



EDITORIAL

How do we obtain and disseminate accurate information?

This issue of *Journal of Veterinary Behavior: Clinical Applications and Research* is all about obtaining and disseminating accurate information. All of the papers were independently submitted, but each addresses some aspect of the more global questions, “How do we know what we know?” and “How do we identify what we don’t know?” These are the essential questions that drive scientific endeavor. I think that we sometimes forget that this is the case and that those who are serious about the advancement of any scientific field have an obligation to apply the scientific method to our thoughts, discussions, and recommendations in other fields in which we may be involved or on which we may be asked to comment.

Science is not about being right or about being absolute. It’s about using an approach that can best uncover processes and patterns that occur in nature and the world around us. One of the most valuable outcomes of the scientific method is to show you when you are wrong or when you have incomplete knowledge or data. When done correctly, a scientific approach suggests the next level of questions to be explored. The basic steps involved in any scientific effort are found in the [Table](#).

This editorial review of the scientific approach was generated by a series of factors: an observation about how many postings on listservs involve anecdotal information or personal testament, a discussion about how to find faculty who can truly teach about evidence-based medicine, and an ongoing discussion of the role of dog trainers and other nonspecialists in helping troubled or difficult pets. What amazes me is the role that “credentials” assume. To some extent, any set of credentials is merely the outcome of a covenant about how those in the field should conduct themselves. As such, even an identically named credential can represent wildly varying requirements and outcomes.

For example, if a PhD is earned from an accredited university, some basic level of competence is guaranteed because of the underlying accreditation process. Degrees awarded by nonaccredited programs are likely driven by something other than a quest for or demonstration of knowledge. That said, requirements for obtaining a PhD within and between fields differ immensely, as do those within a field but between different universities. Despite this fact, every piece of paper or sheepskin on which a PhD is

printed—as long as it’s from an accredited university—is an entry ticket to contribute to the field and to have one’s contributions reviewed and built upon by peers. This is how science progresses.

Thus, for academicians in science, one’s worth is quickly separated from the advanced degree and replaced by the quality of the scientific approach outlined in the [Table](#), as reinforced by rigorous peer-review systems. What the latter guarantee, when executed fairly, is critical, state-of-the-art thought, supported by data. No other system currently guarantees quality or value of information to this extent. The value of such peer-review systems for public discussion and for dissemination of information obtained by the scientific method justifies the existence of this journal. In short, information obtained through this method trumps information obtained by any other forum or method, because it tells us what we know and what we don’t know.

So what happens to those who do not write for the academic press? Can such individuals still engage in a scientifically valid exchange of information? We should hope so, because most teaching at universities, in general, does not depend on ongoing research, but it does depend on the accrual of information from past and present studies and on the instructors’ abilities to disseminate that information in a meaningful and valid context. Hence, programs that educate dog trainers and other nonspecialists could be based on the most rigorous information available to date. Are they?

The issue for veterinarians and veterinary specialists revolves around how a nondoctor, a nonspecialist, obtains certification that proves that his or her training is based on evidence-based science and not on opinion or anecdotal information in a manner that ensures that no one is encouraging the practice of medicine without a license. These are important issues for veterinarians, specifically, because they possess licenses and the concomitant liability. Specialists are concerned because “specialist” is a protected word that implies the successful completion of arduous postgraduate training that has clinical and didactic components and that relies on the successful completion of a final, standardized set of evaluations.

So what type of training and certification is available for nonspecialists and nonveterinarians? I recently initiated a

Table Steps for any scientific effort

1. Ask a question.
2. Make preliminary observations and formulate hypotheses. *Hypotheses* are specific questions—usually these are best formed after an extensive period of observation so that apparent patterns emerge.
3. Make predictions from the hypotheses.
4. Identify which variables need to be measured in order to test these predictions.
5. Choose suitable methods for measuring the variables.
6. Collect sufficient data. Stop collecting the data when, but only when, you have enough to provide clear answers.
7. Use the right statistical tools for testing the hypotheses. These will be determined largely by the pattern and type of data that you collected.

Note: These steps form the necessary and sufficient conditions for ensuring an approach is scientific (adapted from Martin and Bateson, 1986)

search for programs, other than residency programs, that train and/or certify some level of competence for intervention in behavioral concerns that affect animals. I restricted my search to North American programs, and I hope to encourage one of my European colleagues to repeat this process for Europe and the UK and publish it in this space.

Most of the organizations that I examined focus on canine behavior. In a world where pet demographics are changing, I had hoped to see a broader approach, but perhaps it will come with time. I would not have known about many of these organizations without the help of Ms. Leslie McDevitt, MLA, CDBC, CPDT. I'll discuss 7 of the groups and procedures that I learned about online in the hopes of stimulating discussion that will move forward the field of humane animal care.

The Animal Behavior Society (www.animalbehavior.org), the organization associated with the well-respected journal *Animal Behaviour*, oversees a program for certified applied animal behaviorists. The Web site notes that certification is a relatively new process, and so certification for applied animal behaviorists is not well known. Minimal requirements for certification in this program include a BA / BS degree in biology or psychology and master's degree (for certifications as an Associate Applied Animal Behaviorist) or a PhD (for certification as an Applied Animal Behaviorist) in Animal Behavior or some related field. Both certifications specify the need to have a degree from an accredited university that includes a research-based thesis. This is a rigorous requirement, and many academicians agree that although different training is involved for each, a PhD "outranks" a medical degree. Interestingly, the ABS will waive the PhD requirement for those with medical degrees, if they have at least 2 years of a residency program and 3 additional years of applied professional experience. The ABS certification process also requires that the applicant be a member of ABS, complete an application, and send degree

transcripts and a current resume, along with 3 reference letters and the appropriate fee. This fee covers the expenses involved in the process. Similar requirements are made for those wishing to sit boards to become diplomates or specialists in a specialty college, like the American College of Veterinary Behaviorists (www.dacvb.org).

That said, what one can do with such certification is not so clearly spelled out. Those veterinarians who have the required credentials are likely to go on to be boarded and so may be unlikely to see added value in the ABS certification process. I would think that the growth opportunities for certification would be in the veterinary population that is passionate about behavior but unable to participate in a residency. Facilitating this type of shift in emphasis would likely require a change in the process and oversight. The ABS Web site states that certification is beneficial to anyone who consults with the public or with other professionals about applications of animal behavior knowledge or about specific behavioral problems of animals. Clearly, the domain of diagnosis and subsequent treatment recommendation—although not the help that may go with treatment (e.g., through learning theory)—must be the domain of those with medical degrees. The site recommends that certification is also useful for those consulting with agricultural interests, zoos, research institutions, wild animals, and government agencies dealing with any of these areas. I could not agree more, but this certification is not going to happen until a mandate for such expertise makes it financially and logistically desirable for such groups to reach out to those who have expertise in animal behavior. Perhaps this is the reason for the comment on the site about the difficulty of making predictions about the future of the profession. Futures of professions are sometimes affected by the ability of those in them to reach a consensus. Think of how much we could change the management of natural resources, zoological parks, research colonies, et cetera, for the better were we to campaign for the addition of Certified Applied or Associate Applied Animal Behaviorists to their staffs? In the absence of a provocative force, the status quo is usually maintained.

In the case of the ABS certification process, rigor is maintained, and training and requirements are clear. And as long as those so certified do not diagnose and recommend a treatment protocol for animals in their care unless they also have a veterinary degree, there should be no conflict. But the line here is neither clear nor explicit, leaving it to the individual to carve out some personal niche that avoids legal and ethical pitfalls.

The Association of Pet Dog Trainers was instrumental in fostering the process that certifies pet dog trainers. The Certification Council for Pet Dog Trainers (CCPDT / www.ccpdt.com) is the first national certification for dog trainers in the USA. In 2001, the first exam was given that created the first group of Certified Pet Dog Trainers (CPDTs). This process was created to provide dog trainers with a credible means of measuring their knowledge and skills, and to provide the pub-

lic with credible criteria for choosing a trainer. To obtain such certification, trainers must pass a test of published and applied knowledge and agree to a code of ethics. To maintain certification, trainers must engage in continuing education that the CCPDT considers valid. The content of any continuing education program that is awarded continuing education credit must relate to the subject matter of 1 or more of the test topics involved in CPDT certification. These topics are broken down into 5 main areas (instructional skills, animal husbandry, ethology, learning theory, and equipment). Although I find the last category to be somewhat subjective, equipment is a logical component of any trainer's background and toolbox. The section on instructional skills contains detailed training on interpersonal skills, dealing with clients, and teaching skills that we are only beginning to invest in when teaching veterinary students. The sections on animal husbandry, ethology, and learning theory are textbook and should brook no argument, except that part of the decision about whether a lecture in one of these topics will be considered legitimate continuing education is based on the education and experience of the lecturer. This is an interesting requirement, because it is not dissimilar in process to one used in accreditation processes for universities.

Some continuing education is preapproved and posted on the Web site, and some must be petitioned for by the applicant. One of the posted seminars that counts for continuing education credit is given by the Society of Veterinary Behavior Technicians (SVBT / www.svbt.org), a technicians' association in the United States that hopes to pursue specialty technician certification for their members. This is an excellent example of the potential cross-fertilization that can occur between related fields if they will just sit down and talk to each other. Of the 27 courses listed for preapproval at the time I was writing this editorial, most concentrated on applying aspects of learning theory, the development and natural history of dogs, the evolution of canine behavior (in this case by some of those who have published in the field), communication, and marketing.

Of the 3 courses where diagnosis was implicitly or explicitly noted, only one course was being given by a board-certified specialist in behavioral medicine, and herein the conflict will arise. One course is labeled "Canine aggression," which can simply be a description, but also a diagnosis. One final course topic contains the phrase: "Learn to diagnose, understand, treat, and prevent a variety of aggression problems" (<http://www.ccpdt.com/seminar.html> p. 9). I'd have no problem with a course with that description being used to certify pet dog trainers if 2 criteria were met: the audience was composed of those with veterinary degrees and the lecturer had one, too. Neither of these criteria is met here, and it is a serious problem.

I have no problem discussing the logic of diagnostic criteria with nonvets, but a huge problem is that then gives them the license to practice medicine that they did not obtain through an accredited institution. I am willing to give the speakers the benefit of the doubt, but trainers know how inflammatory this issue is in the veterinary community, and

they should take care to not fan the flames. I know that there are not enough specialists to treat all the troubled animals, but I also know that cooperation is best achieved when requirements and expectations are transparent. Otherwise, I am sure I shall continue to hear what I heard from a very valued colleague who told me that he'd viewed trainers as parasites on the field of veterinary medicine for virtually his entire career. When I told him about the CCPDT certification, he mellowed and admitted that any program with rigorous educational and testing requirements for trainers would get his support. Think about the information in this scenario: Is he worried about trainers working with patients? No, he is worried about people who know not that they know not. He knows how vulnerable the clients are, and he is angry about situations where people have taken advantage of that vulnerability. The bold step to certify trainers has gone a long way toward allowing trainers and veterinarians to be colleagues. But Web sites and content need to be overseen for what may be unintentional lapses.

The National Association of Dog Obedience Instructors (NADOI; www.nadoi.org) is the oldest group in dog training. It was founded to promote the field and elevate the standards of the profession. The association will certify dog trainers at various levels and state that their mission is "to endorse dog obedience instructors of the highest caliber; to provide continuing education and learning resources to those instructors; and to continue to promote humane, effective training methods and competent instructors." "Endorsed" members must have at least 5 years of experience with canine obedience training and 2 years as a full-charge instructor, must have worked with a minimum of 100 dogs, and must have taught at least 104 class hours if a group instructor, and 288 hours if a private instructor. "Provisional" membership may be offered to instructors who lack the requisite instructing experience but are otherwise considered qualified after taking the provisional entrance exam.

Evaluation at both levels is on the basis of the written exam, personal interviews, observation or videotape, and focus on general knowledge, as well as the ability to deal with specific training situations. The information provided on the examination process states that instructors are looking at how the applicant teaches his or her students to train their dogs, so communication and observational skills should be paramount. Samples of each level of application are posted on the Web site and include information about type of activities the applicant has engaged in with dogs, references, seminars attended, instructing experience and philosophy, dog care instructions that trainers provide as part of their service, titles that students' dogs have earned, and some very detailed applied parts.

These applied sections include descriptions of how the instructor teaches certain behaviors, like sitting on command, and a video of teaching a dog to walk on a loose lead. Applicants must discuss what equipment they use and why. An additional section on behavior asks how the applicant would handle certain situations, including management-re-

lated problems (e.g., stealing food from counters) and problems that may involve behavioral pathology (e.g., dogs that will not allow themselves to be removed from the sofa, adult dogs that persistently soil their crates). I do not know what correct answers are intended for the latter, but I would hope that taking these dogs to a veterinary behaviorist is right up there. This is another example of skating over the line; nonspecific signs like the ones listed can be associated with behavioral pathology, the purview of which is minimally practicing veterinarians, and hopefully, specialists when warranted. Unfortunately, no guidance about this type of situation is provided on the Web site.

It is important to remember that NADOI was founded as an obedience organization to certify obedience instructors. The available list of members, and those who will evaluate applicants, supports this goal. For these purposes, their continuing education may be adequate. Yet it is clear from the examination examples that the horizons have broadened into pets with problems. Nowhere in the online documentation is any reference made to academic seminars or readings. The NADOI anthology follows the same pattern, containing papers by multiple authors, but none with scientific references, and I was unable to find information about some state-of-the-art research on, for example, canine signaling and communication with humans that has graced the pages of academic journals for the past half-dozen years.

The Cynology College (www.cynologycollege.com) offers “Diploma Programs in Graduated Dog Behavior Consultants, and Graduated Companion Animal Behavior Consultants.” One could argue about the rigor of such individually based programs, especially when a small faculty is involved, and when most of those on the faculty do not have advanced degrees. The bigger concern may be that this is a nonaccredited program from a nonvocational, private, nonregistered college, all of which is clearly stated on the Web site. For people with limited schedules and aspirations (a word that is spelled wrong on the Web site) the Cynology College may be one place where they can get information and stimulation. That’s fine if the participants understand that programs like these lack the imprimatur of real university degrees, are neither focused on nor held to the scientific process outlined in the [Table](#) and are unlikely to achieve the broad exposure that a continuing education program like that provided by CCPDT through APDT—when well done—can achieve. Please note the caveat. That said, I was distressed to find that Graduate Professionals (GPs) from the Cynology College in Nutrition (yes, this organization offers another program in Canine Fitness and Nutritional Sciences) were explicitly instructed to have all recommendations reviewed by the dog’s veterinarian for approval prior to implementation (Principle 3. Veterinary Oversight), but that the same recommendation was not made for those who would be Cynology College Graduated Dog Behavior Consultants, and Cynology College Graduated Companion Animal Behavior Consultants. The latter 2 groups were merely advised to “work within the bounds of

their competence” (Principle 1. Competence) and to be honest about their credentials and not mislead clients (Principle 5. Advertising). Combined with the phrase in the informed consent section (Principle 3. Informed Consent), on “methods of assessment, diagnosis and prognosis,” I can only conclude that this approach is unlikely to advance the cause of broader cooperation between veterinarians and nonvets in related disciplines. Simply, such language oversteps legal and ethical bounds. One is tempted to assume that the same boundaries are broached in practice.

The International Association of Animal Behavior Consultants (IAABC / www.iaabc.org), which allows certified members to qualify as Certified Animal Behavior Consultants (CABC), has already irritated some specialists by using the word “consultant” in their title. Although not a protected term, it’s possible that some confusion could result. The IAABC itself is more modest in its claims that it facilitates research, theory development, and education. Their posting of the latest news certainly supports this contention: it includes published columns, book reviews, position statements, and information on some legislation. I imagine that such listings are a valuable service for its members and those of us who don’t have a lot of time to search everywhere. The group makes clear through its Education Collaborative that one of its goals is education, self-study, seminars, et cetera. Here I must confess that I am addressing the IAABC meeting in April 2007, and I expect to say much of what I am saying here, in addition to giving a lecture on the neurochemical and molecular bases of behavioral drugs. The main goals of this group are laudable: education and preventing abuse and neglect of animals. The group should be applauded for actually publishing its definitions of the major forms of animal abuse. Finally, IAABC also sponsors continuing education and awards credits for lectures that meet certain criteria and that can be used for certification. I can see this group developing into a wonderful advocacy group and a clearinghouse for important information. Although I could detect no obvious overstepping of bounds, I would also like to see a reassurance that it will not occur. In other words, I want to see someone stand up and publish online that they will not practice medicine without a license—period. I want to see an action plan for what you do when you realize that the person whom you may be advising has now asked you to do something—diagnose and create a treatment plan—that you are not authorized to do, even though you are called a “consultant.” I think that if more of these kinds of situations were openly discussed on Web sites and in published materials, a discussion of where various fields could meet for the betterment of humane animal care could be more profitable.

The San Francisco SPCA runs an Academy for Dog Trainers, the “Harvard for Dog Trainers,” according to the Web site. Three sets of courses are offered: (1) Certificate in Training and Counseling (CTC), (2) Special Topics in Advanced Counseling (STAC) Certificates (offered occasionally), and (3) Weekend Seminars (offered occasionally).

The CTC is 6 weeks, full time, and is intended to provide a well-rounded and thorough exposure “to training and behavior counseling.” And because what it means is not spelled out on the Web site, it is, of course, the latter phrase that worries me. The CTC course list includes courses on behavior problems and psychotropic medications. The CTC actually has some very logical prerequisites before one can take the course, and it actually publishes its graduation rate (80%). These are encouraging signs. That said, the STAC programs listed specifically include the words “diagnosis, prognosis.” I believe that excellent trainers can be invaluable in helping dogs who fear or are aggressive to people and other dogs, who don’t like to be handled, and who cannot be left alone, but their role cannot legally involve diagnosis. Again, I appreciate that the need out there is huge, but the solution is not to assign responsibility to those who should not have it. A program like this could be priceless as part of a larger veterinary-team effort, and I am hoping to see such opportunities advanced.

The Animal Behavior College (ABC) is a “private vocational school approved under California Education Code Section 94915 and Title 5 of the California Code of Regulations. This approval indicates that Animal Behavior College has been visited and reviewed pursuant to state standards, and that the curricula is [sic] consistent in quality with the curricula offered by traditional institutions.” I don’t know what this means because I do not know how many vocational schools offer any kind of dog training program.

The ABC program is largely based on home study, with at least one externship of up to 21 weeks, allowing the program to be completed in as little as 40 weeks. When the information on this Web site is compared with, for example, that of the CCPDT, this program seems to lack rigor and scientific grounding. Two of the 11 curriculum stages imply diagnosis and state that they will involve treatment of common problems. This implication is at odds with the stated philosophy elsewhere on the Web site. Much of the rest of the curriculum is logical and focuses on self-stated humane techniques and includes a module on clicker training based on Karen Pryor’s writings. I took the opportunity to “sneak a peek at Stage 1,” the module on basic study of canines. The sample information involved broad generalities based on what appeared to be myth and/or popular opinion. One example pertained to dogs of working breeds: “Working breeds may be very unsensitive and difficult to correct. They may react to correction by becoming aggressive or shutting down.” Etymology, aside, this is an over-broad and potentially very scary phrase.

The scientific basis for dog training may not be an issue here. Successful applicants appear to have available to them employment opportunities at Petco Animal Supplies and Canadian Petcetera Warehouse. Although many of us may groan about companies training and then employing their own, we need to realize that this opportunity arose because there is an opening in the market. In North America, many

pet owners just are not that knowledgeable about pets. They go to pet product stores offering “training” because they either know of no other options or no other options are available to them where they live. If ever there was an argument to make the practice of preventative and interventional behavioral medicine the backbone of any veterinary practice, it is made by such programs.

I have not discussed any of the sites that certify those who use electric shock. This is so far beyond the pale that I will take it up in a later editorial. And I did not discuss sites where the first thing I noted was the variety of payment methods accepted. That’s what those of us in academia call deductive logic, and I think that everyone can appreciate its application here.

So where does all of this information leave us? Is there a place in the veterinary team for paraprofessionals, like trainers and Certified Applied Animal Behaviorists? Can such individuals engage in a scientifically valid exchange of information? Do such individuals do so?

If we briefly return to the criteria in the [Table](#), I think it is easy to see which groups have the potential to move fields forward by contributing valuable information to them. I also think that there are many ways in which to do so, and I would encourage those wishing to build bridges between disciplines to keep this idea in mind when they seek legitimacy. That task is not impossible. In North America, I fear that much of the problem lies with the field of veterinary medicine. Simply, so few veterinarians are trained in behavioral medicine while in school that they throw their hands up and relinquish control of behavioral issues, and by doing so, they may deny clients access to the best help based on state-of-the-art science. We can change this pattern in a number of ways. The most simple of these seems to be to encourage the building of partnerships between veterinarians and trainers and others who have obtained some kind of rigorous, ongoing certification. Doing so is the only way to insist upon and enforce that diagnosis and treatment remain the purview of those licensed to practice medicine. Such partnerships will also force each member of the team to update his or her knowledge by attending conferences and learning what literature to read. If this process is encouraged, within a few years the gaps in weak programs will begin to show, and with continued effort, a market-driven approach should kick in. Although we will never completely rid any field of those who don’t know what they don’t know, a collaborative, holistic approach will benefit patients and might decrease both the anger and frustration felt by vets and paraprofessionals alike. That would be priceless.

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Reference

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