Use of a Civil Discourse Web site for Ethics Training

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ABSTRACT

Ethics training was provided to first-year veterinary students using two different teaching structures in two consecutive years. In one year (group I), students worked through ethics cases individually or in groups using a prescribed format. In the other year (group II), students worked through the same set of cases independently but were required to critique postings from other students before posting their own responses using a civil discourse Web site (Odysseys2sense). After completion of the course, students in both years completed a survey in which they assessed their achievement of learning objectives and satisfaction with the course. Students in group II were less satisfied with the interactive training technique but were better able to demonstrate achievement of some learning objectives.

Key words: ethics, veterinary, e-learning, technology-enhanced learning (TEL)

INTRODUCTION

The word *ethics* comes from the Greek *ethos*, meaning that which is conventional or customary. Ethics can be societal, personal, and professional. Societal ethics refers to the social consensus regarding which behaviors underlie laws, rules, and regulations. Personal ethics consists of those behaviors and attitudes that are at an individual's discretion. Professional ethics refers to specific actions and behaviors that are permitted by society and are expected of specific groups of people with specific training and status.[1]

Veterinarians have ethical obligations to their clients, the animals they serve, their colleagues, themselves, and society as a whole.[1] Veterinarians agree to these ethical constraints when they take the Veterinarian's Oath:

> Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge. I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics.[2]

Ethics training is valuable in helping students develop skills that will support them as clinicians. In the UK, 57% of veterinarians surveyed reported one to two stressful ethical dilemmas a week, and 34% reported three to five dilemmas a week.[3] Yet ethics training is not explicitly required for accreditation of veterinary programs, though ethics training is an accreditation standard for most other health professions.

In veterinary medicine, ethics is often incorporated in courses about animal welfare or communications.[4–7] Variability exists in the amount and type of ethics training that is provided in health science professions such as medicine, nursing, dentistry, and public health.[8–18] Medical-ethics training commonly focuses on presentation of ethical concerns within a legal framework and is assessed by evaluation of student moral sensitivity using standardized testing instruments, with a goal of improving moral sensitivity through ethics training.[12,19,20] There are concerns regarding the testing instruments, especially the inability to personalize these instruments in order to recognize variability due to gender, race, culture, or other personal attributes. Rubrics have been promoted to better acknowledge students' moral reasoning; these rubrics may be easier to teach and less affected by personal attributes. Components of these assessment rubrics include students' ability to identify an ethical issue and the affected parties, outline options for addressing the issue, describe realistic approaches including those that may not agree with their personal philosophy, and articulate professional guidelines relevant to the issue.[12,21]

In general, best practices for education increasingly espouse the need for students to have a hands-on experience with the material as this enhances understanding and retention much more so than passively listening to a presentation of the material.[22–28] One technique for promoting students to work with the material is to require students to rationalize their beliefs and to argue on behalf of unfamiliar positions. It has been demonstrated that when students are required to teach each other, either in discussion groups or in more formal laboratory settings, all students involved benefit by increasing knowledge of the subject matter and communication skills.[29] Writing assignments, especially if they are associated with comprehensive feedback to guide further performance, are also associated with greater understanding of course material and the ability to apply relevant information.[13,30,31]

A recent study described small-group discussion and individual student reflection as a means of providing ethics education to veterinary students, which was demonstrated in students' self-reports of an increase in the ability to identify and discuss ethical issues.[4] The authors are unaware of information that specifically describes the effects of different methods of ethics training on veterinary-student competency that is evaluated using a grading rubric or some other measure of moral reasoning.

TO EARN THIS MANY POINTS, YOU MUST...	CRITERIA
1	Submit a response using the prescribed format
2	Submit a response using the prescribed format that clearly addresses the problem described
3	Submit a response using the prescribed format that clearly addresses the problem described and demonstrates clear deliberation between possible outcomes
4	Submit a response using the prescribed format that clearly addresses the problem described and demonstrates clear deliberation between possible outcomes, and brings in outside resources to provide more information or bolster your argument

Figure 1: Student grading rubric for completion of ethics cases

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Case # _____

1) What is the problem? What information would you like to collect?
2) What are the feasible alternatives?
3) Consult with resources - From whom specifically would you request information?
4) Propose and test resolutions - Describe possible resolutions and how each of the parties involved may respond to that suggestion.
5) Make a decision.

Figure 2: Prescribed format for completion of ethics case

For this study, a veterinary program used the Odysseys2-sense Web site.[a] The online forum for Odysseys2sense uses game-like terms: veterinary students ("players") encounter "challenges" for which they have to use a pre-scribed format to analyze various ethical case studies. Each student enters a response to each challenge, but before the response can be saved the student is required to rate and comment on two other responses using the rubric in Figure 1. All responses, ratings, and comments were anonymous. The ratings determined the score for each response. Students were required to achieve a certain score in order to receive a "pass" grade for each challenge.

This study compared group I's use of the Odysseys2sense site to group II, which did not use this teaching structure. The study compared the students' learning and satisfaction with the ethics training.

MATERIALS AND METHODS

The current study was approved by the Institutional Review Board of the first author's institution. In two consecutive years, first-year veterinary students received ethics training while enrolled in a clinical communications course as part of their professional development training.[32] Students in both groups reviewed the same written information about veterinary professional ethics, including a sample of how to work through an ethics case using a prescribed format (Figure 2), and answered the same study guide questions individually before participating in small-group discussions about ethics and students' roles in collaborative decision-making with clients. Both groups of students were then required to complete five ethics cases (Figure 3).

In group I, students were encouraged to talk about the cases with peers and were required to hand in individu-

Case #1 – A 6-year-old Shetland sheepdog has suffered three episodes of vomiting, diarrhea, and circulatory collapse. The dog recovered each time following treatment with IV fluids and cage rest. Radiographs taken after the most recent episode revealed a possible intestinal foreign body; you also have various toxins on your rule-out list. You recommend to the young woman who owns the dog that an exploratory laparotomy, after the dog has regained its strength, may help to better define the problem. The evening prior to the scheduled surgery, the client's mother phones. She requests that you collect appropriate samples for a toxicologic investigation while you are performing the exploratory laparotomy. She suspects her daughter's boyfriend is poisoning the dog. She wants to be billed separately for the testing and does not want her daughter to know about this arrangement. How should you proceed?

Case #2 – A large goat dairy in your area is an infrequent client. On a recent visit you see an employee kill a newborn goat with a single blow to the head. When you inquire about this practice, you are told that there is no market for male goat (buck) kids so they are routinely destroyed at birth with the exception of one or two having potential value for breeding. Further inquiries on your part reveal that there is no commercial market for these goat kids in your area. Is it ethically correct to condone this practice?

Case #3 – You are called to a mixed farming operation to castrate and dehorn ten calves, castrate and vaccinate fifty pigs, and castrate a 2-year-old colt. After you have completed these surgeries, the farmer asks if you will castrate a stray tomcat that has been hanging around the farm for the last month. The last tomcat that the farmer castrated himself died. The cost of in-clinic cat castration is equal to your charge for castrating fifty pigs and seems excessive to the farmer. In addition to the cost, he will be forced to make two trips to town. The farmer doesn't understand the difference between the calves, pigs, colt, and this stray tomcat. "If you don't want to do it here, Doc, I guess I'll give it a try," he tells you. Is it ethical to allow him to attempt this surgery?

Case #4 – A racing Thoroughbred is presented to you because of a left forelimb lameness that developed during a race. The horse is mildly lame at the trot. You do a complete physical examination and appropriate nerve blocks. You fail to identify a cause for the lameness with radiographs. You advise the owner to rest the horse for one week and then return it to training. If the lameness does not improve, you request that the horse be brought back for a re-evaluation. You do not see the horse again. Three weeks later the horse breaks it left front cannon bone and falls during a race. The jockey is hospitalized with multiple injuries. You review the radiographs with a colleague. On this second viewing and with the advantage of hindsight, there appears to be a hairline fracture of the left cannon bone. Do you keep quiet and hope no one asks for the radiographs? Call the owner and your insurance company and admit your mistake? Accidentally misplace the incriminating evidence?

Case #5 – You are employed by a large drug company as medical support for the sales team. You also do relief work and emergency work on week-ends. You feel strongly that a pain medication sold by your company is superior to that most commonly stocked at the hospitals where you work and you ask them to stock your preferred drug instead. The practice manager at one of these hospitals accuses you of conflict of interest. Is it ethical for a veterinarian to practice veterinary medicine while employed directly by a drug company, feed company, or government entity?

Figure 3: Ethics cases (excerpted from Rollin BE. An introduction to veterinary medical ethics. Blackwell Publishing, Ames IA, 2006)

ally written descriptions of the cases using the prescribed format. Students in group II completed the same cases using the Odysseys2sense Web site. After all ethics cases were completed, the instructor provided both groups with a synthesis of the classes' thoughts on the cases; the instructor also incorporated students' thoughts with the general principles of ethics and the legal aspects of the cases.

One month after completion of the course, students were solicited by e-mail to respond to an electronic survey that asked questions to help ascertain students' achievement of specific course objectives as well as their sense of satisfaction with the course in general. Participation was voluntary. Objective assessment of student achievement with course objectives was determined by asking students to define two terms, presented during the course, and

Table 1: Student self-assessment of satisfaction and achievement of learning objectives

Question	Group I (%)			Group II (%)		
	Strongly agree or agree	Neutral	Disagree or strongly disagree	Strongly agree or agree	Neutral	Disagree or strongly disagree
I enjoyed completing the ethics cases.‡	67.4	23.9	8.7	45.9	22.9	31.2
I am comfortable with my ability to handle ethical dilemmas I may encounter during veterinary school or as a graduate veterinarian.	76.1	19.6	4.3	72.3	23.4	4.3
I understand my peers' viewpoints.‡	84.8	8.7	6.5	85.5	14.5	0

Question	Group I (%)		Group II (%)		
	Correct	Incorrect	Correct	Incorrect	
Definition of utilitarianism‡	41.3	43.5*	79.2	14.6*	
Definition of beneficence‡	43.5	43.5*	66.7	29.2*	
Ability to complete case appropriately†	45.0	55.0	52.9	47.1	

* Remaining percentage represents students who did not give a definition.
† Must have completed three of the five prescribed steps.
‡ Significant at $p < .05$.

to work through a new ethics case using the prescribed format they had used during the class. A reminder was sent two weeks following the initial e-mail, and the surveys were closed and data compiled two weeks after the reminder e-mail was sent out. Comparisons were made by χ^2 testing with significance set at $p < .05$.

RESULTS

Group I consisted of 24 male and 76 female students. Mean grade-point average (GPA) of the required coursework at admission was 3.58 and mean GPA for the most recent 45 semester credits was 3.71. Mean combined score on the Graduate Record Examination (GRE) was 1190. The mean age of group I was 24.4 years. Group II consisted of 20 male and 80 female students. The mean GPA for required coursework was 3.61 and mean GPA for the most recent 45 semester credits was 3.73. The mean combined score on the GRE was 1230. The mean age of the class was 24.2 years.

Class size in each group was 100 students. Response rate to the voluntary survey was 46% for group I and 48% for group II. Student self-assessment of satisfaction, and their achievement of course objectives, is shown in Table 1.

Students significantly preferred group discussion or individual completion of case studies compared to using the Odysseys2sense Web site, with $p < .001$. The percentage of students who felt able to understand other students' viewpoints was not different between the two groups; however, the percentage of students who disagreed with the statement that they were able to understand others' viewpoints was different between the groups, with a significant decrease in group II where students took a more neutral stance ($p = .003$).

To measure achievement of course objectives, students were asked to define the terms *utilitarianism* and *beneficence* (which were terms that had been presented in course materials and discussed in small groups) and to complete a new ethics case. In group I, 41.3% of students defined *utilitarianism* correctly, 43.5% defined it incorrectly, and 15.2% did not remember what it was. In group II, 79.2% of students defined *utilitarianism* correctly, 14.6% defined it incorrectly, and 6.2% did not remember what it was. In group I, 43.5% defined *beneficence* correctly, 43.5% defined it incorrectly, and 13.0% did not remember what it was. In group II, 66.7% defined it correctly, 29.2% defined it incorrectly, and 4.1% did not remember what it was. Overall, the differences were significant, with $p < .001$.

Completion of the new ethics case (a request to the veterinarian by a non-client for an unapproved oral contraceptive agent for feral cats) was considered appropriate if students fulfilled at least three of the five specified steps. In both groups some students completed all five of the steps; completion of the new ethics case was considered perfect if students fulfilled all five of the specified steps. Most of the students who completed the case appropriately used a prose format that incorporated the required information. The students who did not complete the case appropriately, in general, gave only brief responses explaining why they thought the proposed problem was a bad idea, and they did not search for resources or consider alternative solutions to the proposed problem. In group I, 40 out of 46 respondents completed the ethics case. Of that group, 7.5% completed it perfectly, 37.5% completed it appropriately, and 55.0% did not complete it appropriately. In group II, 34 out of 48 respondents completed the ethics case. Of that group, 11.8% completed it perfectly, 41.2% completed it appropriately, and 47.1% did not complete it appropriately. This difference was not significant, with $p = .10$.

DISCUSSION

First-year students in two consecutive years of the veterinary curriculum participated in this study. Students in both groups took the same courses during the year of the study. Ethics training was completed within a professional development course; the content of the course and the involved faculty did not vary.

The author was the only faculty member responsible for all ethics training for both years. The instructional methodology for group I required the instructor to read all of the cases that were submitted by students and to provide brief feedback. The instructional methodology for group II, the use of the Odyssey2sense site, was more labor-intensive because of the efforts needed for the initial set-up of the site and the time involved troubleshooting once class was underway. The instructor read all of the postings but did not provide feedback because feedback was provided by the students' peers. The system readily permitted the instructor to verify which students had submitted their postings and responded to other students' postings. Instructor workload was increased with use of the Odyssey2sense site but it is anticipated that this workload will not be as high in the future because the system set-up is already complete and the instructor is familiar with the site and thus will be able to help students navigate the site more effectively.

The groups were similar in gender distribution, mean values for academic achievement, and mean age. Unexplained variation between the groups may have been obviated by splitting a class into two groups: one that would complete the training using one method and the other using the alternative method. The author chose not to do this because of the automatic decrease in sample size of a predefined total size of 100, and because it is her experience that when classes are split, students will be inclined to try the other group's method. The author has no problem with the increased learning that occurs during experimentation; however, the experimentation does negate clear-cut differences between treatments in experimental groups.

In general, students who used the Odysseys2sense method (group II) demonstrated greater achievement of some learning objectives but were less satisfied with the training. A possible explanation for both phenomena is the fact that students in group II had to review each other's work.

In group I, although students were given the opportunity to work together to discuss the cases in more detail, they tended to complete them independently and to wait until just before the cases were due. The course is graded by a pass/fail system, so the instructor could not easily fail a student if he or she did not use the correct format but provided evidence that they had thought the case through. Use of the Odysseys2sense Web site and grading rubric encouraged students in group II to use the prescribed format to ensure that they earn high enough scores from their student peers to pass each case. The extra time needed to engage with the material may be a factor in the higher percentage of students who did not enjoy working through the ethics cases. On the other hand, the higher level of engagement with the material may also explain the increased percentage of students who did well on the survey that followed the course. The high level of knowledge retention in group II demonstrates the value of active learning for enhancing retention and the ability to apply material.[22–28]

Research into why individuals may choose to not act morally within a profession suggests that often individuals are unaware of the moral issue, especially if they are new to the profession, or they may not be aware of how to formulate a defensible plan of action.[12] The teaching methodologies used in this study attempted to address both of these issues. Presentation of core material about ethics and testing for low-level retention of that information is one way of educating students about basic principles to help guide moral reasoning. The second part of the assessment, completion of a case in the prescribed format, required students to demonstrate value analysis—the ability to evaluate and weigh facts to arrive at defensible conclusions.[33] The second part of the assessment also incorporated educational pedagogy, showing the benefit of active learning and providing rapid response to written analysis of information. Nursing students trained in ethics who use this case-based approach showed a greater likelihood to demonstrate transference of moral reasoning outside of required coursework.[33] The assessment used in this study provides an indirect measure of increased ability of veterinary students to think through ethical concerns later in the curriculum and in practice as veterinarians.

The findings from this study are consistent with the limited research that addresses the teaching of ethics in veterinary medical schools. Formats described in literature for ethics training in all health sciences include lecture, case-based discussion, role-playing, games, and Web-based cases.[16,17,34–36] The literature strongly supports case-based discussion as a valuable tool in ethics training; a meta-analysis of ethics training in health sciences demonstrated that class duration of 3–12 weeks with weekly small-group discussions was optimum for the enhancement of students' moral reasoning.[37] The current study supports the claim that increased interactivity among students boosts achievement of some learning objectives in ethics training; however, this study does not show statistical significance in case completion in a prescribed format or the ability to weigh facts and come to defensible conclusions. This may be a failure of the tool used or the grading rubric employed, or a failure of the instructor to stress value analysis as a learning objective of the course.

An aspect of the Odyssey2sense site that was not considered is the accumulation of power by the students. Student power can be increased somewhat by making additional reviews, critiques of other reviews, and critiques of critiques. The status of individual power is increased further if their own posts are rated highly by their peers. Students in this study completed the required reviews but did not extend the discussions. Inclusion of a course requirement for achievement of a certain level of power might foster continuing discussion and deepen student engagement.

CONCLUSION

Health professionals require formal training in the rules and standards of their profession and also require an understanding of the personality and character attributes expected of those in their profession. Ethics training bridges this gap.[38] Accreditation standards in medical school training require demonstration by graduates of moral discernment, ethical reasoning, and acknowledgment of the moralistic component of the physician-patient relationship.[9] While veterinary school accreditation does not require ethics training, these competencies surely apply to animal species as well. A survey of faculty, employers, and alumni at one veterinary school revealed that ethics training was rated between important and critical.[39] It is the authors' hope that use of case-based discussion facilitated by technology such as Odysseys2-sense will increase the availability and effectiveness of ethics training in veterinary medical curricula. Future research will include assessing the value of increased interactivity within this system, determination of optimum number of cases, and evaluation of efficacy of the training later in the curriculum.

CONFLICT OF INTEREST

The authors have the following conflicts of interest with the Odyssey2sense program: Dr. Copes is the designer of the Odyssey2sense site and has a commercial interest in the site. This has not altered the authors' evaluation of the application of the Odyssey2sense program as described in this article. Dr. Root Kustritz has no commercial or other interests in the Odyssey2sense commercial product.

NOTE

a   http://www.odysseys2sense.com.

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