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Animal Care Courses: Helping Fulfill the Mandate of Animal Care Committees in Canada

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Animal Care Committees (ACCs) at Canadian universities and research centers operate under the aegis of the Canadian Council on Animal Care (CCAC) and its guidelines for the humane care and treatment of animals in teaching, research, and testing. All Canadian universities have at least one active committee. The committees are expected to assume an educative role beyond the provision of information concerning housing, maintenance, and appropriate conditions for the treatment of animals in research. This includes critical examination of the serious ethical issues involved in animal research within the context of the principles and practices endorsed by the CCAC. One-day animal care courses provided by ACCs at three Canadian universities are described. Comparisons are made between the content and structure of curricula and the ways these relate to the teaching and research mandate in each institution, focusing particularly on the teaching of ethics in each course. The implications for heightening awareness of ethical issues in animal research and improving the effectiveness of these courses are discussed.

Founded in 1968 with the responsibility of ensuring the humane treatment of animals in teaching and research, the ethical position of the Canadian Council on Animal Care (CCAC) begins with the assumption that animals will be used only if the work "promises to contribute to understanding of fundamental biological principles" (1993, p. 199) or to applied knowledge promising to benefit humans or other animals. Commitment to ongoing sharing of knowledge and to the Russell and Burch (1959) tenet of replacement, reduction, and refinement (3Rs) are considered requisites.

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The successful implementation of humane animal use in Canadian universities has been encouraged by the CCAC adopting a proactive approach in the education of researchers and, through them and local Animal Care Committees (ACCs), by students using animals (Bowd, 1997). The CCAC has sponsored workshops and conferences dealing with ethical matters, such as the determination of what constitutes "scientific merit," in considering permissible levels of invasiveness in experimental procedures. A practical outcome of this has been the development of the ACCs’ recently revised guidelines for insisting on independent peer review for scientific merit of all submitted protocols (Canadian Council on Animal Care, 1997).

The guidelines further expect ACCs to ensure that all animals users (a) recognize ethical statements and relevant legislation, (b) use pilot studies employing small samples, (c) participate in seminars and workshops dealing with ethical matters, (d) support institutional efforts to promote animal welfare and communication with animal welfare organizations, and (e) cope with any criticism (which may develop from time to time) of institutional practices involving animals. Objectives (d) and (e) clearly refer to the aim of defending continuing animal research in response to campaigns by animal rights and animal welfare organizations to eliminate much or all of it.

Several ACCs have responded to CCAC encouragement and the needs of students and researchers by establishing short animal care courses in their institutions. Although almost all of the larger universities are reported to have courses, exact figures are not available from CCAC (G. Griffin, personal communication, February 3, 1998). The courses, directed toward graduate students who expect to be working with animals, are also open to faculty and technical staff. These courses provide information about the regulatory roles of CCAC and the ACCs and some review of ethical issues in animal use, as well as rudimentary instruction in animals care, maintenance, and humane experimental use. Course structure and content may vary with institutional priorities and strengths in animal research and teaching. For example, large institutions with extensive biomedical research programs may be expected to provide differently for student needs from small universities with few relevant programs or institutions concerned primarily with animal husbandry and veterinary medicine.

METHOD

This investigation describes three representative animal care courses from Canadian universities differing in size, location, animal research emphases, and professional programs. The investigations evaluated instruction on ethical issues in animal research.

ACC offices at three universities meeting the aforementioned criteria and having animal care courses were approached: University of British Columbia (UBC), University of Guelph, and Lakehead University. UBC, located in Vancouver,
enrolls approximately 30,000 students and offers numerous programs involving animal use in faculties of agricultural sciences, forestry, medicine, and science. The University of Guelph, located in a rural region near Toronto, enrolls approximately 15,000 students and offers several programs involving animal use in faculties of agriculture, veterinary studies, and science. Lakehead University, located in relatively isolated northern Ontario, enrolls approximately 6,000 students and offers programs in faculties of forestry and arts and science.

Each office of animal care generously provided information about content and course requirements. This included course outlines, required and supplementary reading lists, detailed curricula, protocol forms for research and teaching, regulatory information from CCAC, relevant institutional policies, and specialized information regarding ethical matters relating to the use of particular species. These materials are routinely provided to graduate students and others attending the courses.

RESULTS AND DISCUSSION

The establishment of animal care courses by ACCs for graduate students is a recent development at Canadian universities. A decade ago, the University of Guelph became one of the first schools in North America to establish such a course. The course at UBC was implemented in 1994, and the course at Lakehead University was implemented in 1995. These brief courses serve as an introduction to humane animal care; it is assumed that further reading and study on the subject will be undertaken. Information concerning the arrangement of these courses is summarized in Table 1. Courses are offered annually toward the end of the fall term or at the beginning of winter term in each university. Table 2 provides a summary of the time allocated to specific topics and issues. Topics overlap, and the times listed are approximate.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>UBC</th>
<th>Lakehead</th>
<th>Guelph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>annual</td>
<td>annual</td>
<td>annual</td>
</tr>
<tr>
<td>Duration</td>
<td>2 half days</td>
<td>1 day</td>
<td>1 day</td>
</tr>
<tr>
<td>Clientele</td>
<td>graduate students</td>
<td>graduate students</td>
<td>graduate students</td>
</tr>
<tr>
<td>Formal course Evaluation</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Grading</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Note: UBC = University of British Columbia.

aAttendance by graduate students likely to be working with animals is “expected.” Faculty and technicians are also welcome.
Courses include a broad variety of topics, some of which are presented in lecture format with supplementary reading (zoonoses, biohazards). More contentious matters, such as ethical issues, are approached through discussion and debate. Still other topics call for hands-on interaction with animals. For example, UBC’s course includes a segment dealing with practical handling of animals, and a recent innovation has been the replacement of live animals in this segment with realistic models. All three university courses allow time for free-ranging discussion of the interrelations among regulation, ethics, research design, and the implementation of alternatives. The University of Guelph and UBC, for example, involve students in structured, small-group case-study scenarios to confront these complex issues at the end of their courses (see Appendix). Lakehead University has included presentations from members of the CCAC Secretariat. None of the universities surveyed included input to the courses from individuals identified with animal welfare groups or the animal rights movements.

Although there are some differences in the approximate time formally assigned to topics, course content in the three universities appears to be similar (see Table 2). Included topics that appear on course outlines may also be placed in the program within a different but related topic, such as “practical handling of animals” placed within “animal care/management.” As anticipated, some differences in topic prominence reflect varying institutional research and teaching emphases. Lakehead University, for example, emphasizes wildlife issues, and the UBC devotes more time to animal surgery and euthanasia.

As additional areas are explored throughout the courses, ethical issues arise. Each university spends about 1 hr examining these issues and discussing animal welfare, animal rights, and alternatives. Assuming that humane society members
of each ACC put the case for animal welfare, the universities deny outside animal welfare participation. The exclusion and a lack of time limit the depth of analysis. The following six topics describe the ethical matters covered:

1. The cost–benefit approach to using animals in research.
2. Our humane obligations to animals, a review of interests, rights, and social convention.
3. Broad philosophical distinctions of animal welfare and animals rights.
4. Alternatives to animals in research and testing, the 3Rs.
5. Alternatives to animals in teaching, such as models and computer simulation.
6. Principles of humane care, such as social stimulation in housing.

The course at the University of Guelph uses group discussions of ethical dilemmas and case-study review (see Appendix). Lakehead University’s course has featured a guest expert representing the position adopted by CCAC. In the United States, the Scientists Center for Animal Welfare made extensive use of the case-study approach at its conference in the 1980s, particularly in orientation sessions for Animal Care and Use committees. The method enhances sensitivity, develops understanding of the application of alternatives and the 3Rs, and helps participants consider ways of reducing animal pain and distress in practical contexts. Case-study discussions appear to have excellent potential for use in ACC courses as well as in relevant academic programs.

CONCLUSIONS AND IMPLICATIONS

One-day limit case courses help meet certain practical needs of graduate students in the care and use of animals and introduce them to relevant laws, regulations, and administrative procedures. The short duration of these courses seems inevitable given the other demands on time faced by graduate students (although in the Netherlands, courses of 3 weeks are required). The provision of extensive reading materials, including CCAC’s two-volume Guide to the Care and Use of Experimental Animals (1993), is therefore an essential supplement to the lectures and group discussions. Courses described in this article are not mandatory. Some faculty supervisors, however, may expect, but not insist on, their students’ attendance. Yet, given the vital importance of these courses, it seems reasonable for them to be calendared as required before work with animals commences.

The University of Guelph course, formally evaluated by participants, has developed in response to their expressed needs. Whenever these courses are offered, student evaluations should be routine. A variety of teaching methods, especially group analysis of ethical dilemmas in a case-study format, are effective in leading individuals to confront difficult questions. This case-study approach has been used in the orientation of Animal Care and Use committee members in the United States.
and has clear applications in graduate education. Orleans, Beauchamp, Dresser, Morton, and Gluck (1998) provided a textbook using the case-study approach.

Recently, the Education and Training committee of CCAC issued a memorandum calling for input from ACCs, human societies, and other interested parties on the development of a national standard for training graduate students who work with animals. Topics proposed included the implementation of the 3Rs, foundations for ethical consideration in dealing with animal use, contentious issues having many aspects and views, creation of scenarios in which participants debate contentious issues, scientific integrity and scholarly activity, the animal welfare movement, and concerns for humane treatment by the public (Canadian Council on Animal Care, Education and Training Committee, 1998).

In Canada, the ethical position adopted by CCAC governs animal use in teaching, testing, and research. The courses, therefore, have presented ethical matters consistent with what CCAC regards as a pragmatic response to community concern for animal welfare within a framework of responsible scientific practice.

Progress has been, and will continue to be, made when the scientific community and those in the general public concerned with the welfare of animals join together to seek a middle ground. Through responsible and learned discussion, without acrimony, extravagant zeal for a cause, or polarized view, agreements will be made that will benefit the animals we use in research, teaching, and mandatory testing (Rowsell, 1993). The question of what constitutes the middle ground remains contentious, and certainly some animal welfarists and almost all animal rights activists regard CCAC’s position as one designed to protect, first, the interests of animal researchers and, second, the interests of animals.

Some may well argue that these graduate school courses, directed at students whose studies are on an advanced level, treat superficially the philosophical positions evident in the debate about moral obligations to nonhuman animals. One course presentation listed four philosophical positions in reverse order of merit and included a five-line description of each: thing-ism, cute-ism, rights-ism, and welfare-ism. Animal welfare and animal rights advocates have had limited participation in the courses reviewed in this article. Opening the courses to a broader range of opinions within the context of Rowsell’s (1993) “responsible and learned discussion” (p. xv) would provide a more complete and balanced review of ethical matters to help students approach their work with a better view of the obligations to, and use of, nonhuman animals.

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REFERENCES


APPENDIX

CASE STUDY: ETHICAL DILEMMA, PREDATOR–PREY STUDY

Situation

A man, 3 years out of his undergraduate program, accepts a position as a graduate student with a well-known ecologist to work with great grey owls. The research involves studying their general ecology and habitat associations in an area to be considered for logging development. A key to the research is understanding the owls' prey base and how that may be effected by the proposed logging. Population sizes of the prey (small mammals and hares) are to be estimated by mark–recapture live trapping. The professor and student spend 1 month alone at the isolated field site to find owls and organize the work. Once there, the professor decides to observe

\[1\] Courtesy of the University of Guelph; reprinted with permission.
how owls kill their prey so that other kills in the bush can be distinguished between raptor and owl. To do this, the professor proposes to tether live-caught hares to trees near known owl roosts and observe the kill. The graduate student strongly objects to such work, but feels trapped himself. What should he do?

Problems

1. Student knows he cannot ethically tether a hare to a tree, but is unsure how to express this to his supervisor.
2. Student and professor are isolated for a long time and must get along together.
3. Student feels in an underling position to the well-known and respected professor and is eager to please.
4. The hair, bones, and teeth in the cast owl pellets will provide the information on what is being taken by the owls. The additional information on method of killing is inconsequential to the study, but does provide general interest information. Is knowledge gained justification enough?

Solutions