## An insight as to what is happening in our universities - animal ethics

Animals are used in university teaching in a wide range of disciplines, such as Veterinary Science, Medicine, Biology, Pharmacy, and Psychology. Some of the subjects in which animals are used include anatomy, anaesthesiology, biochemistry, pharmacology, physiology, zoology, surgery, neurosurgery, and urology. The animals most commonly used are dogs, mice, rats, cats, rabbits, and birds, and in Veterinary Science, ruminants such as cows and sheep.

In beginning courses at universities, animals are normally used to educate about anatomy and physiology, mainly through dissections, just as in secondary education. In more advanced courses, which require the acquisition of skills to perform operations, students use live animals in order to gain experience in operative practices.

The negative effects of animal use in universities are not limited to what is inflicted on the animals who are directly used. This is particularly true in the field of Veterinary Science. Through practices that are harmful to animals, students are not taught to have an empathetic, caring attitude towards animals. On the contrary, they are taught to harm them in various ways, including inflicting suffering and killing them, even when dealing with perfectly healthy animals.

In veterinary science especially, students learning how to treat animals are being taught to see animals as resources for human use; in fact, the central idea about the role of veterinarians in most cases (such as in treating farm animals) is that they are there to help carry out such use in the most fruitful way for humans. A similar message is conveyed in other disciplines, even though students’ professional futures often won’t involve using animals. Currently, veterinary associations such as the American Veterinary Medical Association (AVMA) have begun to include direct duties towards animals in their ethical codes, though still considering them resources for humans to use.1

The following are some of the practices university students perform on animals.2

Surgery practices

Various surgical operations are performed, such as tumour removal and rumenotomy (the opening of the first chamber of ruminants’ stomachs). Scalpels are used to perform the surgery, and then the stomach is stapled. Procedures often carried out by animal exploitation industries, such as cutting pigs’ tails or removing the horns from cows, bulls and goats, are also performed in Veterinary Medicine.

Cardiorespiratory system examinations

Dogs are often killed in the process of performing cardiorespiratory system examinations. The dogs are anaesthetised, and then have their thoraxes opened to observe pulmonary and cardiac movements before and after the injection of various substances (such as adrenaline and acetylcholine). Finally, they are injected with a very large dose of anaesthetic or acetylcholine, resulting in cardiac arrest. Other animals such as turtles are used in similar types of experiments. A sharp instrument is used to cause a fatal injury to the turtle’s brain, after which the turtle’s shell is sliced open and removed in order to test how the turtle’s heart reacts to different stimuli.

Myographies

In this procedure, a skeletal muscle, usually from the leg, is removed from a live frog anaesthetised with ether. Physiological responses to electrical stimuli are then recorded and represented graphically.

Nervous system analysis

Brain death is caused in turtles (by damaging their brains with sharp objects) and their nervous systems are then subjected to electric shocks, to see how they react.

Operant conditioning chamber

This is a procedure used in psychology in which an animal is placed in a container in order to study operant and classical conditioning.3 Some of the practices involve food and water deprivation, social isolation, maternal deprivation, stress induction, and experiments based on punishment and reward. These types of containers are often known as “Skinner boxes.”

A variant of this is the so-called “heat box,” in which animals are conditioned to prefer one side of the box due to a temperature change in the other side which causes them discomfort. Eventually, this temperature change ceases, but the animals continue to prefer the side of the box where they were conditioned to stay.4

Pharmacological practices

Small animals are commonly used for these practices. They are injected with drugs through intravenous, intramuscular, or oral routes, or through force-feeding. The objective of these practices at the undergraduate level is not to carry out research in the field, but rather to familiarise the students with the procedures for handling and testing substances on animals, as well as for visualising and recording the results.

Bacterial infection

In this procedure, rats or mice in good health are injected with bacteria to test the development of the infection and the effects it has on the animals compared to the control group, in which the rodents are not infected. Bacteria such as streptococcus and salmonella, among others, are used for this procedure.

Study of cellular growth

This procedure involves analyzing the growth of kidney cells, generally from rabbits. The kidneys are bought from slaughterhouses. Fetal bovine serum (also known as fetal calf serum) is used for cellular growth. To obtain this serum, a pregnant cow is killed and her uterus is removed, with the fetus inside. The fetus is separated from the uterus, and a needle is stuck into the fetus’ beating heart. Blood is extracted through the needle from the fetus, and is subsequently coagulated at a low temperature. The serum is then separated through a refrigerated centrifuge.

Other practices include blood extraction and laparoscopies (abdominal surgery in which a viewing tube containing a tiny camera is inserted) performed on animals such as pigs and dogs. Cats are often used for intubation training, a process that involves sticking a tube down their windpipe through the mouth or nose. The procedure can be very painful and even result in death.

Completing doctoral theses

Besides practices on animals in undergraduate studies, many disciplines like those we’ve seen above (such as Medicine, Veterinary Science, and Pharmacy) as well as others like Psychology use nonhuman animals for graduate research as well. Choosing animal research to complete a thesis is not necessarily determined by the degree of importance or applicability the results may have. In many cases this type of research is done only to fulfill a requirement to obtain a certain academic degree, or to fulfill a scholarship requirement.

The use of animal-free methods in universities

Currently, there are a variety of methods that allow students to acquire the competencies for which animals were previously used. These include, among others: inanimate models such as mannequins, interactive computer simulations, digital surgery programs and other virtual computer training programs, and animal cadavers obtained in ways that do not entail harming animals (for instance, those that are donated by their human families after they die or by shelters after they die of natural causes).

As with dissections in secondary education, animal use in universities is being progressively replaced by methods such as these that do not entail harming animals.

In the United States, only 4% of medical schools currently use animals for research and training. The remaining 96% (152 of a total of 159) do not.5 Those that don’t use animals include schools at leading universities such as Duke, Harvard, Stanford, Tufts, and Yale. In other places, such as the United Kingdom, it has been decades since veterinary and medical surgeons have killed animals to practice their skills; they only use animals who need some sort of operation. Since procedures vary greatly from one country to another, there are many places in the world where animals are used for research.

In the field of Veterinary Science, it may seem like using nonhuman animals may be more useful than in the fields of Medicine or Pharmacy, given that the animals that professional veterinarians will treat are like those they may use during their studies. However, this correspondence does not mean harming animals is necessary. More and more schools are introducing animal-free methods, such as those given above, or establishing agreements with shelters or animal protection agencies so their students can learn with real cases, and at the same time help animals in need. Sterilizations are an example of a practice that helps reduce the [suffering of animals from being bred and sold](https://www.animal-ethics.org/animals-kept-pets-companions/).

The argument in defense of using animals in university education is usually that it’s the only way students have to learn how animals’ bodies function so they will be able to practice certain professions, such as in Veterinary Science.

However, this notion that the only way to learn is by causing animal suffering and death is incorrect. As we have seen, [alternatives do exist](https://www.animal-ethics.org/research-methods-do-not-use-animals/).6 The high numbers of nonhuman animals who die from natural causes such as [illnesses](https://www.animal-ethics.org/diseases-nature/), old age, or attacks from other nonhuman animals provide a plentiful number of cadavers that could be used in schools. Other possibilities include multimedia programs or artificial models. These methods are especially useful pedagogically as the students must interact with them. Students are able to visualize the procedure from different angles, and if they make mistakes, they are warned but can still continue with the learning process (unlike what may happen if they make a mistake in an animal procedure, which could entail the end of the procedure).

Apart from these advantages, the fundamental issue is that if we reject forcing non-consenting humans to be experimental subjects, accepting such practices when they are performed on nonhuman animals constitutes [speciesist discrimination](https://www.animal-ethics.org/ethics-animals-section/speciesism/).

However, it must be kept in mind that the practices performed on nonhuman animals in veterinary schools reflect the current existence of a speciesist society. If a great many veterinarians work in fish farms or in stock breeding operations, it is to be expected that practices on nonhuman animals will be carried out in universities as well. This does not suggest, of course, that the practices are justified. But we must keep in mind that it is difficult for such practices to disappear if the society is speciesist. Therefore, it is a good idea to encourage university students who support the end of these practices to make the connection between them and the rest of the speciesist behaviours that occur in society.