

AN ASSESSMENT OF SELECTED CONTINUING  
EDUCATION PROGRAMS AS PERCEIVED  
BY OKLAHOMA VETERINARIANS

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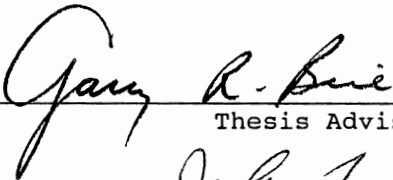
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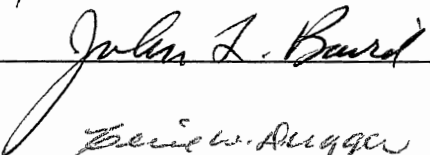
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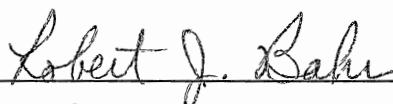
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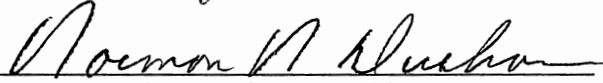
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## PREFACE

The purpose of this study was to determine the perceptions of mandatory continuing education activities in the veterinary profession within the State of Oklahoma. Data collected from members of the Oklahoma Veterinary Medical Association was analyzed relative to continuing education programs offered by Oklahoma State University, College of Veterinary Medicine, Veterinary Extension Unit and the Oklahoma Veterinary Medical Association. The study's goal was to provide information to enhance continuing education programs for Oklahoma's practicing veterinarians. Publication of this material may be warranted at a future date.

The author wishes to express his appreciation to the many people who have been involved with the development and completion of this study. Gratitude is expressed to the committee members, Dr. Garry Bice, Chairman and Advisor, Dr. John Baird, Dr. Cecil Dugger and Dr. Robert Bahr for their help and patience over the past four years.

Thanks is also extended to the faculty, staff and the students, both past and present of the College of Veterinary Medicine. It was with their help and support that this project was able to meet its end.

I must also extend my thanks and love to Robert, Randi, Eric, and Arianne my children who I hope have seen that the quest for learning does not end upon reaching a given age. Thanks to my

mother, who I lost during this project, for it was her memory that many times was the encouragement not to give up.

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## CHAPTER I

### INTRODUCTION

The OSU Vet Med News stated on November 3, 1989, "1989 Fall Conference set a new record with 351 in attendance, including 240 practitioners". That was good news for the division of Veterinary Extension, College of Veterinary Medicine (CVM). At the 1988 Fall Conference there had been 123 participants, and at the 1987 Fall Conference there were 88. According to participants, the quality of the programs were outstanding with nationally known speakers. However, it was acknowledged by some participants that the primary reason for the increase in attendance was that the Oklahoma Board of Veterinary Medical Examiners had amended the Veterinary Practice Act, 59 OS 1989, Section 698 to include mandatory continuing education as a requirement for relicensure. Twenty hours of continuing education on an annual basis became the requirement for continued licensing.

Manning and Petit (1987) stated in their editorial "Continuing Medical Education: Past, Present and Future":

Medicine, the law, and theology have traditionally been called the learned professions. For centuries, one studied a profession, learned all that one's master knew of it, and practiced that body of learning for the rest of one's career. During the 20th century, the length and depth of the learning period for medical professionals has continued to expand - first by a formal medical school curriculum, then by an internship, and later by an ever longer residency program. Still, no matter how well educated or carefully certified he or she is, a physician can no

longer rest comfortably in the belief that having learned it all, one has only to continue to apply that knowledge to patients to practice good medicine. To remain competent, a physician must engage in career-long learning. The explosion in the amount of medical knowledge available has mandated that medicine is today a learning profession.

As the most recent branch of medical education, CME is the least understood, the least studied, and the least funded by medical schools. Often an orphan, it is forced to pay its own way entirely from course tuition. This abandonment has had some unfortunate results. Since it is impossible during training to teach all the information that a physician will ever need, it is vital to teach the graduate physician how best to continue acquiring new information throughout one's career (p. 3555).

The need for continuing education for health professionals is widely acknowledged. Like most professionals, those in the health care arena must acquire new knowledge and master new technologies to meet increasingly demanding re-licensing and re-certification requirements. Cook and Beery (1987) stated there are certain aspects of health care, that make continuing education desirable.

First, in many health care programs students are not given adequate time to master many of the specialized skills, and thus they must learn these skills after they begin their professional practice. Second, there are often relatively few types of health practitioners in under-served rural and inner city areas. Thus clinicians who work in those settings frequently must provide the basic services usually furnished by other disciplines. Continuing education is one means of training health care practitioners to deliver such services (p. 652).

Louis Phillips and Associates, continuing education training consultants in Athens, GA stated in their summer 1988 newsletter;

Slow steady growth of mandatory continuing education (MCE) has continued throughout the 1980's. Four professions - CPA's, Nursing Home Administrators, Optometrists and Pharmacists continue to have the highest number of states with MCE requirement.

Of the 16 professions surveyed, Iowa remains the only state with MCE for all its licensed professions. Other states with a high number of requirements include Florida, Kansas, Minnesota, Nevada and New Mexico. Fewer requirements are found in Hawaii, New York and Wisconsin.

Architects and Professional Engineers have the fewest requirement from this group of 16. Most rapid growth has occurred with CPA's, Lawyers and Pharmacist.

Several trends are noted. . .A few states are now requiring end of course examinations for CE courses rather than relying on attendance alone for credit. . . . Some states are looking for alternative routes to relicense. . . . New York state is examining a plan to relicense physicians every nine years either by examination, peer review, evaluation of patient records, or by recertification through one of the 23 medical specialty boards (p. 2).

The sixteen selected professional groups identified above were:

- 1) Architects
- 2) CPA's
- 3) Dentists
- 4) Engineers
- 5) Lawyers
- 6) Nurses
- 7) Nursing Home Administrators
- 8) Optometrists
- 9) Psychologists
- 10) Pharmacists
- 11) Physical Therapists
- 12) Physicians
- 13) Real Estate Agents
- 14) Social Workers
- 15) Licensed Practical Nurses

16) Veterinarians.

As of May 26, 1989, the State of Oklahoma required 7 of the 44 defined (Oklahoma Statutes Annotated - Title 59, Section 698) professions/occupations to have some form of mandatory continuing education. Eight of the 12, Accountants, Podiatrists, Chiropractic Physicians, Pharmacist, Optometrist, Osteopathic Physicians, Real Estate Appraisers and Veterinarians had specific guidelines for meeting Mandatory Continuing Education (MCE). The remaining 4, Dentist, Electrologist, Occupational Therapist, and Psychologist had only mention of the requirements, but those statutes did not provide a means by which the requirements were to be met.

When Oklahoma established its requirement for mandatory continuing education for the veterinary profession, it joined 29 other states that require MCE for licensing. (See Appendix A, Table I. This table was revalidated by letter inquiry on August 1, 1990 see Appendix B). The following has been copied from the Oklahoma Veterinary Practice Act, (59 OS 1989, Section 698).

#### Mandatory Continuing Education

Before any active license is reissued, the licensee shall, on a form provided by the Board, certify that he or she has obtained twenty (20) hours of continuing education in veterinary medicine or surgery. Acceptable hours of credit will be determined as follows:

1. One hour of credit for each hour of attendance at veterinary college and extension seminars.
2. One hour of credit for each hour of attendance at national, regional, state, or local scientific meetings.

3. One hour of credit for each hour spent developing or presenting original, peer-reviewed presentations or publications. (A maximum of 5 hours credit may be gained by this means.)

4. One hour of credit for each hour of study with autotutorial tapes of scientific material related to veterinary practice. (A maximum of 5 hours credit may be gained by this means.)

During the last three decades, many states have passed legislation requiring professionals to participate in mandatory continuing education. Some individuals have noted that MCE was to be only an interim solution, and opponents of MCE have stated that it does not improve competency. However, during the past 30 years, the number of states passing MCE legislation has continued to grow, and evidence suggests that a number of benefits are being derived.

Some studies reflect opposition to MCE. Phillips (1983) stated, "common arguments are that mandated continuing education is ineffective, unrelated to inspiring competence, not cost effective, and too burdensome for state licensing boards". Other studies, to the contrary (Miller, 1987), have shown the benefits of continuing professional education. Such differences in research findings are beginning to be understood as the factors that seemingly make programs effective are becoming more evident. Phillips (1987) reported the Illinois Council on Continuing Medical Education analyzed eight studies of physician continuing education programs. All of the studies shared in common five elements:

1. Specified audience. The physicians in the learning process were clearly defined and had expressed a desire to learn something.
2. Identified learning need. Each physician could identify a specific reason to be in class - they had an area of performance that needed improvement.
3. Clear goals and objectives. Everyone understood what was to be learned.
4. Relevant learning methods, emphasis on participation, and a clinical setting.
5. Systematic effort to evaluate. Assessment techniques to determine the education's value were decided upon when the programs were developed, based on clear definitions of learning needs.

Those findings were reflected in a later research project by the Council on The Continuing Education Unit. This three year project, which concluded in 1984, resulted in the development of a set of principles of good practice in continuing education (p. 59).

#### Statement of the Problem

When the Oklahoma Board of Veterinary Medical Examiners amended 59 OS 1989, Section 698, to require mandatory continuing education they allowed a broad interpretation of the requirements. The veterinarian need only to sign a statement indicating the requirements for annual renewal have been met.

The primary objective of the College of Veterinary Medicine at Oklahoma State University (CVM/OSU) was stated in the 1989-90 Oklahoma State University Catalog. This objective is to educate veterinarians for private practice. The Assistant Dean for Outreach/Alumni Relations has the responsibility through the Veterinary Extension Unit, to provide for continuing education programs for Oklahoma's practicing veterinarians through



extension/conference programs. The Oklahoma Veterinary Medical Association as a professional organization of Oklahoma veterinarians provides continuing education programs through its annual convention.

The problem was that there had not been an assessment of the Veterinary Extension unit or the OVMA's effectiveness in meeting the needs of the veterinary community regarding the mandated continuing education requirements.

#### Purpose of the Research

The purpose of the study was to gather data from the veterinarian community to assess the effectiveness of continuing education programs of the Veterinary Extension unit and the OVMA which were used to meet the requirements of Rule 26 of the Oklahoma Veterinary Practice Act, amended (Nov. 88).

The study sought to answer the following questions:

1. What were the perceptions of Oklahoma Veterinarians relative to reasons for attending continuing education programs?
2. To what extent do practicing veterinarians favor mandatory continuing education, do they agree with the number of hour requirements and who do they perceive has the primary responsibility for providing continuing education programs?
3. Perceptions of participants at the 1989 Fall Conference?
4. Perceptions of participants at the 1990 OVMA Convention?
5. What times of the week are best for extension / conference programs?

6. What time formats are best for extension / conference programs?

7. What were the preferences for hands on / wet labs at extension / conference programs?

8. Which locations were preferred for extension / conference programs?

9. Do responses vary according to:

- a. gender
- b. year of graduation
- c. graduate of Oklahoma State University
- d. type of practice
- e. practice setting
- f. number of veterinarians in a practice

#### Limitations of the Study

The study was limited to practicing veterinarians as defined by the Oklahoma Veterinary Medical Association, on their mailing list provided May 3, 1990. (Academic, state, federal and retired veterinarians were excluded from the study).

#### Definitions

The following definitions apply throughout the study:

1. Practicing Veterinarian - for purposes of the study a practicing veterinarian is an individual who by professional training is qualified and authorized to treat injuries and diseases of animals within the state of Oklahoma, and who is a member of the

OVMA.

2. Mandatory Continuing Education (MCE) - for purposes of this study means educational programs which have been mandated by legislative action to meet the requirements of relicensure for a given profession.

3. Continuing Medical Education (CME) - is composed of any education or training which serves to maintain, develop, or increase the knowledge, interpretive and reasoning proficiency, applicable technical skills, professional performance standards, or ability for interpersonal relationships that a physician uses to provide the service needed by patients or the public (Council on Medical Education, 1979, p. 36).

4. Professional Medical Education (PME) - for purposes of this study is synonymous with Continuing Medical Education.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

The purpose of this chapter is to present the reader with a review of the literature as it relates primarily to mandatory continuing education in veterinary medicine. However, analyses of MCE in human medicine and other professions were also reviewed in an attempt to develop the needs analysis.

The 1971 Business Sessions of the AVMA approved a definition of Veterinary Continuing education (VCE) as follows:

Continuing education consists of learning experiences which enable the motivated veterinarians to continually improve and apply his or her professional competence for the benefit of society. Continuing education is a lifelong process that maintains and enhances the capabilities of the veterinarian and, therefore, his growth as a professional. Continuing education is primarily the responsibility of the individual veterinarians. Professional associations and academic institutions have the obligation of instilling the habit of lifelong learning in graduates and students.

Learning experiences may be formal or informal. Formal learning experiences include in-depth seminars, workshops, independent study programs, etc., sponsored by academic institutions, and local, state, national, and international associations. Informal learning experiences include regular reading of professional literature, participating in journal clubs, local study groups, consulting with colleagues, preparation of teaching programs in 4-H veterinary science projects. Each one of the aforementioned activities in addition to cumulative personal and professional experience should enhance the development of judgement, critical thinking, and creativity for the individual veterinarian. (Ames, E. R. Veterinary Continuing Education, October 31, 1978:1.)

Van Valkenburg (1990) states that the nature and characteristics of a profession that distinguishes that profession from other occupational groups are:

- 1) code of ethics,
- 2) adherence to a complex value system and creation of a subculture,
- 3) formal education and mastery of theoretical knowledge in a specific and limited discipline,
- 4) public acceptance and recognition,
- 5) credentialing and/or certification,
- 6) establishment of a collective identity,
- 7) legal reinforcement and impact on public policy,
- 8) internal monitoring of members' competency (Houle, 1980),
- 9) colleague-oriented referenced group (p. 1).

Caplan (1983) writes of the need for MCE. Occupational groups recognized as professionals adhere to the universally accepted written and unwritten ethical and moral behavioral codes which are derived from the characteristics of their respective profession. Standards of performance and levels of competency have evolved from the nature and characteristics of a profession, and the public has come to expect fidelity to the behavior codes during an interaction with a professional. Public arousal over professional inadequacies has resulted in numerous court litigations, establishment of regulations by legislative bodies, and charges of incompetency against professionals and/or a specific profession. The increase in malpractice lawsuits demonstrates a sense of apprehension and rouses

public awareness in expecting and demanding competent practice. American law now holds physicians to a national standard of medical knowledge and practice. MCE can help to meet those needs and allay the public outcry.

Van Valkenburg (1990) stated that rapidly advancing technology destroys the myth of "once certified, forever competent," that some members of a profession attempt to perpetuate. Dubin (1972), borrowing a description from nuclear physics, portrayed professional obsolescence in the following way.

The half-life of a professional's competency can be described as the time after completion of professional training when, because of new developments and procedures, practicing professionals have become roughly half as competent as they were upon graduation to meet the demands of their profession (p. 487).

Dubin (1972) stated that the half-life of medical knowledge is five years and the two most prominent factors hastening professional obsolescence are the rate of technological change and the addition of new data and knowledge. Having established standards of performance the public now expects and demands, that medical and health professions be accountable for maintaining an expected competency level which includes assuring that professional obsolescence does not occur (Caplan, 1983).

Joe Alexander, DVM, Dean - College of Veterinary Medicine, Oklahoma State University stated in a position paper presented to the Oklahoma Board of Veterinary Medical Examiners:

One of the dangers of current veterinary medical education is that it leads to graduation from veterinary school. In actual practice the true veterinarian never graduates from veterinary school; he simply transfers from Oklahoma State, Cornell, Texas

A & M, or whatever veterinary medical education was started, into a new and personalized 'veterinary school'. As described by Dr. L. H. Smith, in this self-created school, the practitioner will be both faculty member and student. Certainly he will have tenure and will also chair the curriculum committee, involving his colleagues and his clients as fellow members of the faculty. From these extended medical schools, he can graduate with honors only on the completion of medical practice (p. 1).

Alexander concluded that position paper with the following reasons for mandatory continuing education requirements:

1. To help assure competence and improved performance within the profession by requiring practitioners to gain some form of continuing education.
2. To stimulate increased offering of continuing education programs within the State of Oklahoma.
3. To serve as a positive public relations tool as it pertains to society's wishes for the latest in veterinary medical services.

Van Valkenburg (1990) stated the two methods used to offer continuing education are the formal and informal methods of instruction. The formal method was characterized by the traditional classroom type of setting with primarily reading and lecture-demonstration as the modes of delivery and the courses are usually offered by educational institutions. The informal method modifies the traditional method through use of technological aides (telephone, films, television, audiotapes, videotapes, and computers) and structures the learning process to the varied learning patterns of the participants. Other types of informal

delivery modes used are self-directed learning activities, attendance and group activities at educational meetings or seminars, self-monitoring of practice, simulation and experimental learning (Houle, 1980). To delineate the various trends in acquiring continuing education, the American Medical Association adopted the following definition in 1979:

Continuing medical education is composed of any education or training which serves to maintain, develop, or increase the knowledge, interpretive and reasoning proficiency, applicable technical skills, professional performance standards, or ability for interpersonal relationships that a physician uses to provide the service needed by patients or the public (Council on Medical Education, 1979:36).

According to Suter (1981) formal education or the curriculum-oriented approach is adequate for the person preparing for practice in a profession, but has limitations for the practicing professional. The goals of the entry-level educational process change from acquisition of knowledge and skills to acquiring selected competencies relevant to practice. Hence, the responsibility for the educational activity shifts from preparatory education within the institution to the individual who assesses professional deficiencies and seeks continuing education.

Due to this shift in responsibility from preparatory education to continuing competency, the questions raised most often are whether professionals participate in meaningful educational activities, and does a relationship exist between continuing education and job performance. Van Valkenburg (1990) indicated in her report that the relationship between continuing education and job performance had been extensively debated during the 1970s and



early 1980s with few valid research studies being conducted with large enough populations to produce reliable results. The most common methods "used to evaluate continuing education are attendance and participant satisfaction" (Lloyd & Abrahamson, 1979). Van Valkenburg (1990) said during the time period, (1970's and early 1980's), many articles were written about the ineffectiveness of continuing education, but were based on opinions and assumptions of the authors and not on valid research methods. As a result those opinions and assumptions were perceived as being authoritative and quoted by others. Thus, a cycle was set in motion which has taken its toll evidenced by the doubtful perception in some public sectors as to the effectiveness of continuing education (Van Valkenburg, 1990).

Lloyd and Abrahamson (1979) did attempt to evaluate continuing medical education by doing a review of the literature for the time period of 1960-77. They found forty-seven references to studies which used one or more objective evaluation methods. Those studies attempted to demonstrate a relationship between patient health and physician performance or competency. The method of evaluation primarily used was a performance audit. While the Lloyd and Abrahamson study was an indication that participation in continuing education is directly correlated to improved patient care, methodological shortcomings and the small populations used in the original research studies made it impossible to positively conclude improvement of performance as a direct result.

A more recent review of the literature indicated the major shortcomings of research studies in the medical field attempting to correlate improved patient care to participation in continuing education were: (1) the very small populations used in the studies, and (2) lack of methodological controls within the research projects (Houle, 1980; Caplan, 1983). However, the weaknesses of the early research studies have left an imprint and have led to confusion as to the effectiveness of continuing education according to Van Valkenburg, (1990).

Continuing medical education (CME) was the impetus and model for other professions to become involved and mandate continuing education as a requirement for membership or recertification. Research studies of the professions have allowed thorough studies to be conducted using accepted research methods and larger population groups (Houle, 1980).

A most convincing study from engineers in the San Francisco Bay area establishes an association between participation in continuing education and on-the-job performance (Morris, 1979). Under a National Science Foundation grant (NSF Grant EPP75-21587), a project was conducted by the President of the Genesys System, Inc. with the focus being the return on investment in continuing education for engineers. Based upon objective data, the research confirmed a relationship between participation in continuing education and performance. A population of 396 engineers from Ford Aerospace and Communications, NASA-Ames (a space research laboratory), GTE-Sylvania (defense electronics), and FMC (machinery) participated in

the study. While a number of variables were used in the project, only a few were used to determine the basic relationship, and were identified as:

- 1) the number of hours of continuing education and the performance variables,
- 2) salary and other compensation,
- 3) supervisory responsibility.

The research project on the San Francisco engineers demonstrated the following findings:

1. Growth in compensation is positively related to continuing education.
2. Growth in supervisory responsibility is positively related to continuing education.
3. Participation in continuing education is a more important predictor of job performance than inherent ability or the ability to work aggressively and diligently.
4. The positive effects of continuous participation are cumulative over a period of time, and those that participate sporadically do not derive the expected benefits of such participation.

The findings of that research were consistent across time intervals, organizations, ability groups, and situations. Patterns of consistency in the results support the reliability of the relationship discovered. In addition, the research also showed that participation with non-academic instructors away from the place of employment is more important in terms of salary and other compensation growth than participating in traditional academic courses or courses offered in-house (Morris, 1978).

A research project conducted by the UniWorld Group, Inc. (1980) under contract with the U. S. Department of Health and Human

Services, Bureau of Radiological Health confirmed the relationship between job performance and continuing education. The population for that study was 1,599 x-ray equipment operators. Of those operators, 1,249 (78.11%) were registered technologists and 165 (10.31%) were non-credentialed. Of the 165 non-credentialed operators, 62 (37.57%) had 24 months or more of training. The purpose of the study was to provide a better understanding of the background and environmental factors that tend to have the strongest influence on job performance. Although no correlations were available, the authors stated results showed a positive motivation for quality work performance was membership in a professional society and participation in continuing education (BRH Bulletin, 1980).

In another study, Linn (1980) used algorithms and treatment outcomes to judge the quality of care for burn patients treated in hospital emergency rooms. He discovered that mortality, morbidity, compliance with treatment regimens and the perception of satisfaction with care were all significantly correlated with the process of care and were improved by individuals who update their knowledge through participation in continuing education.

Lowenthal (1981) stated that critics of continuing education argue that if continuing education for recertification was made mandatory the action would not be upheld in courts if challenged. The literature, however, reveals that mandatory continuing education for employment has been upheld in the courts several times dating back to 1898 in West Virginia, 1941 in California, and 1947 in

Wisconsin.

The legality of mandatory continuing education was more recently upheld by the U. S. Supreme Court. In a ruling on a 1979 case, (Harrah Independent School District vs. Martin) involved a teacher who had been fired because the continuing education requirements of a school board ruling that required five semester hours of credits every three years had not been met. The Supreme Court found the school board's mandatory continuing education requirement "is endowed with the presumption of legislative validity" (McGuire, 1979).

The most common complaint about continuing education is that effective evaluation methods are not available, therefore one cannot guarantee that practitioners will increase their competency through participation. However, research demonstrated that continuing education can contribute significantly to the improvement of patient care, but continuing education alone cannot guarantee it (BRH Bulletin, 1980; Morris, 1978; 1979).

To paraphrase Caplan; An attempt to use the educational efforts as a springboard to quality care and improved outcome is noble. However, when multilevel politics, shortage of funds, increasing manpower shortages, environmental stress, inadequate compensation, and society's habits and inertia all impede the outcome, continuing educational efforts should not be made the whipping boy for the resulting frustration.

## CHAPTER III

### METHOD OF STUDY

The purpose of this chapter is to describe the methods and procedures used in conducting the study. The purpose was to survey Oklahoma veterinary professionals to assess the effectiveness of continuing education programs of the Veterinary Extension unit of the CVM/OSU and the OVMA.

As revealed in the review of literature, there are many areas involved in the delivery of continuing education programs to the health practitioners. The identification of areas effective for mandatory continuing education were abundant in the literature but unfortunately consistency and ingenuity were most lacking. A review of the 1987 AVMA Survey on Mandatory Continuing Education (MCE) for Veterinarians was reaccomplished (Appendix A, Table 1).

#### Study Population

A review of traditional veterinary medical literature indicated that there had not been a similar research study relative to an evaluation of continuing education in veterinary medicine. An evaluation of continuing education programs for veterinary medicine was completed by mail survey of the 946 members of the OVMA. The mailing list for practicing veterinarians in the state was obtained from the executive secretary of the OVMA and was reflective of the

membership as of May 3, 1990. The list was reviewed for academic, state and/or federal, out-of-state, and retired veterinarians. Those identified individuals were excluded from the survey to ensure that the survey would be reflective of only the Oklahoma practicing veterinarians.

#### Development of the Instrument

In developing the questionnaire, the writer established a form which would identify nine principle areas for the study.

The study sought to answer the following questions:

1. What were the perceptions of Oklahoma veterinarians relative to reasons for attending continuing education programs.

2. To what extent do they favor mandatory continuing education, do they agree with the number of hour requirements and who do they perceive has the primary responsibility for providing continuing education programs?

3. Perceptions of participants at the 1989 Fall conference?

4. Perceptions of participants at the 1990 OVMA convention?

5. What times of the week are best for extension / conference programs?

6. What time formats are best for extension / conference programs?

7. What were the preferences for hands-on / wet labs at extension / conference programs?

8. Which locations were preferred for extension / conference programs?

9. Do responses vary according to:

- a. gender
- b. year of graduation
- c. graduates of the Oklahoma State University
- d. type of practice
- e. practice setting
- f. number of veterinarians in a practice

Fifteen multiple response questions were developed. Responses called for either item check or fill in the blank.

Six questions were of the Likert style format requiring an answer based on perception:

SA - Strongly Agree

A - Agree

N - Neutral

D - Disagree

SD - Strongly Disagree

The completed questionnaire provided 80 subjective responses for analysis. During development of the questionnaire, input was requested from the Veterinary Extension unit and the OVMA. Prior questions from those two agencies were studied for use in the survey. The final instrument (Appendix C) was reviewed and validated by seventeen OVMA executive members present for the May 2, 1990 executive board meeting. The executive members approved the



completed instrument without change. The questionnaire was mailed on May 12, 1990 with a requested return date of not later than July 1, 1990. A cover letter from Dr. Don Beavers, president of the OVMA at the time of the survey was included with the mailing of the instrument (included in Appendix C).

#### Collection of the Data

From the mailing list provided by the OVMA of 946 practicing veterinarians 900 were identified as the population for the survey. Of the 900 questionnaires 501 were received by July 1, 1990. That was a response rate of 55.66%. That was considerably higher than the expected response rate projected by the executive secretary of the OVMA. She stated the normal response rate is 43% for this professional group. Krejcie and Morgan indicated a response of 269 questionnaires would provide a 95% confidence level for a population of 900. To determine the return rate validity of the survey 10 veterinarians were called at random between 23 and 27 July 1990 and asked if they had received the survey. Ninety percent (9 of the 10) responded that they had received the survey and returned it.

#### Analysis of Data

After the completed questionnaires were received, the data were processed using the program "DATAEASE". Descriptive statistics including means, frequencies and percentages were used in analyzing some results. Kendall's Coefficient of Concordance were

calculated by SYSTAT for research question # 1. A stepwise /  
stepdisc discriminate analysis was accomplished using the program  
SAS on selected data. Pearson product-moment correlation, and  
Spearman's rank-order correlation were used for some analyses.

## CHAPTER IV

### PRESENTATION OF FINDINGS

The purpose of the study was to collect and analyze data on the perceptions of Oklahoma's practicing veterinarians on mandatory continuing education activities. The study was restricted to the members of the Oklahoma Veterinary Medical Association as of May 2, 1990. Members of the association who were identified as members of the academic community, state or federal, out-of-state or retired veterinarians were excluded from this survey. A total of 900 questionnaires was mailed on May 12, 1990. Of the 501 questionnaires, 55.66% were returned by July 1, 1990.

#### Analysis of Data

The analysis of data is represented under nine research questions:

1. What were the perceptions of Oklahoma Veterinarians relative to reasons for attending continuing education programs?

2. To what extent do they favor mandatory continuing education, do they agree with the number of hour requirements and who do they perceive has the primary responsibility for providing continuing education programs?

3. Perceptions of participants at the 1989 Fall Conference?

4. Perceptions of participants at the 1990 OVMA Convention?

5. What times of the week are best for extension / conference programs?

6. What time formats are best for extension / conference programs?

7. What were the preferences for hands on / wet labs at extension / conference programs?

8. Which locations were preferred for extension / conference programs?

9. Do responses vary according to:

- a. gender
- b. year of graduation
- c. graduate of Oklahoma State University
- d. type of practice
- e. practice setting
- f. members in practice

#### Responses to Specific Questions

##### Research Question #1

What were the perceptions of Oklahoma's veterinarians relative to reasons for attending continuing education programs?

##### Survey Question #1

Rank by order of importance to Oklahoma practicing veterinarians

1. Helps me keep abreast of new developments.
2. Helps me be more competent in my work.

3. Allows me to acquire new knowledge of skills demanded by my work.

4. Helps me better serve my clients.

5. Allows me to learn through interactions with other professionals.

6. Challenges my intellectual abilities.

Kendall's Coefficient of Concordance was calculated to be 0.211. The significance of Kendall's W was determined by calculating for  $\chi^2$ . The obtained  $\chi^2 = 494$ ,  $df = 5$ , was not significant at the .001 level. (See Appendix D, Table II for data responses).

#### Research Question #2

To what extent do they favor mandatory continuing education, do they agree with the number of hour requirements and who do they perceive has the primary responsibility for providing continuing education programs?

#### Survey Question #2

Do you favor the concept of mandatory continuing veterinary education?

Strongly Agree & Agree = 74.38%

Neutral = 9.34%

Disagree & Strongly Disagree = 16.25%

(See Appendix D, Table III for data responses)

Survey Question #3

How do you view the 20 hours per year mandatory continuing education requirements?

Not enough hours	=	5.95%
Too many hours	=	18.06%
About right	=	75.97%

(See Appendix D, Table IV for data responses)

Survey Question #4

Participation in continuing education programs (during the period 1/89 thru 5/90) has been a positive learning event.

Strongly agree & Agree	=	83.23%
Neutral	=	10.10%
Disagree & Strongly Disagree	=	6.66%

(See Appendix D, Table V for data responses)

Survey Question #5

Which organization do you believe should have the primary responsibility for providing mandatory continuing education programs to the practicing veterinarians?

Veterinary Extension	=	7.59%
O.V.M.A.	=	15.40%
Both collectively	=	77.00%

(See Appendix D, Table VI for data responses)

Research Question #3

Perceptions of participants at the 1989 Fall Conference?

Survey Question #6

How much of the time were you in attendance at the 1989 (Oct. 89) Fall Conference?

Not present	= 66.59%
Present 25% to 49%	= 2.63%
Present 50% to 75%	= 7.28%
Present 100%	= 23.48%

(See Appendix D, Table VII for data responses)

Survey Question #7

You were satisfied with the quality of programs at the 1989 Fall Conference.

Strongly agree & Agree	= 82.20%
Neutral	= 14.11%
Disagree & Strongly Disagree	= 3.67%

Appendix D, Table VIII for data responses)

Survey Question #8

You were satisfied with the variety of programs available at the 1989 Fall Conference.

Strongly agree & Agree	= 75.92%
Neutral	= 16.66%

Disagree & Strongly Disagree = 7.04%

(See Appendix D, Table IX for data responses)

Research Question #4

Perceptions of participants at the 1990 OVMA Convention?

Survey Question #9

How much of the time were you in attendance at the 1990 (Jan. 90) OVMA Convention?

Not present	= 46.95%
Present 25% to 49%	= 5.48%
Present 50% to 75%	= 17.88%
Present 100%	= 29.67%

(See Appendix D, Table X for data responses)

Survey Question #10

You were satisfied with the quality of programs at the 1990 OVMA Convention.

Strongly agree & Agree	= 76.24%
Neutral	= 9.96%
Disagree & Strongly Disagree	= 13.78%

(See Appendix D, Table XI for data responses)

Survey Question #11

You were satisfied with the variety of programs available at the 1990 OVMA Convention.



Strongly agree & Agree = 71.26%

Neutral = 12.26%

Disagree & Strongly Disagree = 16.46%

(See Appendix D, Table XII for data responses)

Research Question #5

What times of the week are best for conference / extension programs?

Survey Question #12

Ranking of the three best times of the week for extension / conference programs.

Saturday 1pm to 5pm = 23.86%

Saturday 6pm to 10pm = 23.42%

Sunday 1pm to 5pm = 26.24%

(See Appendix D, Table XIII for data responses)

Research Question #6

What time formats are best for extension / conference programs?

Survey Question #13

How would you prefer extension / conference programs to be offered?

1 - 8 hour day (8 to 5) = 37.78%

1 - 10 hour day (8 to 8) = 8.55%

1 - 12 hour day (8 to 10) = 5.01%

1 - 4 hour & 1 - 8 hour = 36.32%

2 - 8 hour days = 12.31%

(See Appendix D, Table XIV for data responses)

Research Question #7

What were the preference for hands-on / wet labs at extension / conference programs?

Survey Question #14

Would you like to have hands-on / wet labs at extension / conference programs?

None of the time = 6.09%

25% to 49% of the time = 70.73%

50% to 75% of the time = 15.44%

100% of the time = 7.72%

(See Appendix D, Table XV for data responses)

Research Question #8

Which locations were preferred for extension / conference programs?

Survey Question #15

Which locations do you prefer for extension / conference programs?

Stillwater / OSU Campus = 29.71%

Oklahoma City = 24.29%

Tulsa	= 18.87%
Rotation of the above	= 22.69%
Other locations	= 4.41%

(See Appendix D, Table XVI for data responses)

Research Question #9

Do responses vary according to:

- a. gender
- b. year of graduation
- c. graduate of Oklahoma State University
- d. type of practice
- e. practice setting
- f. number of veterinarians in a practice

Survey Demographics

Gender:	= male	79.71%
	= female	20.28%
Year of graduation:	= 1930s	0.40%
	= 1940s	0.81%
	= 1950s	8.11%
	= 1960s	16.63%
	= 1970s	29.41%
	= 1980s	44.62%
School:		
	Oklahoma State	= 81.30%
	Other University	= 18.69%

## Practice type:

Small Animal	= 49.18%
Mixed	= 37.80%
Food Animal	= 4.26%
Equine	= 3.86%
Specialty	= 4.87%

## Practice setting:

Rural	= 43.95%
Urban	= 56.04%

## Veterinarians in Practice:

1 - Veterinarian	= 51.70%
2 - Veterinarians	= 32.12%
3 - Veterinarians	= 8.29%
4 - Veterinarians	= 3.40%
5 - Veterinarians	= 1.70%
More than 5	= 2.97%

(See Appendix D, Table XVII for data responses)

## Findings of SAS Stepwise

## Discriminant Analysis

The analysis of the survey demographic data against Survey Question #2 yields the following:

Significance level to Enter = 0.1500

Significance level to Stay = 0.1500

Statistic for Entry DF 4,441

Variable	Partial R**2	F Stat	Prob > F
----------	--------------	--------	----------

Year of Graduation	0.0513	5.963	0.0001
Practice Setting	0.0409	4.695	0.0010
OSU Graduate	0.0378	4.306	0.0020
Type of Practice	0.0168	1.875	0.1138

Total contribution of evaluated variables equals 14.68%.

No F statistic had significant level greater than 0.1500.

The analysis of survey demographic data against Survey Question # 4 yields the following:

(Format as above)

Statistics for Entry		DF 4,439	
Variable	Partial R**2	F Stat	Prob > F
Gender	0.0182	2.032	0.0890
OSU Graduate	0.0203	2.274	0.0605

Total contribution of evaluated variables equals 3.85%.

No F statistic had significant level greater than 0.1500.

\* See Appendix E, Tables XVIII through XXXIV for discriminant analysis of demographic data.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Summary

The purpose of this study was to collect and analyze data on the effectiveness of continuing education as perceived by the Oklahoma practicing veterinarians on the Veterinary Extension unit and the OVMA. A total of 900 questionnaires were mailed on May 12, 1990 with a requested return of July 1, 1990. A return rate of 55.66 percent provided 501 responses from which to develop an assessment of the continuing education practices among Oklahomas practicing veterinarians.

#### Conclusions

The conclusions of the study can be most effectively reported by responding to the questions formed by the objectives posed in Chapter I. The answers to the following questions are based on the analysis of information contained in the preceding chapter.

1. What were the perceptions of Oklahoma Veterinarians relative to reasons for attending continuing education programs?

"Helps me keep abreast of new developments" received 34.4% of the number 1 ranking responses. "Helps me be more competent in my work" received 24.7% of the number 2 ranking responses. "Allows me

to acquire new knowledge of skills demanded by my work" received 19.8% of the number 3 ranking responses. The low probability of  $\chi^2$   $p < .001$  (df 5, 468) allowed me to conclude that respondents' ratings were unrelated to each other. Based upon these findings it can be concluded that continuing education allows the practicing veterinarian to gain knowledge of new skills and techniques. It also appears that the practicing veterinarian believes that this makes them feel more competent in their work, better satisfying their client.

2. To what extent do they favor mandatory continuing education, do they agree with the number of hour requirements and who do they perceive has the primary responsibility for providing continuing education programs?

Of those surveyed 74.38% favored the concept of mandatory continuing veterinary education. It was concluded that there is a high acceptance of the need for continuing veterinary education. It would appear that twenty hours per year is acceptable to the practicing veterinarian, and they believe that their participation in continuing education programs (during the period 1-89 through 5-90) was a positive learning event. It was concluded from the 77% response that it should be a collective responsibility of the professional school and the professional association to provide continuing education programs.

3. Perceptions of participants at the 1989 Fall Conference?

The data indicate that the quality and variety of programs presented at the 1989 Fall Veterinary Conference were acceptable.

There was a response rate by attendees of 82.20% for quality, and 75.92% for variety; those responses indicate that those practicing veterinarians in attendance were in agreement with the program format.

4. Perceptions of participants at the 1990 OVMA Convention?

The data indicate that the quality and variety of programs presented at the 1990 OVMA Convention were acceptable. There was a response rate by attendees of 76.24% for quality, and 71.26% for variety; these responses indicate that those practicing veterinarians who were in attendance were in agreement with the program format.

5. What times of the week are best for extension / conference programs?

The data indicate that a four hour time span of 1pm-5pm and 6pm-10pm on Saturday and 1pm-5pm on Sunday is the preference for extension / conference programs. It is assumed that this would avoid conflicts with office schedules, and may allow more freedom for the veterinarian to attend continuing education programs.

6. What time formats are best for extension / conference programs?

The data from the survey indicate that an eight hour day (8-5) 37.78%, or an eight hour day and a half day (four hours) 36.32%, is preferred. The conclusion therefore is that veterinarians are willing to be away from their practices up to a day and a half to maintain currency in their profession.



7. What were the preferences for hands on / wet labs at extension / conference programs?

It appears from the respondents that they would like to have activities involving hands-on audience participation demonstrations between 25% and 49% of the time.

8. Which locations were preferred for extension / conference programs?

The conclusion that would be indicated by the survey data is that Stillwater / OSU Campus is the preference for extension / conference programs. This may be invalid, when consideration is given to the fact that Fall Conference programs are routinely held on Homecoming Football weekends.

9. Do responses vary according to:

- a. gender
- b. year of graduation
- c. graduate of Oklahoma State University
- d. type of practice
- e. practice setting
- f. number of veterinarians in a practice

The stepwise / stepdisc analysis of the survey data indicate that there is not a significance at the 0.1500 level therefore there is not a correlation between the demographic data and the questions referenced (#'s 2, 4, 6, 9). The conclusion that the desire to learn or to participate in continuing education programs was not affected by demographics is proposed.

### Recommendation

The survey justifies the need for additional study. Relatively little information was available in traditional veterinary journals dealing with mandatory continuing education. Future studies might attempt to determine if a relationship exists between attendance at the Fall Veterinary Conference and Oklahoma State University Homecoming Football games which in the past have occurred during the same weekend. Additionally an evaluation of the "Halo Effect" which might have influenced responses of this survey could be studied.

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APPENDIX A

STATES REQUIRING MANDATORY CONTINUING EDUCATION  
FOR VETERINARY LICENSE RENEWAL



TABLE I  
STATES REQUIRING MANDATORY CONTINUING  
EDUCATION FOR VETERINARY  
LICENSE RENEWAL

<u>States</u>	<u>MCE hours/Renewal time</u>	<u>Hours/Years</u>	<u>Year Implemented</u>
Alabama	20/1	20	1976 *
Alaska	30/2	15	1986 *
Arizona	20/2	10	1979 *
Arkansas	12/1	12	1976 *
Colorado	32/2	16	1975 *
Florida	30/2	15	1979 *
Georgia	30/2	15	1989 *
Illinois	20/2	10	1982
Iowa	60/3	20	1978 *
Kansas	20/1	20	1969 *
Kentucky	8/1	8	1976 *
Louisiana	16/1	16	1989 *
Maine	12/1	12	1990 *
Maryland	12/1	12	1981 *
Mississippi	10/1	10	1983 *
Montana	10/1	10	1981 *
Nebraska	32/2	16	1967
Nevada	10/2	10	1983 *
New Hampshire	12/1	12	1979
New Mexico	12/1	12	1972
North Carolina	15/1	15	1973 *
North Dakota	12/1	12	1985 *
Ohio	10/2	5	1968 *
Oklahoma	20/1	20	1989
Oregon	10/1	10	1979 *
Pennsylvania	8/2	4	1986 *
South Carolina	?/1	?	1987 *
South Dakota	16/2	8	1980 *
Tennessee	20/1	20	1967 *
Washington	30/3	10	1977

\* State MCE requirements validated (August 1990) see Appendix B

APPENDIX B

LETTER TO STATE VETERINARY  
MEDICAL ASSOCIATIONS



# Oklahoma State University

COLLEGE OF VETERINARY MEDICINE  
BOREN VETERINARY MEDICAL TEACHING HOSPITAL



STILLWATER, OKLAHOMA 74078-0107  
405-744-7000 Administration  
405-744-6656 (Large Animal)  
405-744-6731 (Small Animal)  
405-744-6735 (Radiology)

To: Executive Director  
Veterinary Medical Association

From: H. Richard Smith

Date: 01 August 1990

Subject: Mandatory Continuing Education

I am a graduate student at Oklahoma State University, working towards a doctorate degree in Occupational and Adult Education. My area of specialization is continuing education.

Would you please assist me by completing the information request below and returning this page at your earliest convenience. This will be an update on the 1987 AVMA survey on Mandatory Continuing Education (MCE) for Veterinarians.

Thanking you in advance.

\*\*\*\*\*

1. Does your state currently have regulations requiring veterinary continuing education for license renewal.

( ) YES ( ) NO

If YES, please answer questions 2 - 5 below.

2. Number of contact hours required? \_\_\_\_\_ hours

3. Frequency of license renewal? ( ) every yr  
( ) every 2 yrs  
( ) every 3 yrs

4. Year MCE was implemented. 19 \_\_\_\_\_

5. Have MCE records been audited in the past to verify compliance with your state's requirements?

( ) YES ( ) NO ( ) UNKNOWN



APPENDIX C

EXAMPLE OF SURVEY INSTRUMENT



<u>PLEASE MARK WITH AN "X" THE APPROPRIATE RESPONSE</u>		STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
2.	YOU FAVOR THE CONCEPT OF MANDATORY CONTINUING VETERINARY EDUCATION.	( )	( )	( )	( )	( )
		SA	A	N	D	SD
3.	HOW DO YOU VIEW THE 20 HOURS PER YEAR MANDATORY CONTINUING EDUCATION REQUIREMENT?					
	A. NOT ENOUGH HOURS				( )	A
	B. TOO MANY HOURS				( )	B
	C. ABOUT RIGHT				( )	C
4.	PARTICIPATION IN CONTINUING EDUCATION PROGRAMS (DURING THE PERIOD 1/89 THRU 5/90) HAS BEEN A POSITIVE LEARNING EVENT.	( )	( )	( )	( )	( )
		SA	A	N	D	SD
5.	WHICH ORGANIZATION DO YOU BELIEVE SHOULD HAVE THE PRIMARY RESPONSIBILITY FOR PROVIDING MANDATORY CONTINUING EDUCATION PROGRAMS TO THE PRACTICING VETERINARIAN?					
	A. VETERINARY EXTENSION - OSU/CVM				( )	A
	B. O.V.M.A.				( )	B
	C. BOTH COLLECTIVELY				( )	C
6.	HOW MUCH OF THE TIME WERE YOU IN ATTENDANCE AT THE 1989 (OCT. 89) FALL CONFERENCE?					
	A. NONE OF THE TIME				( )	A
	B. SOME OF THE TIME (25% TO 49%)				( )	B
	C. MOST OF THE TIME (50% TO 75%)				( )	C
	D. ALL OF THE TIME				( )	D
7.	YOU WERE SATISFIED WITH THE QUALITY OF PROGRAMS AT THE 1989 FALL CONFERENCE.	( )	( )	( )	( )	( )
		SA	A	N	D	SD
8.	YOU WERE SATISFIED WITH THE VARIETY OF PROGRAMS AVAILABLE AT THE 1989 FALL CONFERENCE.	( )	( )	( )	( )	( )
		SA	A	N	D	SD

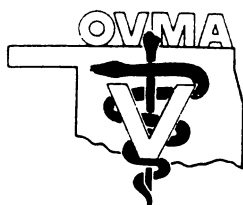
9. HOW MUCH OF THE TIME WERE YOU IN ATTENDANCE AT THE 1990 (JAN. 90) OVMA CONVENTION?
- A. NONE OF THE TIME ( ) A  
 B. SOME OF THE TIME (25% TO 49%) ( ) B  
 C. MOST OF THE TIME (50% TO 75%) ( ) C  
 D. ALL OF THE TIME ( ) D
10. YOU WERE SATISFIED WITH THE **QUALITY** OF PROGRAMS AT THE 1990 OVMA CONVENTION. ( ) ( ) ( ) ( ) ( )  
 SA A N D SD
11. YOU WERE SATISFIED WITH THE **VARIETY** OF PROGRAMS AVAILABLE AT THE 1990 OVMA CONVENTION. ( ) ( ) ( ) ( ) ( )  
 SA A N D SD
12. RANK THE THREE (3) TIMES OF THE WEEK (1,2,3) THAT ARE BEST FOR YOU TO ATTEND EXTENSION/CONFERENCE PROGRAMS.
- A. WEEKDAYS - 8:00 A.M. TO 5:00 P.M. ( ) A  
 B. WEEKDAYS - 6:00 P.M. TO 10:00 P.M. ( ) B  
 C. SATURDAY - 8:00 A.M. TO 12:00 NOON ( ) C  
 D. SATURDAY - 1:00 P.M. TO 5:00 P.M. ( ) D  
 E. SATURDAY - 6:00 P.M. TO 10:00 P.M. ( ) E  
 F. SUNDAY - 8:00 A.M. TO 12:00 NOON ( ) F  
 G. SUNDAY - 1:00 P.M. TO 5:00 P.M. ( ) G  
 H. SUNDAY - 6:00 P.M. TO 10:00 P.M. ( ) H
13. HOW WOULD YOU PREFER (EXTENSION/CONFERENCE) PROGRAMS TO BE OFFERED? (PLEASE MARK ONLY ONE)
- A. 1 - 8 HOUR DAY (8:00 A.M. TO 5:00 P.M.) ( ) A  
 B. 1 - 10 HOUR DAY (8:00 A.M. TO 8:00 P.M.) ( ) B  
 C: 1 - 12 HOUR DAY (8:00 A.M. TO 10:00 P.M.) ( ) C  
 D. 1 - 4 HOUR DAY (1 TO 5) & 1 - 8 HOUR DAY ( ) D  
 E. 2 - 8 HOUR DAYS ( ) E
14. WOULD YOU LIKE TO HAVE HANDS ON / WET LABS AT (EXTENSION/CONFERENCE) PROGRAMS?
- A. NONE OF THE TIME ( ) A  
 B. SOME OF THE TIME (25% TO 49%) ( ) B  
 C. MOST OF THE TIME (50% TO 75%) ( ) C  
 D. ALL OF THE TIME ( ) D
15. WHICH LOCATIONS DO YOU PREFER FOR (EXTENSION/CONFERENCE) PROGRAMS?
- A. STILLWATER AREA / OSU CAMPUS ( ) A  
 B. OKLAHOMA CITY AREA ( ) B  
 C. TULSA AREA ( ) C  
 D. ROTATE AMONG THE THREE ABOVE ( ) D  
 E. ANOTHER LOCATION ( \_\_\_\_\_ ) ( ) E  
 specify

## M E M O R A N D U M

TO: OKLAHOMA VETERINARIANS  
FROM: H. RICHARD SMITH  
DATE: 10 MAY 1990  
SUBJECT: THANK YOU

OVER THE PAST TWENTY FIVE YEARS SINCE GRADUATING FROM X-RAY SCHOOL I HAVE SPENT APPROXIMATELY TWENTY OF THOSE YEARS TEACHING OR APPLYING RADIOLOGY IN VETERINARY MEDICINE. FIFTEEN OF THOSE YEARS WERE SPENT IN THE RADIOLOGY SECTION OF THE DEPARTMENT OF MEDICINE & SURGERY or THE VETERINARY MEDICAL TEACHING HOSPITAL. IT IS DURING THIS PERIOD OF TIME I CAME TO KNOW MANY STUDENTS AS WE TALKED ABOUT RADIOGRAPHIC TECHNIQUES, PROCESSING, POSITIONING AND RADIATION SAFETY. THOSE TIMES HAVE ALWAYS BEEN CONSIDERED AN ENJOYABLE PART OF MY PROFESSION. AS I FINISH THE FINAL LEG OF MY DOCTORAL PROGRAM, AND BEGIN THE SEARCH FOR NEW OPPORTUNITIES I WANT TO SAY THANK YOU TO ALL THE PRACTITIONERS AND FRIENDS WHO TOOK FROM THEIR VALUABLE TIME TO COMPLETE MY SURVEY. I SINCERELY HOPE THAT THE INFORMATION GATHERED WILL BE OF BENEFIT TO YOUR PROFESSION.





# OKLAHOMA VETERINARY MEDICAL ASSOCIATION

205 West Seventh Avenue, Suite 201C • Stillwater, OK 74074 • 405/377-0112

May 3, 1990

Dear Doctors:

The enclosed survey has been designed to assess your perception of mandatory continuing education as was instituted in November 1988. In the past, responses to questionnaires distributed after CE meetings have received only minimal feedback. In order to adequately address how we feel relative to continuing education, I urge you to take a few moments to complete this survey so your vote can be counted.

The survey is being conducted by Richard Smith of the radiology section at the teaching hospital. As many of you may remember, Richard was a radiology technician under Dr. Tennille in October 1967 through May 1969, then technical supervisor of radiology under Dr. Evans June 1975 through January 1982, and the manager of radiology with Dr. Banr and Dr. Henry since March 1984. During these time frames Richard has completed three degrees. Presently he is in the final phase of his doctoral program in Adult and Continuing Education and our survey will provide the data for his dissertation. Both the OVMA and the Veterinary Extension unit will receive valuable information from the survey.

Sincerely,

A handwritten signature in cursive script, which appears to read "Don W. Beavers".

Don W. Beavers, D.V.M.  
President

APPENDIX D

DESCRIPTIVE STATISTICS

TABLE II  
RESPONSE-SURVEY QUESTION #1

REASONS	Ranking Assigned*												N	Rank Sum
	# 1		# 2		# 3		# 4		# 5		# 6			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
a. Helps me better serve my clients	146	31.2	91	19.4	91	19.4	60	12.8	47	10.0	33	7.1	468	1423.000
b. Helps me keep abreast of new developments	162	34.4	101	21.4	93	19.7	61	13.0	35	7.4	19	4.0	471	1308.500
c. Helps me be more competent in my work.	145	30.9	116	24.7	93	19.7	57	12.2	32	6.8	27	5.8	469	1350.000
d. Allows me to acquire new knowledge of skills demanded by my work.	106	22.6	99	21.1	93	19.8	109	23.2	36	7.7	26	5.5	473	1497.000
e. Allows me to learn through interactions w/other professionals.	80	17.0	59	12.5	64	13.6	54	11.5	142	30.1	72	15.3	473	1926.500
f. Challenges my intellectual abilities.	46	9.8	39	8.3	44	9.4	34	7.3	68	14.5	237	50.6	469	2323.000

Kendall Coefficient of Concordance = 0211

Probability is 0.000 assuming chi-square distribution with 5 df

\*Ranking - 1 = most important / 6 = least important

TABLE III  
RESPONSES-SURVEY QUESTION #2

---

To what extent do they favor mandatory continuing education, do they agree with the number of hour requirements and whom do they perceive has the primary responsibility for providing continuing education programs.

Responses - Survey Question # 2

Do you favor the concept of mandatory continuing veterinary education?

Sample size = 492

Strongly Agree	response = 38.82% (191)
Agree	response = 35.56% (175)
Neutral	response = 9.34% ( 46)
Disagree	response = 9.75% ( 48)
Strongly Disagree	response = 6.50% ( 32)

---

TABLE IV  
RESPONSES-SURVEY QUESTION #3

---

Responses-Survey Question #3

How do you view the 20 hours per year mandatory continuing education requirements?

Sample size = 487

Not enough hours	response = 5.95% ( 29)
Too many hours	response = 18.06% ( 88)
About right	response = 75.97% (370)

---

TABLE V  
RESPONSES-SURVEY QUESTION #4

---

Participation in continuing education programs (during the period 1/89 thru 5/90) has been a positive learning event.

Sample size = 495

Strongly agree	response = 27.07% (134)
Agree	response = 56.16% (278)
Neutral	response = 10.10% ( 50)
Disagree	response = 4.24% ( 21)
Strongly Disagree	response = 2.42% ( 12)

---

TABLE VI  
RESPONSES-SURVEY QUESTION #5

---

Which organization do you believe should have the primary responsibility for providing mandatory continuing education programs to the practicing veterinarians?

Sample size = 487

Veterinary Extension	response = 7.59% ( 37)
O.V.M.A.	response = 15.40% ( 75)
Both collectively	response = 77.00% (375)

---

TABLE VII  
RESPONSES-SURVEY QUESTION #6

---

Research Question #3

What were the perceptions on the 1989 Fall Conference?

Responses - Survey Question # 6

How much of the time were you in attendance at the 1989 (Oct. 89) Fall Conference?

Sample size 494

Not present	response = 66.59% (329)
Present 25% to 49%	response = 2.63% ( 13)
Present 50% to 75%	response = 7.28% ( 36)
Present 100%	response = 23.48% (116)

---

TABLE VIII  
 RESPONSES-SURVEY QUESTION #7

---

You were satisfied with the **quality** of programs at the 1989 Fall Conference.

Sample size = 163

Strongly agree	response = 22.08% ( 36)
Agree	response = 60.12% ( 98)
Neutral	response = 14.11% ( 23)
Disagree	response = 3.06% ( 5)
Strongly Disagree	response = 0.61% ( 1)

---

TABLE IX  
 RESPONSES-SURVEY QUESTION #8

---

You were satisfied with the **variety** of programs available at the 1989 Fall Conference.

Sample size = 162

Strongly agree	response = 14.81% ( 24)
Agree	response = 61.11% ( 99)
Neutral	response = 16.66% ( 27)
Disagree	response = 7.04% ( 12)
Strongly Disagree	response = 0.00% ( 0)

---

TABLE X  
RESPONSES-SURVEY QUESTION #4

---

Reserach Question #4

What were the perceptions on the 1990 OVMA Convention?

Responses - Survey Question # 9

How much of the time were you in attendance at the 1990 (Jan. 90)  
OVMA Convention?

Sample size 492

Not present	response = 46.95% (231)
Present 25% to 49%	response = 5.48% ( 27)
Present 50% to 75%	response = 17.88% ( 88)
Present 100%	response = 29.67% (146)

---

TABLE XI  
RESPONSES-SURVEY QUESTION #10

---

You were satisfied with the quality of programs at the 1990 OVMA  
Convention.

Sample size = 261

Strongly agree	response = 11.49% ( 30)
Agree	response = 64.75% (169)
Neutral	response = 9.96% ( 26)
Disagree	response = 13.02% ( 34)
Strongly Disagree	response = 0.76% ( 2)

---



TABLE XII  
RESPONSES-SURVEY QUESTION #11

---

You were satisfied with the variety of programs available at the  
1989 Fall Conference.

Sample size = 261

Strongly agree	response = 11.11% ( 29)
Agree	response = 60.15% (157)
Neutral	response = 12.26% ( 32)
Disagree	response = 15.70% ( 41)
Strongly Disagree	response = 0.76% ( 2)

---

TABLE XIII  
 RESPONSES-SURVEY QUESTION #12

---

Research Question #5

What times of the week are best for conference / extension programs?

Responses - Survey Question # 12

Rank the three times of the week that are best for you to attend extension / conference programs.

Sample size = 461

Weekdays	8am to 5pm	response =
Weekdays	6pm to 10pm	response =
Saturday	8am to 12pm	response =
Saturday	1pm to 5pm	response = 23.86% (110)
Saturday	6pm to 10pm	response = 23.42% (108)
Sunday	8am to 12pm	response =
Sunday	1pm to 5pm	response = 26.24% (121)
Sunday	6pm to 10pm	response =

---

TABLE XIV  
RESPONSES-SURVEY QUESTION #13

---

Reserch Question #6

What time formats are best for extension/conference programs?

Responses - Survey Question # 13

How would you prefer extension/conference programs to be offered?

Sample size 479)

1 - 8 hour day (8 to 5) response = 37.78% (181)

1 - 10 hour day (8 to 8) response = 8.55% ( 41)

1 - 12 hour day (8 to 10) response = 5.01% ( 24)

1 - 4 hour & 1 - 8 hour response = 36.32% (174)

2 - 8 hour days response = 12.31% ( 59)

---

TABLE XV  
 RESPONSES-SURVEY QUESTION #14

---

Research Question #7

What were the preference for hands-on/wet labs at extension/  
 conference programs?

Responses - Survey Question # 14

Would you like to have hands-on/wet labs at extension/conference  
 programs?

SAMPLE SIZE = 246

None of the time	response = 6.09% ( 15)
25% to 49% of the time	response = 70.73% (174)
50% to 75% of the time	response = 15.44% ( 38)
100% of the time	response = 7.72% ( 19)

---

TABLE XVI  
 RESPONSES-SURVEY QUESTION #15

---

Research Question #8

Which locations were preferred for extension / conference programs?

Responses - Survey Question # 15

Which locations do you prefer for extension / conference programs?

Sample size = 498

Stillwater / OSU Campus	response = 29.71% (148)
Oklahoma City	response = 24.29% (121)
Tulsa	response = 18.87% ( 94)
Rotation of the above	response = 22.69% (113)
Other locations	response = 4.41% ( 22)

---

TABLE XVII  
RESPONSES-SURVEY DEMOGRAPHICS

---

Research Question #9

Do responses vary according to:

- a. gender,
- b. year of graduation,
- c. graduate of Oklahoma State University,
- d. type of practice,
- e. practice setting,
- f. members in practice.

Responses - Survey Demographics

Sample size = 488

Gender:	response = male	79.71%	(389)
	response = female	20.28%	(99)

Sample size = 493

Year of graduation:	response = 1930s	0.40%	( 2)
	response = 1940s	0.81%	( 4)
	response = 1950s	8.11%	( 40)
	response = 1960s	16.63%	( 82)
	response = 1970s	29.41%	(145)
	response = 1980s	44.62%	(220)

Sample size = 476

School:

Oklahoma State	response =	81.30%	(387)
Other University	response =	18.69%	( 89)

TABLE XVII (Continued)

---

Sample size = 492	
Practice type:	
Small Animal	response = 49.18% (242)
Mixed	response = 37.80% (186)
Food Animal	response = 4.26% ( 21)
Equine	response = 3.86% ( 19)
Specialty	response = 4.87% ( 24)
Sample size = 480	
Practice setting:	
Rural	response = 43.95% (211)
Urban	response = 56.04% (269)
Sample size = 470	
Veterinarians in Practice:	
1 Veterinarian	response = 51.70% (243)
2 Veterinarians	response = 32.12% (151)
3 Veterinarians	response = 8.29% ( 39)
4 Veterinarians	response = 3.40% ( 16)
5 Veterinarians	response = 1.70% ( 8)
More than 5	response = 2.97% ( 14)

---

APPENDIX E

DISCRIMINATE ANALYSIS



TABLE XVIII  
 RESPONSES-QUESTION #2  
 BY GENDER

---

Q2	SEX		
Frequency			
Percent			
Row Pct			
Col Pct	01	11	Total
1	141	47	188
	29.07	9.69	38.76
	75.00	25.00	
	36.43	47.96	
2	127	36	173
	28.25	7.42	35.67
	79.19	28.81	
	35.40	36.73	
3	40	6	46
	8.25	1.24	9.48
	86.96	13.04	
	10.34	6.12	
4	43	4	47
	8.87	0.82	9.69
	91.49	8.51	
	11.11	4.08	
5	26	5	31
	5.36	1.03	6.39
	83.87	16.13	
	6.72	5.10	
Total	387	98	485
	77.79	20.21	100.00

Frequency Missing = 16

---

TABLE XIX  
STATISTICS FOR TABLE XVIII

---

Statistic	DF	Value	Prob
Chi-Square	4	8.489	0.075
Likelihood Ratio Chi-Square	4	9.396	0.052
Mantel-Haenszel Chi-Square	1	6.520	0.011
Phi Coefficient		0.132	
Contingency Coefficient		0.131	
Cramer's V		0.132	

Statistic	Value	ASE
Gamma	-0.237	0.087
Kendall's Tau-b	-0.111	0.043
Stuart's Tau-c	-0.185	0.028
Somers' D CIR	-0.075	0.027
Somers' D RIC	-0.163	0.058
Pearson Correlation	-0.116	0.042
Spearman Correlation	-0.120	0.043
Lambda Asymmetric CIR	0.000	0.000
Lambda Asymmetric RIC	0.000	0.000
Lambda Symmetric	0.000	0.000
Uncertainty Coefficient CIR	0.019	0.012
Uncertainty Coefficient RIC	0.007	0.004
Uncertainty Coefficient Symmetric	0.010	0.006

Effective Sample Size = 485

Frequency Missing = 15

---

TABLE XX

RESPONSE-QUESTION #2 BY YEAR OF GRADUATION

Frequency Percent Row Pct Col Pct	361	381	401	441	491	501	511	521	531	541	551	561	571	581	591	601	611	621	631	641	651	661	671	Total
1	1	0	0	1	1	0	0	0	2	0	0	1	1	1	2	3	3	3	5	2	4	3	1	196
	0.20	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.41	0.00	0.00	0.20	0.20	0.20	0.41	0.61	0.61	0.61	1.02	0.41	0.82	0.61	0.20	38.78
	0.53	0.00	0.00	0.53	0.53	0.00	0.00	0.00	1.05	0.00	0.00	0.53	0.53	0.53	1.05	1.50	1.50	1.50	2.63	1.05	2.11	1.50	0.53	
	100.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	33.33	0.00	0.00	33.33	25.00	16.67	28.57	37.50	37.50	60.00	62.50	33.33	36.36	30.00	16.67	
2	0	0	2	0	0	0	0	0	2	1	3	0	0	3	4	2	3	0	1	1	3	4	3	175
	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.41	0.20	0.61	0.00	0.00	0.61	0.82	0.41	0.61	0.00	0.20	0.20	0.61	0.82	0.61	35.71
	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	1.14	0.57	1.71	0.00	0.00	1.71	2.29	1.14	1.71	0.00	0.57	0.57	1.71	2.29	1.71	
	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	33.33	100.00	50.00	0.00	0.00	50.00	57.14	25.00	37.50	0.00	12.50	16.67	27.27	40.00	50.00	
3	0	1	0	0	0	0	2	0	1	0	2	0	1	0	1	2	2	0	0	1	2	2	0	46
	0.00	0.20	0.00	0.00	0.00	0.00	0.41	0.00	0.20	0.00	0.41	0.00	0.20	0.00	0.20	0.41	0.41	0.00	0.00	0.20	0.41	0.41	0.00	9.39
	0.00	2.17	0.00	0.00	0.00	0.00	4.35	0.00	2.17	0.00	4.35	0.00	2.17	0.00	2.17	4.35	4.35	0.00	0.00	2.17	4.35	4.35	0.00	
	0.00	100.00	0.00	0.00	0.00	0.00	66.67	0.00	16.67	0.00	33.33	0.00	25.00	0.00	14.29	25.00	25.00	0.00	0.00	16.67	18.18	20.00	0.00	
4	0	0	0	0	0	0	1	1	0	0	1	2	0	1	0	1	0	2	1	0	1	1	1	47
	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.20	0.41	0.00	0.20	0.00	0.20	0.00	0.41	0.20	0.00	0.20	0.20	0.20	9.59
	0.00	0.00	0.00	0.00	0.00	0.00	2.13	2.13	0.00	0.00	2.13	4.26	0.00	2.13	0.00	2.13	0.00	4.26	2.13	0.00	2.13	2.13	2.13	
	0.00	0.00	0.00	0.00	0.00	0.00	33.33	50.00	0.00	0.00	16.67	66.67	0.00	16.67	0.00	12.50	0.00	40.00	12.50	0.00	9.09	10.00	16.67	
5	0	0	0	0	0	1	0	1	1	0	0	0	2	1	0	0	0	0	1	2	1	0	1	32
	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.20	0.00	0.00	0.00	0.41	0.20	0.00	0.00	0.00	0.00	0.20	0.41	0.20	0.00	0.20	6.53
	0.00	0.00	0.00	0.00	0.00	3.12	0.00	3.12	3.12	0.00	0.00	0.00	6.25	3.12	0.00	0.00	0.00	0.00	3.12	6.25	3.12	0.00	3.12	
	0.00	0.00	0.00	0.00	0.00	100.00	0.00	50.00	16.67	0.00	0.00	0.00	50.00	16.67	0.00	0.00	0.00	0.00	12.50	33.33	9.09	0.00	15.67	
Total	1	1	2	1	1	1	3	2	6	1	6	3	4	6	7	8	8	5	8	6	11	10	6	496
	0.20	0.20	0.41	0.20	0.20	0.20	0.61	0.41	1.22	0.20	1.22	0.61	0.82	1.22	1.43	1.63	1.63	1.02	1.63	1.22	2.24	2.04	1.22	100.00

(Continued)

TABLE XX (Continued)

Frequency																					Total			
Percent																								
Row Pct																								
Col Pct	681	691	701	711	721	731	741	751	761	771	781	791	801	811	821	831	841	851	861	871	881	891	901	Total
1	2	4	2	3	6	3	8	7	5	4	7	4	7	12	12	7	9	12	13	9	8	12	8	198
	0.41	0.82	0.41	0.61	1.22	0.61	1.63	1.43	1.02	0.82	1.43	0.82	1.43	2.45	2.45	1.43	1.84	2.45	2.65	1.84	1.63	2.45	0.82	38.78
	1.05	2.11	1.05	1.58	3.16	1.58	4.21	3.68	2.63	2.11	3.68	2.11	3.68	6.32	6.32	3.68	4.74	6.32	6.84	4.74	4.21	6.32	0.82	
	33.33	28.57	25.00	25.00	60.00	30.00	42.11	36.84	45.45	25.00	33.33	21.05	33.33	40.00	54.55	31.02	47.37	63.16	48.15	52.94	47.06	57.14	0.82	
2	1	5	4	6	2	2	8	6	3	9	7	12	9	12	6	8	6	5	9	5	7	8	3	175
	0.29	1.02	0.82	1.22	0.41	0.41	1.63	1.22	0.61	1.84	1.43	2.45	1.84	2.45	1.22	1.63	1.22	1.02	1.84	1.02	1.43	1.63	0.61	35.71
	0.57	2.86	2.29	3.43	1.14	1.14	4.57	3.43	1.71	5.14	4.00	6.86	5.14	6.86	3.43	4.57	3.43	2.86	5.14	2.86	4.00	4.57	1.71	
	16.67	35.71	50.00	50.00	20.00	20.00	42.11	31.58	27.27	56.25	33.33	63.16	42.86	40.00	27.27	36.36	31.58	26.32	33.33	29.41	41.18	38.10	100.00	
3	1	1	2	1	1	2	0	2	2	1	1	3	1	3	1	4	2	0	1	0	0	0	0	46
	0.29	0.29	0.41	0.29	0.29	0.41	0.00	0.41	0.41	0.29	0.29	0.61	0.29	0.61	0.29	0.82	0.41	0.00	0.29	0.00	0.00	0.00	0.00	9.39
	2.17	2.17	4.35	2.17	2.17	4.35	0.00	4.35	4.35	2.17	2.17	6.52	2.17	6.52	2.17	8.70	4.35	0.00	2.17	0.00	0.00	0.00	0.00	
	16.67	7.14	25.00	8.33	10.00	20.00	0.00	10.53	10.18	6.25	4.76	15.79	4.76	10.00	4.55	18.18	10.53	0.00	3.70	0.00	0.00	0.00	0.00	
4	2	2	0	1	1	2	2	3	1	1	4	0	4	1	3	3	0	0	0	3	0	1	0	47
	0.41	0.41	0.00	0.29	0.29	0.41	0.41	0.61	0.29	0.29	0.82	0.00	0.82	0.29	0.61	0.61	0.00	0.00	0.00	0.61	0.00	0.29	0.00	9.59
	4.26	4.26	0.00	2.13	2.13	4.26	4.26	6.38	2.13	2.13	8.51	0.00	8.51	2.13	6.38	6.38	0.00	0.00	0.00	6.38	0.00	2.13	0.00	
	33.33	14.29	0.00	8.33	10.00	20.00	10.53	15.79	9.09	6.25	19.05	0.00	19.05	3.33	13.64	13.64	0.00	0.00	0.00	17.65	0.00	4.76	0.00	
5	0	2	0	1	0	1	1	1	0	1	2	0	0	2	0	0	2	2	4	0	2	0	0	32
	0.00	0.41	0.00	0.29	0.00	0.29	0.29	0.29	0.00	0.29	0.41	0.00	0.00	0.41	0.00	0.00	0.41	0.41	0.82	0.00	0.41	0.00	0.00	6.53
	0.00	6.25	0.00	3.12	0.00	3.12	3.12	3.12	0.00	3.12	6.25	0.00	0.00	6.25	0.00	0.00	6.25	6.25	12.50	0.00	6.25	0.00	0.00	
	0.00	14.29	0.00	8.33	0.00	10.00	5.26	5.26	0.00	6.25	9.52	0.00	0.00	6.67	0.00	0.00	10.53	10.53	14.61	0.00	11.76	0.00	0.00	
Total	6	14	8	12	10	10	19	19	11	16	21	19	21	30	22	22	19	19	27	17	17	21	3	499
	1.22	2.86	1.63	2.45	2.04	2.04	3.88	3.88	2.24	3.27	4.29	3.88	4.29	6.12	4.49	4.49	3.88	3.88	5.51	3.47	3.47	4.29	0.61	100.00

Frequency Missing = 11

TABLE XXI  
STATISTICS FOR TABLE XX

---

Statistic	DF	Value	Prob
Chi-Square	180	222.992	0.016
Likelihood Ratio Chi-Square	180	219.822	0.023
Mantel-Haenszel Chi-Square	1	14.753	0.000
Phi Coefficient		0.675	
Contingency Coefficient		0.559	
Cramer's V		0.337	

Statistic	Value	ASE
Gamma	-0.176	0.042
Kendall's Tau-b	-0.145	0.035
Stuart's Tau-c	-0.149	0.036
Somers' D CIR	-0.170	0.041
Somers' D RIC	-0.123	0.029
Pearson Correlation	-0.174	0.046
Spearman Correlation	-0.187	0.044
Lambda Asymmetric CIR	0.015	0.018
Lambda Asymmetric RIC	0.150	0.034
Lambda Symmetric	0.068	0.019
Uncertainty Coefficient CIR	0.063	0.006
Uncertainty Coefficient RIC	0.165	0.015
Uncertainty Coefficient Symmetric	0.091	0.008

Effective Sample Size = 490

Frequency Missing = 11

WARNING: 86% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

---

TABLE XXII  
 RESPONSES-QUESTION #2 BY SCHOOL GRADUATION

---

Q2	OSU		
Frequency			
Percent			
Row Pct			
Col Pct	01	11	Total
1	45	137	182
	9.51	28.96	38.48
	24.73	75.27	
	51.72	35.49	
2	23	145	168
	4.86	30.66	35.52
	13.69	86.31	
	25.44	37.56	
3	11	34	45
	2.33	7.19	9.51
	24.44	75.56	
	12.64	8.81	
4	3	43	46
	0.63	9.89	9.73
	6.52	93.48	
	3.45	11.14	
5	5	27	32
	1.06	5.71	6.77
	15.63	84.37	
	5.75	6.99	
Total	87	386	473
	18.39	81.61	100.00

Frequency Missing = 28

---

TABLE XXIII  
STATISTICS FOR TABLE XXII

---

Statistic	DF	Value	Prob
Chi-Square	4	12.917	0.012
Likelihood Ratio Chi-Square	4	13.888	0.008
Mantel-Haenszel Chi-Square	1	4.902	0.028
Phi Coefficient		0.165	
Contingency Coefficient		0.163	
Cramer's V		0.165	

Statistic	Value	ASE
Gamma	0.233	0.094
Kendall's Tau-b	0.186	0.042
Stuart's Tau-c	0.097	0.039
Somers' D CIR	0.067	0.028
Somers' D RIC	0.162	0.064
Pearson Correlation	0.101	0.044
Spearman Correlation	0.115	0.046
Lambda Asymmetric CIR	0.000	0.000
Lambda Asymmetric RIC	0.027	0.057
Lambda Symmetric	0.021	0.044
Uncertainty Coefficient CIR	0.031	0.015
Uncertainty Coefficient RIC	0.011	0.005
Uncertainty Coefficient Symmetric	0.016	0.008

Effective Sample Size = 473

Frequency Missing = 28

---

TABLE XXIV  
 RESPONSES-QUESTION #2 BY TYPE OF PRACTICE

Q2	TYPE					Total
Frequency						
Percent						
Row Pct						
Col Pct	11	21	31	41	51	Total
1	115	50	10	7	8	190
	23.37	10.16	2.03	1.42	1.63	39.62
	60.53	26.32	5.25	3.68	4.21	
	47.52	26.88	41.67	33.33	42.11	
2	79	74	10	8	5	176
	16.06	15.04	2.03	1.63	1.02	35.77
	44.89	42.05	5.68	4.55	2.84	
	32.64	39.78	41.67	38.10	26.32	
3	15	25	2	3	0	46
	3.05	5.28	0.41	0.61	0.00	9.35
	32.61	56.52	4.35	6.52	0.00	
	6.20	13.98	8.33	14.29	0.00	
4	19	25	1	1	2	48
	3.86	5.08	0.20	0.20	0.41	9.76
	39.58	52.08	2.08	2.08	4.17	
	7.85	13.44	4.17	4.76	10.53	
5	14	11	1	2	4	32
	2.85	2.24	0.20	0.41	0.81	6.50
	43.75	34.38	3.12	6.25	12.50	
	5.79	5.91	4.17	9.52	21.05	
<b>Total</b>	<b>242</b>	<b>186</b>	<b>24</b>	<b>21</b>	<b>19</b>	<b>492</b>
	49.19	37.80	4.88	4.27	3.86	100.00

Frequency Missing = 9



TABLE XXV  
STATISTICS FOR TABLE XXIV

---

Statistic	DF	Value	Prob
Chi-Square	16	35.069	0.004
Likelihood Ratio Chi-Square	16	34.053	0.004
Mantel-Haenszel Chi-Square	1	5.152	0.023
Phi Coefficient		0.267	
Contingency Coefficient		0.258	
Cramer's V		0.133	

Statistic	Value	ASE
Gamma	0.198	0.050
Kendall's Tau-b	0.131	0.040
Stuart's Tau-c	0.107	0.033
Somers' D CIR	0.123	0.037
Somers' D RIC	0.141	0.043
Pearson Correlation	0.102	0.051
Spearman Correlation	0.150	0.045
Lambda Asymmetric CIR	0.068	0.036
Lambda Asymmetric RIC	0.083	0.037
Lambda Symmetric	0.076	0.026
Uncertainty Coefficient CIR	0.032	0.010
Uncertainty Coefficient RIC	0.026	0.008
Uncertainty Coefficient Symmetric	0.028	0.009

Effective Sample Size = 492

Frequency Missing = 9

WARNING: 36% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

---

TABLE XXVI  
 RESPONSES-QUESTION #2 BY PRACTICE SETTING

---

Q2	SET		
Frequency			Total
Percent			
Row Pct			
Col Pct	01	11	
1	114	71	185
	23.75	14.79	38.54
	51.62	38.38	
	42.86	33.18	
2	100	71	171
	20.83	14.79	35.63
	58.48	41.52	
	37.59	33.18	
3	16	29	45
	3.33	6.04	9.38
	35.56	64.44	
	6.02	13.55	
4	19	28	47
	3.96	5.83	9.79
	40.43	59.57	
	7.14	13.08	
5	17	15	32
	3.54	3.12	6.67
	53.13	46.88	
	6.39	7.01	
Total	266	214	480
	55.42	44.58	100.00

Frequency Missing = 21

---

TABLE XXVII  
 STATISTICS FOR TABLE XXVI

---

Statistic	DF	Value	Prob
Chi-Square	4	15.060	0.005
Likelihood Ratio Chi-Square	4	15.053	0.005
Mantel-Haenszel Chi-Square	1	7.766	0.005
Phi Coefficient		0.177	
Contingency Coefficient		0.174	
Cramer's V		0.177	

Statistic	Value	ASE
Gamma	0.209	0.069
Kendall's Tau-b	0.125	0.042
Stuart's Tau-c	0.147	0.049
Somers' D CIR	0.105	0.035
Somers' D RIC	0.149	0.050
Pearson Correlation	0.127	0.046
Spearman Correlation	0.135	0.045
Lambda Asymmetric CIR	0.103	0.042
Lambda Asymmetric RIC	0.000	0.000
Lambda Symmetric	0.043	0.018
Uncertainty Coefficient CIR	0.023	0.012
Uncertainty Coefficient RIC	0.011	0.006
Uncertainty Coefficient Symmetric	0.015	0.008

Effective Sample Size = 400  
 Frequency Missing = 21

---

TABLE XXVIII

## RESPONSES-QUESTION #2 BY VETERINARIANS IN PRACTICE

Q2	VETS										Total
Frequency											
Percent											
Row Pct											
Col Pct	11	21	31	41	51	61	81	91	101	151	Total
1	89	65	15	6	3	5	1	1	1	1	187
	18.54	13.54	3.12	1.25	0.63	1.04	0.21	0.21	0.21	0.21	38.96
	47.59	34.76	8.82	3.21	1.68	2.67	0.53	0.53	0.53	0.53	
	36.78	42.21	32.61	37.50	37.50	55.56	100.00	50.00	100.00	100.00	
2	85	58	24	7	4	2	0	1	0	0	173
	17.71	10.42	5.00	1.46	0.93	0.42	0.00	0.21	0.00	0.00	36.04
	49.13	28.90	13.87	4.05	2.31	1.16	0.00	0.58	0.00	0.00	
	35.12	32.47	52.17	43.75	50.00	22.22	0.00	50.00	0.00	0.00	
3	22	16	5	1	1	0	0	0	0	0	45
	4.58	3.33	1.04	0.21	0.21	0.00	0.00	0.00	0.00	0.00	9.38
	48.89	35.56	11.11	2.22	2.22	0.00	0.00	0.00	0.00	0.00	
	9.09	10.39	10.87	6.25	12.50	0.00	0.00	0.00	0.00	0.00	
4	26	15	1	2	0	1	0	0	0	0	45
	5.42	3.12	0.21	0.42	0.00	0.21	0.00	0.00	0.00	0.00	9.38
	57.78	33.33	2.22	4.44	0.00	2.22	0.00	0.00	0.00	0.00	
	10.74	9.74	2.17	12.50	0.00	11.11	0.00	0.00	0.00	0.00	
5	20	8	1	0	0	1	0	0	0	0	30
	4.17	1.67	0.21	0.00	0.00	0.21	0.00	0.00	0.00	0.00	6.25
	66.67	26.67	3.33	0.00	0.00	3.33	0.00	0.00	0.00	0.00	
	8.26	5.19	2.17	0.00	0.00	11.11	0.00	0.00	0.00	0.00	
Total	242	154	46	16	8	9	1	2	1	1	480
	50.42	32.08	9.58	3.33	1.67	1.87	0.21	0.42	0.21	0.21	100.00

Frequency Missing = 21

TABLE XXIX  
STATISTICS FOR TABLE XXVIII

---

Statistic	DF	Value	Prob
Chi-Square	36	22.604	0.960
Likelihood Ratio Chi-Square	36	28.051	0.825
Mantel-Haenszel Chi-Square	1	5.763	0.016
Phi Coefficient		0.217	
Contingency Coefficient		0.212	
Cramer's V		0.109	

Statistic	Value	ASE
Gamma	-0.108	0.058
Kendall's Tau-b	-0.071	0.038
Stuart's Tau-c	-0.059	0.032
Somers' D CIR	-0.068	0.036
Somers' D RIC	-0.075	0.040
Pearson Correlation	-0.110	0.037
Spearman Correlation	-0.082	0.044
Lambda Asymmetric CIR	0.000	0.000
Lambda Asymmetric RIC	0.038	0.026
Lambda Symmetric	0.021	0.014
Uncertainty Coefficient CIR	0.023	0.006
Uncertainty Coefficient RIC	0.022	0.006
Uncertainty Coefficient Symmetric	0.022	0.006

Effective Sample Size = 480

Frequency Missing = 21

WARNING: 72% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

---

TABLE XXX  
 RESPONSES-QUESTION #6 BY QUESTION #2

---

Q6	Q2					Total
Frequency	1	2	3	4	5	
Percent						
Row Pct						
Col Pct						
1	131	110	35	29	23	328
	26.52	22.27	7.09	5.87	4.66	66.40
	39.94	33.54	10.67	8.64	7.01	
	69.31	61.80	74.47	61.70	69.70	
2	3	6	1	2	1	13
	0.61	1.21	0.20	0.40	0.20	2.63
	23.00	46.15	7.69	15.38	7.69	
	1.59	3.37	2.13	4.26	3.03	
3	17	14	2	4	0	37
	3.44	2.83	0.40	0.81	0.00	7.49
	45.95	37.84	5.41	10.81	0.00	
	9.99	7.97	4.26	8.51	0.00	
4	38	48	9	12	9	116
	7.69	9.72	1.82	2.43	1.82	23.48
	32.76	41.38	7.76	10.34	7.76	
	20.11	26.97	19.15	25.53	27.27	
Total	189	178	47	47	33	494
	38.26	36.03	9.51	9.51	6.68	100.00

Frequency Missing = 7

---

TABLE XXXI  
STATISTICS FOR TABLE XXX

---

Statistic	DF	Value	Prob
Chi-Square	12	9.467	0.653
Likelihood Ratio Chi-Square	12	12.065	0.441
Mantel-Haenszel Chi-Square	1	0.123	0.726
Phi Coefficient		0.138	
Contingency Coefficient		0.137	
Cramer's V		0.090	

Statistic	Value	ASE
Gamma	0.044	0.067
Kendall's Tau-b	0.026	0.040
Stuart's Tau-c	0.021	0.031
Somers' D CIR	0.031	0.047
Somers' D RIC	0.022	0.033
Pearson Correlation	0.016	0.045
Spearman Correlation	0.029	0.045
Lambda Asymmetric CIR	0.043	0.031
Lambda Asymmetric RIC	0.000	0.000
Lambda Symmetric	0.028	0.020
Uncertainty Coefficient CIR	0.009	0.004
Uncertainty Coefficient RIC	0.014	0.006
Uncertainty Coefficient Symmetric	0.011	0.005

Effective Sample Size = 494

Frequency Missing = 7

WARNING: 40% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

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TABLE XXXII

## RESPONSES-QUESTION #9 BY QUESTION #2

---

Q9	Q2					
Frequency						
Percent						
Row Pct						
Col Pct	1	2	3	4	5	Total
1	97	83	28	18	22	238
	17.65	16.84	4.86	3.65	4.46	46.65
	37.83	36.09	8.70	7.83	9.57	
	46.03	46.63	44.44	37.50	66.67	
2	12	5	1	6	3	27
	2.43	1.01	0.20	1.22	0.61	5.48
	44.44	18.52	3.70	22.22	11.11	
	6.35	2.81	2.22	12.50	9.09	
3	34	34	4	13	4	89
	6.90	6.90	0.81	2.64	0.81	18.05
	38.20	38.20	4.49	14.61	4.49	
	17.99	19.10	8.89	27.08	12.12	
4	56	56	28	11	4	147
	11.36	11.36	4.06	2.23	0.81	29.82
	38.10	38.10	13.61	7.48	2.72	
	29.63	31.46	44.44	22.92	12.12	
Total	189	178	45	48	33	493
	38.34	36.11	9.13	9.74	6.69	100.00

---

Frequency Missing = 8



TABLE XXXIII  
 STATISTICS FOR TABLE XXXII

---

Statistic	DF	Value	Prob
Chi-Square	12	24.953	0.015
Likelihood Ratio Chi-Square	12	25.062	0.015
Mantel-Haenszel Chi-Square	1	1.749	0.186
Phi Coefficient		0.225	
Contingency Coefficient		0.219	
Cramer's V		0.130	

Statistic	Value	ASE
Gamma	-0.038	0.055
Kendall's Tau-b	-0.026	0.038
Stuart's Tau-c	-0.023	0.034
Somers' D CIR	-0.026	0.039
Somers' D RIC	-0.025	0.037
Pearson Correlation	-0.060	0.043
Spearman Correlation	-0.029	0.044
Lambda Asymmetric CIR	0.000	0.000
Lambda Asymmetric RIC	0.000	0.000
Lambda Symmetric	0.000	0.000
Uncertainty Coefficient CIR	0.019	0.007
Uncertainty Coefficient RIC	0.021	0.008
Uncertainty Coefficient Symmetric	0.020	0.008

Effective Sample Size = 493  
 Frequency Missing = 8

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2  
VITA

Henry Richard Smith

Candidate for the Degree of

Doctor of Education

Thesis: AN ASSESSMENT OF SELECTED CONTINUING EDUCATION PROGRAMS AS  
PERCEIVED BY OKLAHOMA VETERINARIANS

Major Field: Occupation and Adult Education

Biographical:

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