

# **Innovative Educational Models for Nonhuman Animal Protection: A Case Study on a European School Scheme**

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**Abstract:** The transformation of pedagogical processes in relation to the image offered about non-human animals in schools is currently urgent. Above all, it is essential to strengthen the ethical and moral dimension of these educational actions. As a case study, this article has as its main objective to explore distribution plans school milk schemes through humane education and examines the sustainability of such schemes using, as a methodological basis, the guiding questions posed by the True Price lesson plan created by the Institute for Humane Education. The European Union invests 100 million euros annually into school milk subsidies and this paper will examine whose interests are protected and promoted through school milk schemes and what are the environmental, health, and animal protection issues involved in the dairy industry. This theoretical work aims to demonstrate how humane education can be used to tackle topics that normally go undiscussed in schools and how to cultivate critical thinking and how humane education has the potential to represent a new model of environmental education that takes a much-needed interdisciplinary approach that combines animal and environmental protection and social justice. Throughout this process, teacher training is also crucial. Among the conclusions obtained, it is possible to determine, among other actions, how teacher training is decisive for achieving these goals. For this reason, this new and necessary pedagogical approach should also be integrated into the university.

**Key-Words:** Humane Education, Animal Protection, Animal Law, Welfare, Environment, Teacher Training.

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## 1. Introduction

Each year the European Commission invests 150 million euros into its School Milk Scheme, subsidising dairy products to schools (Maniaki-Griva, 2014) often accompanied by dairy advertising material and activities. Schools can be seen as an economic playground for the animal-industrial complex, investing into schemes that reproduce speciesist messages and habits. Some scholars have acknowledged how education can be used as a means to challenge and re-evaluate dominant speciesist and anthropocentric beliefs (Goodall & Bekoff, 2003, Jalongo 2004; Pedersen 2004; Gómez-Galán, 2008, 2012, 2019; Brügger, 2009; Caine 2009, 2015; Rice 2013; Pedersen & Gunnarson 2016; Weil, 2016; Saari 2018; Furlong, Silver & Furlong, 2018; González-Berruga & González-Berruga, 2018). However, practical implementation of humane education has been limited.

The property status of nonhuman animals and the problematic nature of welfare reforms, as it deceptively promotes the idea of humane use of nonhuman animals, focusing on small details of the exploitation process instead of questioning exploitation of sentient beings. Some legal scholars have aptly identified that the legal protection and possible rights of nonhuman animals depend on human attitudes towards them (Kalof, Fitzgerald, Lerner, & Temeles, 2004; Bisgould, 2014; Peters, 2016; Kopnina, Washington, Taylor, & Piccolo, 2018). We propose that humane education can be an important tool to help re-examine the human-nonhuman animal relationship and challenge destructive speciesist attitudes by critically evaluating the effects of our habits: in this case the consumption of dairy. To make a change in the treatment of nonhuman animals and our speciesist attitude towards them, it is not enough to rely on legal reforms regulating their exploitation, but instead we need to reform our values and moral landscape. In other words, a paradigm shift is needed. Educational institutions help maintain a speciesist society, but also offers a channel through which to challenge destructive worldviews.

If dominant beliefs and practices go largely unquestioned throughout our years in schooling, changing these well-established beliefs later in life can prove more challenging. Therefore, creating positive social change for animals requires critical approaches to education in practices through initiatives such as humane education, as well as the inclusion of education legislation into the discussion and practice of animal law. First, we examine the implications of the legal status of nonhuman animals and the inconsistent message of welfare regulations. We argue that education and particularly humane education has an important role to in the legal protection of nonhuman animals and any possibility of rights.

## 2. Context of the problem

### 2.1. Nonhuman animals as property

Why is it important to understand the legal status of nonhuman animals? As property, nonhuman animals are categorised according to their use, not according to their individual needs and interests. A rise in public concern over the treatment of nonhuman animals, welfare measures have been implemented to varying degrees and new marketing strategies promoting humane, happy, organic and free-range products stock supermarket aisles. Is there such a thing as humane farming or is it all a humane myth?

For thousands of years “a thick and impenetrable legal wall has separated all humans from all nonhuman animals,” as we have consigned ourselves the status of legal persons, while demeaning all other species the status of legal things (Wise 2001: 4). As property and objects, nonhuman animals are categorised according to their use, not according to their individual needs and interests. The same nonhuman animal can be considered worthy of protection depending on the category they are placed in. For example, a rabbit could be considered a pet, wildlife, a pest, used in research, or farmed for food or fur. The legal protection the rabbit receives will differ between each category, even though the innate needs of the rabbit do not change. Nonhuman animals are “socially constructed” and the categories we assign to them are “politically charged in that they serve to benefit some (humans, some animals) at the expense of others (other animals)” (DeMello 2012: 10).

Law can be seen as a manmade tool used by the powerful to protect their assets and interests and has served as a means to legitimise and normalise exploitation and oppression of different groups based on race, religion, gender, sexual orientation, as well as the oppression of slaves. The most comprehensive form of legitimised exploitation and oppression is that of nonhuman animals, whose value lies solely on their profitability and usefulness to humans. Although the legal system has granted corporations, universities, and natural elements such as a river in New Zealand the status and protection granted by legal personhood, nonhuman animals remain categorised as property, as mere objects to be owned and commodities to be traded. Their legal status allows us to not only intentionally ignore, but to abuse their most basic and fundamental interests.

Wise (2000: 4) recognises the correlation between law and morals, identifying how ancient jurists proclaimed that law had been created solely for human beings, resonating the belief of ancient philosophers that “all nonhuman animals had been designed and placed on earth just for human beings,” a belief that, according to Wise, lies at the root of what the law says we can do with them. Given the extent of our exploitation of nonhuman animals it is clear that they generally do not hold a high place in the sphere of

moral concern. But on what basis do we exclude nonhuman animals from the sphere of moral concern? Throughout history nonhuman animals have unfairly been judged according to criteria created by humans, criteria that ultimately aim to demonstrate human superiority, as we unduly judge nonhuman animals according to human traits. Cassuto (2007, pp. 60) justly acknowledges that human traits, such as “language, tool use, self-consciousness, or any other, can be found in animals ranging from dolphins to pigeons,” leaving us to question what is it exactly that grants humans superiority and domination over the rest of the animal kingdom? Even when the man-made criteria is not met by some members of the human species, such as infants or disabled people, human superiority prevails under the notion of belonging to the human species. *Speciesism*, a form of discrimination based on species membership, is comparable to racism and sexism, where a certain characteristic is used as a justification for oppression and different treatment. Dunayer differentiates between two types of speciesism: old-speciesism and new-speciesism. According to Dunayer (2001, pp. 34), old-speciesists advocate rights only for humans, whilst new-speciesists “advocate rights only for those non-humans who seem most like humans” while non-speciesists reject the human-biased criteria for rights and advocate rights for all sentient beings.

Francione (1995: 257) sees the legal system as highly adept in making it appear as though oppressed groups receive legal protection and welfare reforms direct our attention to tangential issues, such as cage sizes, interpreting the notion of cruelty differently from ordinary discourse. Legal welfarism calls for the regulation of our use of nonhuman animals, stating that nonhuman animals are to be treated *humanely* and spared from *unnecessary suffering*, but there is no agreement to what counts as *unnecessary suffering*. The humane treatment principle raises questions as to what counts as necessary suffering and according to whom? Bisgould (1996: 74) describes the the notion of unnecessary suffering as superficially impressive, as it disguises the many ways in which nonhuman animals suffer. A prime example of treating nonhuman animals as commodities, where the law legitimises their suffering, is the case of nonhuman animals used for farming purposes. According to Cassuto (2012: 12), as long as nonhuman animals are consumed for food, anticruelty laws are redundant since “we cannot seem to decide on a coherent set of values as to what counts as animal cruelty.” Standard industry practices cause immeasurable suffering for billions of nonhuman animals and *The European Convention for the Protection of Animals kept for Faming Purposes* outlines the *Five Freedoms* that aim to protect the basic needs of nonhuman animals, who are considered ‘sentient beings’ under the Lisbon Treaty ratified in 2009. For example, routine confinement, untreated diseases, mutilation (dehorning, beak trimming, tooth cutting, tail docking, and castration) without anaesthesia are largely accepted

and justified. Despite minimal standards concerning housing, feeding and veterinary care, nonhuman animals are deprived of their natural environment and deprived of expressing natural behaviour, as they are confined in barren cages, socially isolated and psychologically traumatized, and routinely express stereotypical behaviour reflecting their psychological torment. Cassuto (2012: 12) succinctly summarizes the fate of nonhuman animals bred for farming purposes, who he describes are “meat from the moment they are born as they are not just raised *for* food; they are raised *as* food. Their care and treatment acquires legal relevance only in as much as it impacts the marketability of their dismembered bodies.” The property status of nonhuman animals allows us to overlook them as individual sentient beings and turn them into a product even before they are born, where their whole existence lies solely on becoming or producing a product that humans can profit from.

If we are to take the interests of nonhuman animals seriously the only way to do so is to accord them the right not to be treated as property, abolishing their exploitation (Francione 2004: 108) and the only requisite for equal consideration ought to be sentience, the subjective awareness of someone perceiving and experiencing the world, (Francione & Charlton 2015: 97). Bisgould (2014) aptly highlights that nonhuman animals are not treated badly because they are classified as property, but they are classified as property so that we can treat them badly. Peters (2016: 22) similarly recognises that the legal protection of nonhuman animals and their potential rights ultimately depends on human attitudes and calls for an interdisciplinary approach to animal law where disciplines such as economics, biology (zoology), anthropology (human-animal studies), history and cultural studies are taken into account. School milk schemes are as an example of the pervasiveness of the animal industrial complex in schools and demonstrates the need for an interdisciplinary approach where the economic and institutional structures of education as well as daily practices and pedagogic materials are critically examined by approaches such as humane education.

## 2.2. Got milk? School milk schemes

Since 1977 the EU has promoted milk as an important source of vitamins and minerals, encouraging children to consume more milk through its School Milk Scheme, renamed as the School Milk, Fruits and Vegetables scheme in 2015 and coming into effect in the 2017/2018 school year, combining the previously separate schemes of milk and fruit and vegetables. The school milk scheme aims “to encourage the consumption among children of healthy dairy products” by subsidising the cost of different milk products to increase the consumption of dairy products in order to stabilise markets (European School Milk Scheme 2017). Out of 250 million euro budget for each school year, 100 million euros are allocated for school milk and 150 million euros allocated to fruits and vegetables. Children who regularly attend

a kindergarten, nursery school, primary or secondary school are eligible to receive products as part of the European School Milk Scheme (Frequently asked questions on the school milk scheme 2017).

Due to a decline in milk consumption, as well as fresh fruits and vegetables, the EU has prioritised their distribution in its school scheme (The Regulation -EU- 2016/791). The scheme includes a variety of dairy products in addition to milk and lactose-free milk, as they “have beneficial effects on children’s health” (The Regulation -EU- 2016/791). The Regulation (EU) 2016/791 also outlines the necessity of educational measures that support the short- and long-term goals of school scheme of “increasing the consumption of selected agricultural products and shaping healthier diets.” These accompanying educational measures should “represent a critical tool for reconnecting children with agriculture and the variety of Union agricultural products, particularly those produced in their region, with the help, for example, of nutrition experts and farmers” (The Regulation -EU- 2016/791). Schools are required to display dairy advertising and promotional material portraying drawings of happy farm animals and slogans on the health benefits of dairy. Each Member State customises the promotional material and activities.

School milk schemes are not unique to the European Union and similar schemes exist across the globe. To promote the consumption of milk the Food and Agriculture Organization of the United Nations (FAO) has organised the World School Milk Day since 2006 to raise awareness and promote school milk programs and the day is celebrated in school in over 25 countries (Food and Agriculture Organization of the United Nations, n.d.). The World School Milk Day Celebrations in past years have included regional and school competitions and activities focusing on milk, promotional material displayed in schools, students dressing up in cow costumes or cow masks, students donning milk moustaches. The dairy industry also takes a more hands on approach to promoting the consumption of dairy, for example by offering visits dairy farms where visitors are offered are carefully framed representation of dairy farms (Linné and Pedersen 2017). The normalisation of the exploitation of nonhuman animals is evident in children’s storybooks, such as the book *Farm Friends*, in which children are introduced to the different nonhuman animals that humans use for farming purposes. Children are told from a young age that “cows *help* us to make these foods: milk, butter and cheese.” The exploitation of the cow is framed as *cooperation* and the cow is depicted as *helping* humans produce products from milk, ignoring the means of getting the milk and the consequences for the cow. Representations such as this frame the use of nonhuman animals for farming purposes as *cooperation* instead of *exploitation*. This simplistic representation is reinforced through visits to small scale farms and petting zoos, where the conditions do not reflect the conditions in which nonhuman animals are raised

on factory farms, reinforcing the idyllic imagery represented in children's storybooks. This idyllic old-fashioned farm imagery is present in dairy advertising associated with school milk schemes.

### **3. A new humane education approach**

#### **3.1. Vision of non-human animals in schools: the true price of milk**

Some researchers have identified how schools can play an important role in shaping how we view the world around us, including the way we view nonhuman animals as schools are a "part of a societal order in which objectification of animals to a large extent is socially accepted" (Pedersen 2004: 2). Animal exploitation and captivity is normalised in schools, from school lunches and milk schemes, food pyramids and nutritional guidelines, dissection, visits to zoos and aquariums where the captivity of nonhuman animals is normalised. Our daily lives are abundant with representations of nonhuman animals and since childhood, we are exposed to a variety of different representations through different media, but have little contact with real nonhuman animals. Our relationship thus becomes constructed through representations of nonhuman animals, representations constructed by humans for humans and which are often ideologically motivated.

Weil is critical of standard schooling systems for not teaching children about how their daily choices affect nonhuman animals, the environment and other people. The core of humane education is to unveil how "our daily lives are inextricably connected to institutionalized brutality, injustice, and environmental devastation" (Weil 2004: 13). Humane education can be incorporated into any grade level, but according to Weil, would ideally begin in kindergarten. Caine (2009: 10) has a corresponding view to the importance of beginning humane education at an early age and considers it "especially crucial for younger students to learn about our interconnectivity with nature, since opinions, beliefs and character are formed at a very young age." According to Caine (2009: 10), younger children are more flexible in their habits, attitudes and behaviours and therefore make a more promising audience for humane education, although considers it possible for anyone to learn to live in a humane way at any age. Gómez-Galán (2005, 2010 & 2019) defend training is a vital aspect of the practical implementation of humane education, focused primarily on the principles in schools, the age-appropriate teaching and the obstacles and limitations of humane education itself.

#### **3.2. The need for animal protection education.**

In the context presented, the integration of animal protection education into pedagogical processes is absolutely essential. We are talking about an education in environmental values and our planet holds a large number of sentient beings (with the ability to feel pain, fear, anxiety, etc.) which are also

earthlings just as we are, children of our planet. The ethical dimension of the problem is immense (Gómez-Galán, 2005 & 2008).

The way it's exposed, we're not just talking about the animals that live in the Earth's ecosystems, in complete freedom, and receive the impact of our actions on the environment. We also refer to those which are at our service and help us to feed ourselves, provide us clothing, entertainment, etc. Overall, the damage inflicted on these creatures is absolutely intolerable. It is so dreadful to witness the situation in which, every day, billions of sentient beings are crammed into industrial farms, experimenting centres and laboratories, participating in public performances, and some others, that ethical essence of what we understand as humanity, of what we are as a species, is clearly called into question.

These creatures, slaves in the hands of a super-predator, are subjected to situations and acts with such a great suffering that any description with words would be absolutely impossible. Such a lack of compassion or sensitivity is difficult to understand. Especially because for this purpose, despite the fact that some people claim that all these actions are essential to maintain our standard of living, in all its dimensions (which would also be questionable), there are now alternatives. But, as usual, power and economic interests prevail over the ethical and moral values (Gómez-Galán, 2005 & 2019).

This situation has been systematically analyzed by authors like Regan (1993), Singer (1995), Mosterín (1995), Bekoff and Goodall (2003), Gruen (2011) and Tester (2015). Clearly this is a major problem whose main solution lies, as in many other issues, in education. The main objective would be to create, mainly in children and young people, empathy for other animals, and provide them with a dignified life and the right not to be abused as sentient beings that are capable of suffering. Our circle of compassion must also cover the creatures who share with us their existence on our planet. As demonstrated in due course (Gómez-Galán, 2005 & 2008) this should be one of the most important goals in the context of the ethical and moral values of a new model of education, which merges the principles of its prescriptive curriculum with the defence of non-human animals and the environment. To mistreat these beings, inhabitants and brothers like us in the biosphere, denigrates everyone as a human being.

### 3.3. The basis for real progress: teacher training

Naturally, one of the challenges of this new educational model must undoubtedly be the training of teachers. To effectively achieve any of the major goals that define the model, adapted to the urgent problems we face, it is crucial to prepare teachers for this, as they must be the principal agents of change. Without the pedagogical training of teachers who should carry out this work everything would be in vain (Gómez-Galán, 2005).

Any education process lies on practice, that is, the development of action in operating contexts. As White (2005) demonstrated more than a decade ago, focusing on the principles of environmental education (EA) -the most traditional on an international scale and at all levels of education-, any theoretical base must be a guide for the attainment of objectives, which they develop and achieve with practical action. The key question is: are teachers willing to develop learning processes based on new theoretical models that include, merged, environmental and animal protection issues? All research leads to an affirmative answer.

Starting from a thorough understanding of the situation in which the group of teaching professionals concerned with these important issues is found it is possible to determine what are their interests, motivations, concerns for problems, scientific and didactic training, trust or distrust of institutions, the way that they are facing environmental problems, etc. Particularly in Europe we conducted a complex study (Gómez-Galán, 2010) which allowed us determining, and we specify to the maximum in this work, that teachers are very interested in these issues and are aware of the damage we are doing to the biosphere. They are highly motivated, as well as concerned, to address these serious problems. It is also interesting to contemplate our relationship with nature in an ethical dimension, and consider as necessary the existence of values that allow a suitable behaviour with the environment and other living beings that inhabit it (responsibility, respect and solidarity).

However there are different barriers to these intentions. One of the main ones is that training is clearly insufficient, especially from a scientific perspective -in our study, for example, we found out that a significant percentage of teachers surveyed had uncertainties about the theory of evolution of Darwin- (Gómez-Galán, 2010). They are also highly influenced by the media and participate in various topics or misconceptions. No less important it was to see how the intense teaching and management work that currently takes place at schools prevents them from having time to prepare themselves, develop creativity and implement what they consider essential to do. It's just a wish list.

Internationally, the situation is very similar, as similar studies have shown: Pooley and O'Connor (2000), Khalid (2003), Christenson (2004), McKenzie (2005), Chrobak and other (2006), Daskolia, Dimos and Kampylis (2012), Blanchet-Cohen and Reilly (2013), Liu, Roehrig, Bhattacharya, & Varma (2015), Christie, Miller, Cooke, & White (2015), or Aleixo, Leal & Azeiteiro (2018).

Therefore, this new proposal model should be integrated into a process of transformation of both one's education and education systems, again in the context of a new society. It would contribute to the necessary restructuring of what we understand by education, a process that would be precisely fed back

through innovative teaching and learning models in which the formation of future professionals of education is essential.

#### 4. Questions to face a transformation

The Institute for Humane Education (IHE) offers a variety of free lesson plans covering a range of topics that can be included into existing lessons or taught as a lesson on its own. In the case study that we are developing in a specific way and as an example, we look at how school milk schemes and the use of dairy products (and ultimately eating nonhuman animals) can be explored using the IHE lesson plan ‘True price.’ The lesson is designed for students from the age of 11-12 up and the aim is “to explore the positive and negative impacts of our products choices on themselves, other people, animals, and the earth” (Institute for Humane Education, 2013). It is important to note that the lessons can be used for a variety of products, including clothing items (e.g. leather shoes), cleaning products, cosmetics, plastic (e.g. a plastic bottle), ‘food products’ (e.g. hamburgers, bananas, eggs) or different ingredients in recipes. The lesson raises the following questions:

- Is the item a want or a need?
- What are the effects of this product on people, animals, and the environment?
- What systems support, promote, and perpetuate this item?
- What would be an alternative, or a change to a system, that would do more good and less harm?

The questions raised in the lesson plan are important to unwrap and critically assess the dominant narratives we are exposed to and question who has constructed these narrative and whose narratives are missing? The suffering and death of nonhuman animals that we eat is often absent and it is *the absent referent* that separates the meat eater from the nonhuman animal and the nonhuman animal from the end product. The absent referent allows us to separate the meat that we eat from the idea that she or he was once a living being (Adams 1991) and the notion of the absent referent can be applied to dairy, as the victims of these practices are often hidden, making it even more pressing to critically evaluate dairy.

##### 4.1. Is milk a want or a need?

Whether milk is a want or a need will have various, often conflicting answers. Different products made from milk, including ice cream, cheese and yoghurt could be argued to taste good making them something we want, but what are the arguments that we need milk products? According to the European Dairy Association (EDA) (2018) claim that “dairy foods are natural sources of valuable nutrients for children” and that dairy products “have an important place in children’s diet.” According to the EDA (2018), milk and

dairy products are naturally nutrient-rich with high quality proteins, vitamins and minerals, including calcium, phosphorus iodine, B12 and B2 vitamins. Dairy intake recommendations vary according to country specific guidelines, but on average 3-4 servings or 500-600ml of dairy per day is recommended. The EDA (2018) promotes the consumption of milk in various forms, including flavoured drinks and yoghurts in order to “help increase milk consumption” identifying that children’s milk consumption is declining. The EDA (2018) suggests milk is essential for healthy bones, muscles, dental health and promoting normal growth in children. We often hear claims that milk is essential for healthy bones, as it contains a high level of calcium. Dr. Barnard and the Physicians Committee for Responsible Medicine have called for the removal of milk from school lunches. According to Dr. Barnard (2016), there is abundant research demonstrating that milk does not improve bone health and is the biggest source of saturated fat in diets. In fact, some studies have shown that children who consumed larger quantities of milk have more bone fractures than children who consume less milk. Instead of improving bone health, some research demonstrates that the consumption of milk and milk products creates many health risks. Instead of the natural food, milk is promoted to be it “contains sugar in the form of lactose, animal growth factors, and occasional drugs and contaminants” (Barnard 2012). As cow’s milk is extremely high in estrogen and other growth promoters it is suspected to contribute to various health problem, such as premature puberty in girls (Stoll 1998; Apter & Vihko 2009), breast cancer (Outwater & Barnard 1997; Farlow et. al. 2009), heavy menstrual bleeding that can lead to anaemia, ovarian cancer (Cramer et. al. 2000, Larsson et. al. 2004), acne (Melnik 2012; Silverberg 2012), and has also been linked to weight gain, increase the risk of asthma, Parkinson’s disease, high blood pressure and other medical conditions such as excema (Klaper, 2017). As we can see, there are many studies that have been carried out on cow's milk as food, and there are not few researchs, very relevant, that are presented against.

Milk is often advertised as a perfect natural food, but natural for whom? What is cow’s milk and who is it for? Would we drink our pet dog’s milk or how about the milk of the woman living next door? As Dr. Klaper (2017) aptly summarises cow’s milk is the “the lactation secretion of a large bovine mammal that just had a baby” and asks us to look in the mirror for the answer whether we should be drinking cow’s milk. Dr. Barnard (2016) echoes the idea that cow’s milk is the perfect food for growing baby cows. To understand why we have become accustomed to consuming milk in all its manufactured forms students could trace the evolution of the dairy industry and how is it that humans came to drink the lactation secretion of another species and why find drinking the lactation secretion of our own species as unnatural after we are no longer babies?

#### 4.2. What are the effects of milk on people, animals, and the environment?

Children are often exposed to idyllic images of farms, evident in children's storybooks and advertisements for animal products, where we often see happy cartoon depictions of cows, pigs and chickens advertising their own flesh to consumers. To further normalise the consumption of animal products we distance ourselves from nonhuman animals by describing their behaviour by using different words, for example "we *eat*, but other animals *feed*. A woman is *pregnant* or *nurses* her babies; a nonhuman mammal *gestates* or *lactates*" (Dunayer 2001: 2). By describing the behaviour of nonhuman animals in a different way to our own, we can be seen to distance ourselves from other animal species and make their behaviour seem unlike ours. By differentiating ourselves from all other species, we highlight their presumed *otherness* and thus make it easier to legitimise their use. We can also be seen to distance ourselves from exploitative practices by erasing the victims and targets of our habits, as we eat *pork* not *pig*, a *calf* becomes *veal*. By categorising nonhuman animals according to their use we create a false categories that normalise and justify the humane use of other animals. For example, the label *farm animals* creates a false category of nonhuman animals where the child grows up to view the incarceration of nonhuman animals in zoos as normal and legitimise our use of nonhuman animals for food (Dunayer 2001: 8)

The educational material accompanying school milk schemes as well as dairy advertising give a simplified view of milk production and frame "dairy as something with an animal origin, but still something that is there for human use" (Linné and Pedersen, 2017: 124). The information often excluded standard practices such as the forced artificial insemination of cows, forced removal of their young, diseases such as mastitis and lameness, the realities of factory farming conditions and standardised practices that legitimise immeasurable suffering on cows, including tethering by the neck. Educational information also excludes the slaughter of calves and the slaughter of dairy cows for meat and the life cycle of cows in dairy production. The discovery of these issues would bring into question the normalisation of eating nonhuman animals and could lead to follow up questions and research on other nonhuman animals exploited for food, critically assessing these practices using the questions from the lesson plans used here.

The environmental effects of dairy production increase according to the intensity of production and in the EU, the majority of dairy production comes from intensive factory farming. "Associated with the intensive dairy systems are high stocking rates, high use of chemical fertilizers and pesticides and mechanized methods," resulting in "problems of direct source pollution, diffuse pollution and pressure on marginal habitats and landscape features" (Centre for European Agricultural Studies, 2000: 6). According to the

‘Environmental Impact of Dairy Production in the EU’ report environmental effects include biodiversity, landscape and habitat loss, loss of soil integrity due to manure, increased fertilizer use, feed additives, growth hormones and medicine. In addition, water and air pollution are wide scale problems. Groundwater is polluted with nitrates and pesticides and surface water eutrophicated (Centre for European Agricultural Studies, 2000). When researching the impacts of dairy production the impacts of animal agriculture in all of its forms come into question and students may be guided to evaluate other factory farming practices and question the need for any of these practices using the questions presented in the lesson ‘True Price.’ According to the World Wildlife Fund (WWF) “over two-thirds of the world’s agricultural land is used for maintaining livestock” (WWF 2018). Issues raised by WWF include the excessive water use of growing feed for cows, the water used to manage manure and fertilizer and the pollution of waterways. WWF also highlights climate change, as greenhouse gases (methane, nitrous oxide and carbon dioxide) from dairy production have a substantial effect on air pollution. Waste management is also associated with air pollution and can severely affect the air quality. According to WWF animal agriculture is one of the main contributors of soil erosion, another significant problem associated with dairy production.

The effects of dairy products on people will have varying answers. In addition to researching and critically assessing the health claims about dairy, students could research the effects of the additives in all of the different milk products, the effects on people living near dairy farms and the effects of water and air pollution, the poor conditions and psychological harm slaughterhouse workers suffer (Dillard 2008).

#### 4.3. What systems support, promote, and perpetuate milk?

According to a report by the Directorate General Health and Food Safety (2017) there are an estimated 23.5 million dairy cows in the European Union. The European Union counts for 24% of global cow’s milk production (International Dairy Federation 2017). Because of the power of stakeholders in the animal agribusiness milk and dairy are heavily lobbied and subsidised. The dairy industry is embedded in different systems: the wider problem of animal agribusiness, transportation, law and politics, lobbying networks, economics, and the connection between governmental nutritional guidelines and the industry.

#### 4.4. What would be an alternative, or a change to a system, that would do more good and less harm?

There are a variety of plant-based options to dairy, including oat, soya, rice and almond milks. According to Dr Barnard, if children rely on milk to get their calcium they will miss iron, fibre and beta-carotene found in plant-

based sources of calcium. There are numerous plant-based sources of calcium, including broccoli, kale, beans, tofu breads, cereals and plant-based calcium-fortified beverages (Barnard 2012). Given the extent of the environmental effects of animal agriculture (including dairy production), students could also critically assess the plausibility of a sustainable dairy industry campaigned by WWF. Another topic to consider is how farmers in the dairy industry could be helped to move away from dairy to use their land to either grow something else.

## **Conclusions**

The only solution to all social and environmental and protection animal problems we face today is a real sustainable, supportive, ecological development (in the true, scientific sense of the term), allowing for a complete transformation of our morals and our ethics, where nature and other living beings have their place, definitely banishing radical anthropocentrism of our world view and life. And this will be possible primarily through education: raising awareness thereon for a very near future. Of course, one of the main actions to carry out this change is a new model of education a clear objective: educational and informational character. Given the current situation, it is more necessary than ever to act on such complex and serious problems.

We advocate a new model, interdisciplinary and multidimensional, of environmental and humane education with a global and integrated approach taking as its starting point the common values shared by all human beings. This will trigger criticism of what the phenomenon of globalization is and what, in essence, is our civilization like today. These problems can not be separated from social and vice versa. They form a whole. Progress will only come through dialogue in all possible dimensions: social, ethical, moral, cultural, scientific, technological, economic, religious, etc. Based on those common elements (and all human beings have the same basic needs) it will be possible to build a global new model application in all educational systems in the world (Gómez-Galán, 2008).

At present, multiple pedagogical and didactic proposals coexist, all based on the various existing environmental ethics (anthropocentric, zoocentric, biocentric and ecocentric). That is why today it is practically unfeasible to achieve common goals if we do not unleash a change. The key is to get the most positive and efficient of all of them and, in a dialogue process, conduct a construct that allows us reflecting on the major problems of the world in which we live, our main needs, which are the most appropriate strategies to improve it, and considering that we are one with nature (not different realities, what happens to it will happen to us), including, without further delay, the group of creatures like us, children of the Earth, within our ethical sphere. Thus, in the fight against poverty and social inequality, while

fighting against poverty and social inequality we'll increase human welfare and we respect the environment, in capital letters, with all that it entails, as we have mentioned (Gómez-Galán, 2010).

To contemplate a unified educational perspective is the very basis of the social development of humanity. We urgently need to change the current educational schema. Critical thinking must be based on knowledge. Teachers trained to do so, with a holistic and not just technical training, teachers who give pre-eminence to educational processes dominated by the most transcendent values will be essential for this purpose. This new model, as an essential part of what we must understand as education, may be one of the main engines that power this change, this transformation. No doubt, it is dealing with one of the most pressing challenges facing humanity today and even brings into play not only our development but even our survival.

Focusing on the specific problem of our study, given that educational institutions are embedded in the economic and political arena of animal exploitation, a systemic change is needed for this systemic problem. Pedagogical initiatives on their own are not enough as long as school are part of the political agenda promoting animal use. This is why the field of animal law should take a greater interest in education and work together with educators, physicians and others who are working to challenge the current state of schools and curriculums. In this case, humane education offers intersectional approach to tackle the various interconnected problems of animal agriculture and re-examine and aim to shift anthropocentric values.

Protection and welfare education can be argued to be insufficient in creating long-term positive change, as it promotes the idea that animals are indeed protected through welfare legislation while hiding the suffering of animals on industrial farms, and fails to question anthropocentric values that legitimize the exploitation of animals. While school milk schemes aim to increase demand and secure the future of the dairy industry, critical approaches that question the use of animals are needed. School milk schemes reduce children into capital investments for the dairy industry – as future consumers that will sustain the industry in the future and bring profit.

Exploring the influence of corporations and governments in nutritional guidelines and subsidies through humane education ultimately involves re-evaluating the relationship we have with nonhuman animals and our place in the world. Children are not immune or isolated and the products we teach children to consume are not absent from wide scale suffering and environmental destruction. Dairy is laden with controversy and whether we are doing a disservice to children by cultivating the habit of dairy consumption (and meat eating) is something that needs to be urgently addressed. The True Price lesson plan from the Institute for Humane Education is an example of how controversial issues can be tackled within the

classroom and how critical thinking can be cultivated, as students are encouraged to explore and question the narratives they are exposed to.

Creating positive change for animals, the environment and our health requires critical approaches to education through initiatives such as humane education, and including education legislation into the discussion and practice of animal law.

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