

Perspectives in Professional Education

Response of a veterinary college to career development needs identified in the KPMG LLP study and the executive summary of the Brakke study: a combined MBA/DVM program, business certificate program, and curricular modifications

Lori R. Kogan, PhD; Sherry L. McConnell, MS, DVM; Regina Schoenfeld-Tacher, PhD

To be successful and prosper, veterinarians must have excellent clinical skills but they must also be able to manage and deliver their services in an efficient, professional manner. The career training and business skills needed by veterinarians have changed dramatically over the last several decades.¹ Business skills are widely perceived as skills required to succeed in a traditional veterinary career by veterinarians in private practice, industry, academics, and government (as well as compete for nontraditional veterinary-related jobs).² For example, the KPMG LLP study³ found that 73% of practice owners rate business skills as required. Unfortunately, 77% of practice owners reported having difficulty in finding associates with those skills; 60% of owners rated new graduates' business skills as marginal, and 32% rated them as inadequate or poor.³ Walsh et al⁴ found similar results—nearly a third of surveyed practitioners desired new graduates with more knowledge in the area of veterinary business practice.

Furthermore, the Brakke study⁵ found that most veterinarians do not take advantage of good management practices, although practice owners with more financial expertise earn greater incomes: “most veterinarians likely could increase their incomes through more financial expertise, [and] better business practices.” It has also been found that “many veterinarians are not earning up to their potential because of a lack of financial expertise and/or because of the failure to use management practices proven to improve business performance.”⁵

Veterinary students appear to be aware of these deficits in business skills and knowledge. When first-year veterinary students at Colorado State University (CSU) were asked to evaluate their own business skills, 50.1% reported less than average skills and only 8.2% reported high or very high skills. Yet, these same students rated business skills as an important characteristic in defining a successful veterinarian. When asked to rate characteristics that define a successful veterinarian

on a scale from 1 (very unimportant) to 7 (very important), students' mean \pm SD rating for business management skills was 5.7 ± 1.03 (median, 6.0).

Given the documented need for better career development and business management skills for veterinarians by the KPMG² and Brakke⁵ executive summaries, the College of Veterinary Medicine and Biomedical Sciences (CVMBS) at CSU, in collaboration with the College of Business (CoB), has chosen a 3-tiered approach to address this concern. The CVMBS now offers 2 new programs: the Business Certificate Program for Veterinary Health Professionals and the combined MBA/DVM degree program. In addition, the standard professional veterinary medical (PVM) curriculum has been modified to provide a focus on career development, practice management, and business skills training.

This report is an overview of these 3 opportunities in which veterinary students can gain career development and business management knowledge.

MBA/DVM Program

In 2002, CSU became the first veterinary college in North America to offer a combined 5-year MBA/DVM program (Appendix 1). Upon completion of this combined program, students earn both an MBA and a DVM degree. The combined MBA/DVM program offers an opportunity for students to enter the job market with the business expertise identified to be instrumental for success as a veterinarian. Presently, 2 classes of MBA/DVM students are progressing through their programs; 5 students began in the fall of 2002, and 5 students began in the fall of 2003. The College of Veterinary Medicine, Texas A&M University, is presently the only other veterinary college with a combined MBA/DVM program, which was initiated in 2003.

Admission—Application to the combined degree program is made concurrently with the regular veterinary medical application process. In addition, MBA/DVM applicants are asked to write a narrative that specifically addresses their motivations for partic-

From the Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO 80523.

Address correspondence to Dr. Kogan.

icipating in the combined program. Previous work experience is essential for MBA/DVM applicants, and preference is given to those with extended or full-time work experiences. The Veterinary Admissions Committee creates a small list of viable candidates that is then examined by the CoB Graduate Committee. All admitted MBA/DVM applicants are approved by both colleges.

In addition to the unique training opportunity, students who are not Colorado residents but are admitted to the MBA/DVM program reap a substantial financial benefit. Because it is assumed that all successful MBA/DVM students will live in Colorado during their first year in the combined program, they are considered to be Colorado residents, which results in savings of approximately \$24,000/y. Students are also supported by means of employment made available through the CVMBS and CoB. All MBA/DVM students are guaranteed a paid position (number of hours per week varies) within the teaching hospital. They are also guaranteed a graduate teaching or research assistantship through the CoB. These positions provide students the opportunity to interact with faculty and staff in the PVM program, the teaching hospital, and the CoB.

Orientation—All incoming MBA/DVM students attend the CoB's orientation for new MBA students during the 2 weeks prior to the first day of classes. In addition, MBA/DVM students attend the 3-day PVM freshman orientation. They also attend a special half-day orientation that is exclusively for MBA/DVM students and sponsored by the CVMBS. This orientation includes a welcome by the dean, a program overview, tours of the facilities, an opportunity to meet local veterinarians who have an MBA, and a chance to meet peer mentors (MBA/DVM students from the previous year).

MBA program overview—The MBA/DVM students commit to completing their DVM and MBA degrees in 5 years. The first year of the program consists entirely of MBA classes. Students who successfully complete the first year of the MBA program (ie, complete the required courses with a cumulative grade point average ≥ 3.0) are granted a position in the subsequent PVM class. During this first year, these students receive all the same opportunities as other veterinary students. For example, they are eligible (and encouraged) to join veterinary student groups and organizations and receive the same discounts and special opportunities provided to other students (eg, discounted pet food, tickets to special events, and invitations to veterinary student social activities).

The MBA portion of the combined program uses, as its basis, the evening MBA program. Classes meet in the early evening to minimize the impact on work schedules or concurrent registration in daytime courses, such as those of the traditional PVM program. The 36-credit MBA program is designed to serve the needs of working professionals and future veterinarians and has a strong emphasis on information technology, global issues, and teamwork. The first year of the MBA program (20 credits) consists of two 16-week semesters

(divided into two 8-week sessions) in which students earn 16 credits and one 8-week summer session (divided into two 4-week sessions) in which students earn 4 credits. The remaining 16 credits of courses are taken simultaneously with the first 2 years of the PVM program (Appendix 1). The practice evaluation project required for a final grade in the MBA course is completed in the summer between students' second and third year of the PVM program.

The second year of the MBA/DVM program is recognized to be especially challenging, and as a result, the students are encouraged to bolster their science preparation and help mitigate their course load by auditing core required classes, taking nonrequired but useful graduate courses during their first (MBA) year, or both. For example, students have been permitted to audit Immunology (a required 3-credit course usually taken the first year of the PVM program during fall semester) and Nutrition (a required 3-credit course usually taken the first year of the PVM program during spring semester). These 2 courses are offered to the MBA/DVM students their first year because they do not have to be taken in any specific sequence. The students have also chosen to audit an online graduate Histology course, which is not a required course but provides useful background knowledge for other courses.

Student support—The MBA/DVM students are a unique group who need to be supported throughout their program, and special effort is made by the CVMBS to maintain close contact with these students. For example, monthly brown-bag lunches are scheduled to address a variety of topics. The group also has direct contact with the dean, the associate dean, the assistant dean of admissions, and the college's psychological counselor. Personal mentoring from these faculty members has been instrumental in helping these students navigate through the program and develop a sense of connectedness with the college. The group also has an informal social event once each semester.

The students obtain a great deal of support from each other. Although these students come from different backgrounds and have diverse career goals, they have become a close, cohesive group. They report feeling bonded with each other, perhaps in part because they do not share as many commonalities with the other traditional MBA students. As a result, the MBA/DVM students often choose to work together on class projects as well as spend time together socially outside of class. The small group size appears to be ideal. The group is large enough that students can work together on veterinary-related projects in their business classes and have a core group of friends, but not so large that they dramatically alter the atmosphere and direction of the MBA classes or create burdens to the system when attempting to procure work positions.

Present status—The initial group of 5 MBA/DVM students, who began in 2002, have successfully completed their first year in the MBA program and matriculated into the PVM program in the fall of 2003. A second group of 5 students began the first year of the MBA program in the fall of 2003. All 10 students are presently in excellent academic standing.

Informal feedback from the MBA/DVM students has been overwhelmingly positive. One issue that has been discussed is the fact that these students have a very different experience on campus than many of the other veterinary students. Likely because of their involvement with the CoB and their interactions with the community through their MBA class projects, these students appear to feel more connected to the university and the general community.

The students have provided constructive feedback that has led to subsequent changes in the program. Much of the feedback was obtained through the monthly brown-bag lunches or informal visits with the CVMBS faculty. One example of a change implemented in 2004 is the orientation process. During the first year of the MBA/DVM program, the students were not asked to attend the PVM orientation because the CoB offers a fairly extensive orientation and these students would experience the PVM orientation the following year. Feedback from the students, however, made it clear that they would like to go through the PVM orientation both years: the first year of their MBA program and the first year of their PVM program. They felt it was important in developing their identity as a veterinary student and connecting with other veterinary students. As a result, the new MBA/DVM students of 2004 attended the CoB and the CVMBS orientations, with positive results. Other changes that have been implemented this year to help the students feel more connected to the veterinary school are that the students are now included in the veterinary student handbook and are given an identification badge that allows them the same access to the veterinary teaching hospital as other veterinary students.

Other feedback from the students has concerned scheduling and the topics in their business classes. The students have discussed the desire to be able to choose relevant topics of study in their business courses. They have reported that some classes focus more on large corporations and less on small businesses. It appears that as involved faculty in the CoB have become more familiar with the combined MBA/DVM program, they have become more willing to grant these students the freedom to focus their assignments and study in these areas of personal relevance. As with any new program, it has taken time for everyone to fully understand the program and how to best help these students. Similarly, the issue of scheduling was initially quite challenging. Scheduling their MBA courses around their PVM schedule, in addition to their graduate teaching or research positions and their work positions at the teaching hospital, has required cooperation from both colleges to ensure that schedule conflicts are kept to a minimum.

Annual half-day retreats, in addition to other informal discussions, have helped ensure smooth communication between the 2 colleges. Feedback from the CoB has included the observation that some of the MBA/DVM students have less business experience than other MBA students, although faculty do not feel this has created problems in the classes or detracted from the MBA program. In fact, some business faculty members have noted that the MBA/DVM students bring

with them unique qualities that enrich the experience for all MBA students.

Business Certificate Program for Veterinary Health Professionals

The Business Certificate Program for Veterinary Health Professionals was designed to offer students and other veterinary health professionals an opportunity to become more knowledgeable about the business aspects of veterinary medicine without the expense and time commitment of an additional degree. The program was designed to cover material pertinent to veterinarians, veterinary technicians, and veterinary practice managers and does not require that students undergo any additional admissions application or review process to register.

Admission—Any veterinary student, nonbusiness major in good standing in an undergraduate or graduate degree program, or qualified community member who is a documented veterinary health professional is eligible for registration in the courses required to earn a Business Certificate for Veterinary Health Professionals. The program also encourages graduate veterinarians and allied health professionals, including veterinary technicians and practice managers, to enter this program to enhance their business and management skills. Unlike other students participating in the Business Certificate Program, veterinary students are restricted to taking no more than 1 Business Certificate course as an elective each semester.

Program overview—Students are required to successfully complete 20 credits of business courses. Five of these courses are offered through the CoB, with the remaining course, Veterinary Practice Management, offered through the CVMBS (**Appendix 2**). Veterinary students receive the Business Certificate for Veterinary Health Professionals at the time of graduation.

Present status—Approximately 12 veterinary students have chosen to participate in the program since its inception 2 years ago. To assess the Business Certificate Program, enrolled students were asked to rate the degree to which the business classes added to their academic load on a scale from 1 (very little) to 7 (a great deal). Fifty percent of the students answered with a rate of 4 (some). No students answered with rates of 6 or 7. Students were also asked to rate the difficulty of the classes on a scale from 1 (very easy) to 7 (very difficult). Most students (62.5%) responded with a rate of 2 (easy). When queried with an open-ended question about their motivation to enroll in the Business Certificate Program, most students reported wanting to learn better business skills to better manage a private practice. All first-year veterinary students in fall 2003 were asked to indicate their interest and the perceived relevance of the business courses offered through the Business Certificate Program. Veterinary Practice Management had the highest interest (73.3% rated the course as very interesting) and relevance (84.5% rated the course as highly relevant) ratings (**Table 1**).

Table 1—Interest and relevance levels (number [%] of responses) indicated by students regarding business classes.

Class	Interest			Relevance		
	Low 1-2	Average 3-5	High 6-7	Low 1-2	Average 3-5	High 6-7
Veterinary Practice Management	3 (3.5)	20 (23.3)	63 (73.3)	5 (6.0)	8 (9.6)	71 (84.5)
Fundamentals of Management	10 (11.8)	32 (37.7)	43 (50.6)	5 (6.0)	19 (22.6)	60 (71.4)
Fundamentals of Business Law	14 (16.5)	49 (57.7)	22 (25.9)	9 (10.7)	39 (46.5)	36 (42.8)
Fundamentals of Finance	16 (18.8)	47 (55.2)	22 (25.8)	6 (7.2)	41 (48.9)	37 (44.1)
Fundamentals of Marketing	18 (21.1)	47 (55.4)	20 (23.5)	7 (8.4)	43 (51.8)	33 (39.8)
Fundamentals of Accounting	24 (28.2)	43 (50.5)	18 (21.2)	8 (9.6)	43 (51.2)	33 (39.3)
Analysis of Dynamic Enterprises	22 (26.6)	44 (53.1)	17 (20.5)	12 (14.7)	51 (62.2)	19 (23.2)

Infusion of the PVM Curriculum with Career Development, Practice Management, and Business Skills

In addition to the 2 special programs described previously, career development, practice management, and business skills training are now presented throughout the PVM program. Beginning in the fall semester of the first year, students are required to take a 1-credit course, Perspectives in Veterinary Medicine. This course helps students identify and develop their personal, professional, and leadership skills. It also provides an orientation to both the PVM program and the veterinary profession through a variety of guest speakers from different veterinary career pathways. The veterinary career counselor plays an integral role in this class and helps students with required assignments including the creation of a resume, conducting a job search, and completing an informational interview with a veterinarian outside of private practice.

In the spring semester of the first year, students are exposed to food animal career information through a 2-credit course, Food Animal Production and Food Safety. This course provides a basic orientation to food animal production units, herd health concepts, and issues of food safety through faculty and guest speakers in food and fiber animal production medicine.

During fall semester of the second year, students take a 1-credit course, Veterinary Ethics, which offers insights into the moral and ethical issues affecting the veterinary profession. Veterinary Jurisprudence, a 1-credit course, is also offered in the sophomore year. This course details the legal and professional issues affecting the practice of veterinary medicine.

Students enroll in the 6-credit Junior Practicum course during the fall semester of their third year. A critical component of the Junior Practicum includes 20 hours of client communication skills training during which students are taught clinical communication skills, specific emotional support protocols, and the bond-centered practice approach to veterinary care. The Junior Practicum course is continued with 7 more credits in the spring. A portion of this course includes

assigning students to a private small or large animal practice or the CSU Community Practice. Upon completing this rotation, students are expected to evaluate and integrate common practice management procedures into routine medical and surgical care of patients.

Additionally, in the program's third year, students take the 4-credit course, Veterinary Practice Management. This course, taught by faculty and guest speakers including practice management consultants, focuses on topics such as marketing, finance, information systems, personnel issues, and client relations. The Senior Practicum course follows, consisting of 42 credits and involving clinical rotations and small animal community practice. The community practice component of the Senior Practicum course provides students with a variety of cases and a broad overview of veterinary medicine. The clinical rounds cover client communications, common problems in practice, and preventive medicine. The Argus Institute is integral in this training because the Argus Institute staff helps students develop effective client communication and emotional support skills.

In addition to these required courses, students are exposed to career development and business skills through monthly evening seminars. The seminars, featuring 10 guest speakers yearly, offer a venue for interaction between practitioners and students who seek practical advice and wish to form ties with prospective employers. To further help students with career development and employer contacts, the CVMBBS employs a professional career counselor dedicated to serving CSU veterinary students and alumni.

Summary

In the present market, veterinarians with a strong background in career development, practice management, and business skills have a clear advantage in achieving financial success. Although there is ample evidence that the scientific and clinical skills of veterinary college graduates are high, there are also data that suggest that additional capabilities in the business realm may promote greater economic success. As noted in the KPMG executive summary,² the field of veteri-

nary medicine must make changes in its “current business practices and attitudes” to be successful in the future. Furthermore, the KPMG study found that 36% of industry employers reported that some jobs within their companies had specific job requirements that were not met by a veterinarian with only a veterinary medical degree. The areas of additional training most often cited included business, administration, personnel management, sales and marketing, and financial skills.² Yet, Lewis and Klausner⁶ found that veterinarians reported challenges in the business realm, such as “how business works and how business goals are translated into action. This challenge held true for veterinarians in industry, academia, government, and private practice.”

The present gender trends in the field of veterinary medicine provide additional impetus to make career development and business skills training more prevalent. Presently, women comprise > 65% of the veterinary student population and approximately 45% of all practicing veterinarians.⁷ In some areas of practice, the rate is much higher. For example, in 2002, women comprised 48.2% of all small animal exclusive private practitioners.⁸ Unfortunately, the KPMG study found that female veterinarians in private practice report lower self-evaluation of business management and financial skills, compared with their male cohorts. Female veterinarians in nonprivate practice report lower self-evaluation in communication, personnel management, business management, and marketing skills than that reported by males.²

As a result of these pressing needs, CSU CVMBS has undertaken a major initiative to improve the vet-

erinary practice management and business skills training of veterinary students by offering a variety of options to gain this knowledge: a combined MBA/DVM degree program, a Business Certificate Program for Health Professions, and core curriculum courses. In this way, students can select the amount of focus they want to place on career development and business skills as they earn their DVM degree, to best ensure that they become successful veterinarians.

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Appendix 1

An MBA/DVM program schedule at Colorado State University.

First year: fall semester (weeks 1–8)

Accounting Systems Part 1 (4 credits)

Financial and managerial accounting information systems and application of accounting information for management decision making, planning, and control.

Management, Leadership, and Team Dynamics (2 credits)

Management and leadership activities, roles of leaders in a dynamic work environment, relationship of leadership and successful teams, elements of intra- and interteam relationships, and workplace diversity and its impact on team processes and performance.

First year: fall semester (weeks 9–16)

Accounting Systems Part 2 (4 credits)

Financial and managerial accounting information systems and application of accounting information for management decision making, planning, and control.

Strategic Management for Competitive Advantage (2 credits)

Enhancement of students' understanding and expertise of the decision-making processes used in business today. Introduction to theories, processes, and tools including qualitative, quantitative, and computer skills.

First year: spring semester (weeks 1–8)

Managerial Communication Strategies (2 credits)

Communication skill development, integrating both business speaking and business writing skills with technology. Topics include managerial communication, integrated writing and speaking, problem solving, and strategic communication.

Information Technology Infrastructure (2 credits)

Current technology base and trends in infrastructure, software, and data technology; information technology implementation in the business community for effective utilization and competitive positioning; and the market place for prominent technology innovation.

First year: spring semester (weeks 9–16)

Strategic Uses of Information Technology (2 credits)

Information technology in the firm and its integration into business operation, information technology organization and business operation, and operational dynamics of information technology and business environments.

Statistics and Economics for the World Market (2 credits)

Managers in marketing, finance, accounting, and operations need to understand their firms' strengths and weaknesses as well as the customer, competitor, and macroenvironment. Focuses on methods for collecting, analyzing, and interpreting business and economic data relevant for the managerial decision-making process by presenting an overall economic foundation and discussing environmental variables and competitive market issues, measurement, firm issues, and the personal customer.

First year: summer semester (weeks 1–4)

Social and Regulatory Issues in Business I (2 credits)

Exposure to current issues that are relevant to business decision making. Topics include regulatory environment, social responsibility in the marketplace, US/global regulation of business, and global ethics.

First year: summer semester (weeks 5–8)

Social and Regulatory Issues in Business II (2 credits)

Exposure to current issues that are relevant to business decision making. Topics include business negotiation/dispute resolution, issues in employment relations, occupational health and safety, and consumer protection.

Second year: fall semester (weeks 1–16; concurrent with first-year professional veterinary medical [PVM] program)

Marketing Management (4 credits)

Background and understanding of marketing systems with special attention to products and services, domestic and global markets, and traditional and electronic modes.

Second year: spring semester (weeks 1–8; concurrent with first-year PVM program)

Enterprise Electronic Business Strategies (2 credits)

Technology of electronic commerce from interorganizational systems to the Internet, application and data infrastructure that serves as a conduit for electronic commerce, assessment of the business strategies that yield operational and competitive advantages through electronic commerce, and identification and review of the national and international regulatory framework for electronic commerce.

Second year: spring semester (weeks 9–16; concurrent with first-year PVM program)

Manufacturing and Service (2 credits)

Production systems and the functions of both line and staff components. Topics include contrasting manufacturing and service operations; supply chain management; planning and scheduling paradigms; and capacity, materials, and inventory management.

Continued on page 1076.

Appendix 1 (Continued)

An MBA/DVM program schedule at Colorado State University.

**Third year: fall semester (weeks 1–8;
concurrent with second-year PVM program)**

Financial Principles and Practice (2 credits)

Exposure to the role of the financial manager in a business enterprise. Topics include basic financial concepts and tools, financial statement analysis, forecasting, capital budgeting, and working capital management.

**Third year: fall semester (weeks 9–16;
concurrent with second-year PVM program)**

Financial Markets and Investments (2 credits)

Financial markets, valuation of different types of financial securities, relationship between risk and return, and design and evaluation of portfolios.

**Third year: spring semester (weeks 1–16;
concurrent with second-year PVM program)**

Analysis of Dynamic Enterprises (4 credits)—coursework only

Apply and integrate concepts taught in the functional areas with the specific goal of developing critical thinking and decision-making skills.

**Third year: summer semester (weeks 1–8;
concurrent with second-year PVM program)**

Analysis of Dynamic Enterprises (4 credits)—project completion

Apply and integrate concepts taught in the functional areas with the specific goal of developing critical thinking and decision-making skills.

Appendix 2

A Business Certificate Program for veterinary health professionals at Colorado State University.

First year: fall semester

Fundamentals of Accounting (3 credits)

Understanding of financial statements to support financial and managerial decision making.

First year: spring semester

Fundamentals of Finance (3 credits)

Role of finance in management of the firm, role and structure of financial markets and institutions, and valuation of basic securities.

Second year: fall semester

Fundamentals of Management (3 credits)

Managerial process of planning, directing, and controlling inputs of an organization. Analysis, decision making, and survey of research literature.

Second year: spring semester

Fundamentals of Business Law (3 credits)

Legal environment of business including norms, rules, laws, ethical principles, and values central to public life in the conduct of business.

Third year: fall semester

Fundamentals of Marketing (3 credits)

Overview of marketing activities involved in provision of products and services to consumers, including target markets and managerial aspects.

Third year: spring semester

Veterinary Practice Management (4 credits)

Veterinary practice management including marketing, finance, information systems, personnel issues, and client relations.

Third year: summer semester

Entrepreneurship in the Contemporary World (4 credits)

Concepts of entrepreneurship and role of entrepreneurs in the economy.