. Member states must ensure that keepers of chicken have received sufficient training for their role and that appropriate training courses are provided. Keepers of chicken must hold a certificate of competence that is recognised by the competent authority or show they have gained the equivalent experience through working in the industry for at least five years in the last ten.

The Red Tractor Assurance Scheme covers a majority of poultry production within the UK and it is a requirement of all major retailers that chicken meat is produced under this scheme. The standards contain modules on animal health and welfare and the training and competency of staff. Under these, stockmen have to be able to demonstrate knowledge of bird behaviour, signs of good and poor health and disease, correct handling of birds, humane culling methods, litter management, the signs of thermal stress in the birds, and corrective action.

The Poultry Meat Training Initiative

The Poultry Meat Training Initiative (PMTI) was established by the poultry industry in order to help producers meet the requirements of the BWD and the Red Tractor Assurance Scheme. The organisations involved in the running, governance, and development of the initiative are the National Farmers Union (NFU), British Poultry Council (BPC), Lantra, and Poultec.

The PMTI has set down minimum training requirements for each role within the poultry meat sector. It has defined three levels based on job specification and laid down minimum training requirements for each. Level

2 and 3 roles are required to complete a Diploma in work-based agriculture (poultry) or a National Vocational Qualification (NVQ) in livestock production (poultry). These are vocational courses and contain units which deal specifically with poultry welfare. The candidates must show they are able to establish, monitor, and maintain conditions appropriate to the welfare of livestock and are assessed on their ability to do so.

The Poultry Passport Scheme

The PMTI has been responsible for setting up the Poultry Passport Scheme. This is an online training recording system. Each individual within a company will have his/her own passport which contains details of all training and qualifications they have undertaken and provides the required evidence of competence as requested by the BWD and Red Tractor Scheme. This Poultry Passport can be carried over with the individual if he/she changes roles or organisations and enables new employers to check the level of training and qualifications they have already acquired and what future training they may need.

Conclusions

The welfare of livestock will be governed by the competence of the stockman. Knowledge and understanding of the needs of the animals they are responsible for not only achieves benefits in terms of bird health and welfare, but also in terms of financial return. The PMTI offers standardised training across the poultry meat sector ensuring that staff receive the correct level of training for their role. This has numerous benefits. The company has competent and well informed staff which will derive the best possible results from their chicken. The trained individual feels motivated and enthusiastic and has a record of qualifications, through the Poultry Passport Scheme, which can move with him/her as he/she progresses. There are also benefits for the UK poultry industry as a whole. With increasing pressure from consumers and retailers, it can prove it has a professional and qualified work force which is dedicated to ensuring the welfare of its livestock.

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ABSTRACT

POULTRY WELFARE AND THE POULTRY MEAT TRAINING INITIATIVE

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The welfare of livestock will be governed by the competence of the stockman. Knowledge and understanding of the needs of the animals they are responsible for not only achieves benefits in terms of bird health and welfare, but also in terms of financial return.

The Poultry Meat Training Initiative (PMTI) was developed by the poultry industry in the UK to meet the training requirements laid down within the Broiler Welfare Directive and the Red Tractor Assurance Scheme. Both require those responsible for the care of chicken for meat production to be able to demonstrate that they have received training and that they can establish, monitor, and maintain conditions appropriate to the welfare of poultry. The scheme was launched in 2008 and has been adopted by a majority of the integrated poultry companies and their contract growers.

The PMTI sets minimum training requirements for various roles within the poultry sector, i.e., stockman, farm manager, hatchery operator, ensuring that there is a standardised level of training across the poultry industry. It also developed the Poultry Passport Scheme, an online training recording system. Individuals have their training logged onto their own 'Poultry Passport' which provides them with a personal record of skills that can be carried over if they change employer.

IMPORTANCE OF ANIMALS TO CHILDREN, ANTHRO-POMORPHISM, AND THE DEVELOPMENT OF EMPATHY

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Summary

Animals mean a lot to children. Studies have shown that they are indeed 'significant others', offering socio-emotional support when needed.

Other studies have examined the effects of animals, especially dogs, on children in classrooms, their behaviour and integration, and on the learning atmosphere in their presence. Different programmes have different goals; many utilise the emotional feelings of children, their empathy towards animals, even anthropomorphic exercises, to reach their goals.

Anthropomorphism, the projection of thoughts and emotions onto animals, was long frowned upon – especially in ethology. That has changed amongst scientists in the last two decades. Calling on the feelings of children when considering the humane treatment of animals can be a powerful pedagogical tool.

That humane education school programmes have long-lasting effects on the development of empathy, and that a relationship between empathy towards animals and people as well as with the development of emotional intelligence exist, has already been demonstrated.

Keywords: Companion animals, emotional support, anthropomorphism, empathy, school programmes

Introduction

Animals, especially companion animals, can mean a great deal to children {13}: they motivate and invite the child to interact; arouse curiosity; may promote responsibility and awareness of other beings; may serve as a bridge between the worlds of a child and of an adult; reduce stress and promote relaxation; if habituated and/or socialised when young, they allow physical contact; they stimulate physical and mental activity; can awaken a joy for life; promote self-confidence as well as coordination; can serve as a refuge and can console; can provide opportunities for new experiences and promote social competencies; promote trust and accept us, e.g. physically or mentally challenged children, without prejudice; and companion animals help children cope with fears, worries, and frustration. Indeed, as illustrated in Table I, many studies in different countries show that animals are so-called 'significant others' to children, even juveniles, offering them socio-emotional support in times of need.

Table I. A sample of results indicating that children and juveniles turn to their pets for social support.

- BOTH 7 YR-OLDS (N=72) AND 10 YR-OLDS (N=96) INDICATED THEIR PETS WERE A "SPECIAL FRIEND" WITH WHICH THEY HAD "INTIMATE TALKS" {5}
- 42% OF 5-YR-OLDS TURNED TO THEIR PETS WHEN SAD, ANGRY, AFRAID OR HAPPY {14}
- OF 213 BOYS AND 213 GIRLS, 9-10 YR-OLDS IN GERMANY: 79% PREFERRED THE COMPANY OF THEIR PET WHEN SAD; 69% SHARED SECRETS WITH THEM; 48% PREFERRED PET COMPANY TO PEERS {17}
- 75% OF 10-14 YR-OLD SAMPLED CHILDREN IN MICHIGAN TURNED TO THEIR PET "WHEN UPSET" {7}

Social support theory {6} along with attachment theory {4}, and most recently biophilia {11, 19}, are often drawn upon to explain both the prevalence of pet ownership, as well as the effectiveness of domestic animals as therapeutic agents to help people of all ages with special needs {18}.

Companion Animals and the Development of Empathy

Although many pedagogues have assumed that a link exists between the empathy for people and the empathy for animals {10}, researchers who have posed this question in the past arrived at conflicting results for various reasons. However, in a critical review, Paul {16} concluded in 2000 that such a correlation does indeed exist – albeit cautioning against assuming causality or the same underlying mechanism. In 2004, a further correlation was established: not only between empathy towards animals and empathy towards people, but also with respect to levels of human emotional intelligence {3}.

A causal relationship between the development of empathy towards animals and towards people was demonstrated in 1996 {1}: Ascione and Weber conducted a year-long, school-based, humane education programme on 4th graders' attitudes towards animals. Using pre- and post-test design, comparing an experimental group (children in the humane education programme) with a control group of same-aged children in a similar class, the researchers found at both post-testing time points (end of the first year and one year later, without continuation of the experimental intervention) that 1) humane attitudes were better after the programme, 2) the enhancement of attitudes towards animals turned into human-directed empathy, especially when the quality of the children's relations with their pets was included as a covariate, and 3) the effect was long-lasting {1}. These results are especially encouraging for the proponents of humane education programmes.

Anthropomorphism

Many children's programmes utilise the emotional feelings of children, their empathy towards animals, even anthropomorphic exercises, to reach their goals. Anthropomorphism, the projection of our thoughts and emotions onto animals, namely, the assumption that animals have the same thoughts and emotions as we humans, was long frowned upon – especially in the field of ethology. That has changed to some degree amongst scientists over the last two decades given 1) the knowledge that humans have been selected by evolution to anthropomorphise {15}; 2) that anthropomorphic thoughts are indeed a useful source of hypotheses which can then be tested and interpreted by non-anthropomorphic, objective means {2}; and 3) the prerequisite that the dignity of the animal (-species) is not impinged upon (e.g., by clothing the animal or 'equipping' it with things like sunglasses!). Calling on the feelings of children when considering the humane treatment of animals can in fact be a powerful pedagogical tool and has been utilised, e.g., in the joint WSPA-IAHAIO-WHO teacher's manual {21}, as well as the supplemental information from the WHO Training Programme on Human-Animal Interactions {20}.

Pets in Schools

Other studies have been conducted on the effects of animals, most often companion dogs, on children in the classroom setting, their behaviour, and integration, and on the learning atmosphere in their presence. In many European cities today, school children come from different cultural backgrounds of immigrant parents and their integration is one key to successful learning. Researchers in Vienna, Austria, have been particularly active in analysing the effects of companion dogs – often owned by the teachers – on such children in the school setting {8, 12}. Hergovich et al. {8} found that when a dog was present in the classroom for three months, relative to a matched control classroom, field independence and empathy towards animals were significantly enhanced. The teachers also reported that the children in the experimental group exhibited higher social integration and fewer cases of aggression. Kotrschal and Ortbauer {12} found similar results: Although there were major individual differences in the children's interest in the dog and their behavioural responses,

the class became socially more homogenous with a decrease in behavioural extremes, e.g., aggressiveness and hyperactivity, and formerly withdrawn children became more socially integrated. Boys were more strongly affected than girls and although most children spent a considerable amount of time watching and contacting the dog, they also paid more attention to the teacher.

Different programmes have different goals, as illustrated in some of the presentations in this volume: some emphasise safe behaviour (e.g., bite prevention), others the proper care and humane treatment in accordance with the species-specific needs of the animals, and still others emphasise respect for animals as co-inhabitants of our planet. But all have their justification when well-conducted.

Table II. The IAHAIO Rio Declaration on Pets in Schools {9}

IAHAIO URGES ALL SCHOOL AUTHORITIES AND TEACHERS, AS WELL AS ALL PERSONS AND ORGANISATIONS INVOLVED IN PET PROGRAMMES FOR SCHOOLS, TO CONSIDER AND ABIDE BY THE FOLLOWING GUIDELINES:

PROGRAMMES ABOUT COMPANION ANIMALS SHOULD, AT SOME POINT, ALLOW PERSONAL CONTACT WITH SUCH ANIMALS IN THE CLASSROOM SETTING. DEPENDING ON SCHOOL REGULATIONS AND FACILITIES, THESE ANIMALS SHOULD:

- A) BE KEPT ON THE PREMISES UNDER SUITABLE CONDITIONS OR
- B) BE BROUGHT TO SCHOOL BY THE TEACHER OR
- C) COME TO VISIT WITHIN THE CONTEXT OF A VISITING PROGRAMME, TOGETHER WITH THEIR OWNERS OR
- D) ACCOMPANY A CHILD WITH SPECIAL NEEDS AS A SERVICE DOG.

ANY PROGRAMME INVOLVING PERSONAL CONTACT BETWEEN CHILDREN AND COMPANION ANIMALS MUST ENSURE:

- A) THAT THE ANIMALS INVOLVED ARE
 - SAFE (SPECIALLY SELECTED AND/OR TRAINED);
 - HEALTHY (ATTESTED BY A VETERINARIAN);
 - PREPARED FOR THE SCHOOL ENVIRONMENT (E.G., SOCIALISED TO CHILDREN, ADJUSTED TO TRAVEL IN THE CASE OF VISITING ANIMALS);
 - PROPERLY HOUSED (EITHER IN THE CLASSROOM OR WHILE AT HOME); AND
 - ALWAYS UNDER SUPERVISION OF A KNOWLEDGEABLE ADULT (EITHER THE TEACHER OR OWNER);
- B) THAT THE SAFETY, HEALTH, AND FEELINGS OF EACH CHILD IN CLASS ARE RESPECTED.

PRIOR TO THE ACQUISITION OF CLASSROOM ANIMALS OR A VISIT OF THE CLASS BY PROGRAMME PERSONNEL WITH COMPANION ANIMALS THAT MEET THE ABOVE CRITERIA, BOTH SCHOOL AUTHORITIES AND PARENTS MUST BE INFORMED AND CONVINCED OF THE VALUE OF SUCH ENCOUNTERS. PRECISE LEARNING OBJECTIVES MUST BE DEFINED AND SHOULD INCLUDE:

- A) ENHANCEMENT OF KNOWLEDGE AND LEARNING MOTIVATION IN VARIOUS AREAS OF THE SCHOOL CURRICULUM;
- B) ENCOURAGEMENT OF RESPECT AND OF A SENSE OF RESPONSIBILITY FOR OTHER LIFE FORMS;
- C) CONSIDERATION OF EACH CHILD'S EXPRESSIVE POTENTIAL AND INVOLVEMENT.

THE SAFETY AND WELL-BEING OF THE ANIMALS INVOLVED MUST BE GUARANTEED AT ALL TIMES.

These and other research findings prompted the International Association of Human-Animal Interaction Organizations to unanimously pass the 'Rio Declaration on Pets in Schools' {9}, which was also endorsed by the WHO Training Program on Human-Animal Interactions held in Sao Paulo, Brazil, 2001 {20}. The declaration begins with a preamble relevant to this topic: given the strong evidence that has accumulated in recent years demonstrating the value of social relationships with companion animals for children and juveniles, it is important that children be taught proper and safe behaviour towards those animals and the appropriate care, handling, and treatment of the various companion animal species. Realising that companion animals in school curricula encourage the moral, spiritual, and personal development of each child, bring social benefits to the school community, and enhance opportunities for learning in many different areas of the school curriculum, IAHAIO members have adopted fundamental guidelines on pets in schools in September 2001.

It is important to emphasise that any programme in humane Animal Welfare Education, which involves children and live animals, must consider and respect the interests and feelings of both the children and the animals involved at all times. Thereby, we can reach our diverse goals while benefiting all programme participants – human and non-human.

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DAY 1

1 October 2010

Opening - WELCOME and INTRODUCTION

Moderator: [Paola Testori Coggi](#), *Director General, DG SANCO*

09.30 [John Dalli](#), *European Commissioner for Health and Consumer Policy*

09.45 [Marit Paulsen](#), *Member of European Parliament, ALDE Group
Vice-Chair, Committee on Agriculture and Rural Development*

10.00 [Laurette Onkelinx](#), *Deputy Prime Minister and Minister of Social Affairs and Public Health,
Belgian Presidency of the EU*

Moderator of the conference: [Despina Spanou](#), *Principal Advisor - policy and
communication coordination, DG SANCO*

10.30 **Session 1 - Animal welfare education: science and values**
Moderator: [Professor Linda Keeling](#), *Swedish University of Agricultural Sciences*

10.40 The importance of animal welfare education
[Professor Alistair Lawrence](#), *Head of Animal Welfare, Scottish Agricultural College*

11.00 Animal welfare education the science-based approach
[Professor Ruth Newberry](#), *Washington State University, Center for the Study of Animal
Well-being, USA*

11.20 Socio-ethological aspects of welfare training
[Professor Dr. Jörg Luy](#), *Animal Welfare and Animal Ethics, Freie Universitaet Berlin, Germany*

11.40 Debates

12.00 Lunch Break

13.30 Introduction by [Androulla Vassiliou](#), *European Commissioner for Education, Culture,
Multilingualism, Sport, Media and Youth*
(video message)



DAY 1

- 13.35 **Session 2 - Methodologies for teaching animal welfare**
Moderator: [Dr Monique Eloit](#), *Deputy Director General of the OIE*
- 13.45 Professional education for vets
[Professor Vincenzo Caporale](#), *Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise, OIE Collaborating Centre, Italy*
- 14.05 Animal welfare training for professionals
[Antonio Velarde](#), *Institut de Recerca i Tecnologia Agroalimentàries, Animal Welfare Subprogram, Spain*
- 14.25 Open education resources
[Anne Algers](#), *Department of Food Science, Swedish University of Agricultural Science*
- 14.45 Debates
- 15.00 **Session 3 - Sharing Experiences (I)**
Moderator: [Professor Dirk Lips](#), *Katholieke Universiteit Leuven, Belgium*
- 15.15 InterNICHE and human education
[Nick Jukes](#), *Coordinator InterNICHE, UK*
- 15.30 Animal welfare education for children
[Marie Helene Scheib](#), *General Manager of «Tierschutz macht Schule», Austria*
[Lars Roeper](#), *Project Director of Erna-Graff Stiftung für Tierschutz, Germany*
- 15.55 AIsET-Animals in School Education Trust
[Jim Edwards](#), *AIsET, New Zealand Veterinary Association*
- 16.10 WSPA - Advanced Concepts programme on Animal Welfare for veterinary schools
[Ruth de Vere](#), *Head of Education of the World Society for the Protection of Animals, UK*
- 16.25 Questions & Answers
- 16.40 Coffee break

- 17.10 **Session 3 - Sharing Experiences (II)**
Moderator: [Dr. Claire Diederich](#), *Associate Professor in Ethology, University of Namur, Belgium*
- 17.25 **FAO regional educational programs**
[Daniela Battaglia](#), *Livestock Production Officer, Agriculture and Consumer Protection Department, FAO*
- 17.40 **Animal welfare education in Latin America**
[Carmen Gallo](#), *Instituto de Ciencia Animal, Facultad de Ciencias Veterinarias, Universidad Austral de Chile*
- 17.55 **Bristol University: programs for university students education**
[Dr. David C. J. Main](#), *Head of Division of Farm Animal Science BVA, Department of Clinical Veterinary Science, University of Bristol, UK*
- 18.10 **Children learn to protect the animals**
[Ioana Gabriela Dungler](#), *Director of Projects, VIER PFOTEN International, Austria*
- 18.25 **Poultry passport-Poultry meat training initiative**
[Charles Bourns](#), *Chair of the Poultry Board, National Farmers Union, UK*
- 18.40 **Questions & Answers**
- 18.50 **Conclusions Day 1**
[Despina Spanou](#), *Principal Adviser - policy and communication coordination, DG SANCO*
- 19.00 **End of the day**



DAY 2

2 October 2010

Opening - WELCOME and INTRODUCTION

- 09.30 Moderator: [Bernard Van Goethem](#) - *Director, Animal Health and Welfare, DG SANCO*
[Andrea Gavinelli](#), *Head of Animal Welfare Unit, DG SANCO*
- 09.40 Communication strategies and education
[DG EAC representative](#)
- 10.00 Emotional importance of companion animals to children, anthropomorphism and the development of empathy
[PD Dr. sc. Dennis C. Turner](#), *University of Zurich and Director of Institute for applied Ethology and Animal Psychology, Hirzel/Zurich*
- 10.20 [Children drawing contest - prize awarding ceremony](#), *Prince Laurent of Belgium*
- 11.00 Exhibition of animal welfare educational programs
- 14.00 End of the day



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