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ABSTRACT

This study examined characteristics of 73 equine degree programs in the United States, the training and duties of their department chairpersons, and their budgetary processes. Analysis of data from questionnaire responses revealed a large variety of equine degree and minor programs, with annual budgets ranging from $2,000 to $757,200. Public institutions were twice as common as private institutions. The study found: the average equine department had been in existence for 11.58 years, enrolled 62 students, and employed five part and/or full time faculty members; the mean ratio of equine students to faculty members was 18:1; the average class time was distributed into 52 percent lecture, 48 percent lab; and the mean number of horses per student was 1.44. The study concluded that equine programs tend to emphasize hands-on career skills. Major budget categories of the programs surveyed were: salaries (44 percent), horse care (21 percent), and equipment purchase/facility maintenance (10 percent). Most department chairpersons held equine-related degrees or training and spent the largest portion of their time (47 percent) on teaching and advising students. Data also suggested that equine programs are a potential source of revenue to colleges. Appendices include the study questionnaire and detail on the research sample. (Contains 40 references.) Author/LEE)

CHARACTERISTICS OF THE EQUINE DEGREE DEPARTMENT: BUDGETING AND THE DEPARTMENT CHAIRPERSON

A Thesis Report

Submitted by Grace E. Matte

In Partial Fulfillment

of the Requirements

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Abstract

Characteristics of the Equine Degree Department:

Budgeting and the Department Chairperson

Grace Elisabeth Matte

As a recent development, equine degree programs and their specific administrative challenges have received little attention from researchers. This study proposed to identify common characteristics of a limited sample of equine degree programs in the United States, training and duties of their department chairpersons, and facets of budgetary process in equine degree programs.

Tabulation of data from a four-page questionnaire returned by 73 equine programs (response rate of 72.53%), revealed a diverse population of equine degree and minor programs, with annual budgets ranging from $2,000 to $757,200. Public institutions were represented at a two to one ratio to private institutions.

According to this survey, the average equine department had been in existence for 11.58 years, enrolled 62 students, and employed five part and/or full time faculty members. Indicating a tendency toward smaller class size, the mean ratio of equine students to faculty members was 18:1. The

average ratio of lecture to lab class time was 52%:48%, and the mean number of horses per student was 1.44:1. From this data, it may be concluded that equine programs in this study tend to emphasize hands-on career skills. Topping the list of average equine program budget categories were salaries at 44%, horsecare at 21% and equipment purchase/facility maintenance at 10%.

Nearly three-quarters of the administrators in this study held equine-related degrees or training, which they rated more useful than other types of training. Equine administrators spent the greatest amount of time, 47%, on teaching and advising students and the next largest, 14%, on public relations and fund raising activities.

Although student fees/tuition and state funds composed the largest average sources of income, the mean amount of equine program budgets generated by the programs was 40.24% or $47,025.71, a significant benefit to the parent institution. Equine programs are a potential source of revenue to colleges. Further investigation of the design of equine academic programs and facilities could offer valuable insights for the administrators of programs in this field.

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Finally, may all glory and honor go to the Lord Jesus Christ, who created the horse and enabled mankind to tame the strength and beauty of this animal for the use and enjoyment of many.

"Do you give the horse his strength or clothe his neck with a flowing mane? Do you make him leap like a locust, striking terror with his proud snorting? He paws fiercely, rejoicing in his strength, and charges into the fray. He laughs at fear, afraid of nothing; he does not shy away from the sword. The quiver rattles against his side, along with the flashing spear and lance. In frenzied excitement he eats up the ground; he cannot stand still when the trumpet sounds." Job 39:19-24

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CHAPTER 1

THE PROBLEM AND ITS SETTING

Introduction to the Problem

Because of the recent development of degree programs in the equine field, a lack of research exists regarding the specific challenges of administering these programs. This study proposed to identify common characteristics of a limited sample of equine degree programs, the training and duties of their department chairpersons, and various facets of the budgetary process in equine degree programs.

The first subproblem. The first subproblem was to determine the type and level of training current equine department chairpersons possess and how their time is allocated to various tasks that comprise their administrative position.

The second subproblem. The second subproblem was to identify typical cost distributions and variable costs that exist in equine departments as well as the procedures used to deal with these variable costs.

The third subproblem. The third subproblem was to identify the sources of income for equine degree programs and the amount of income generated through each source.

The Hypotheses

The first hypothesis was that most administrators of equine programs have more training in their particular academic field than in administration or financial management.

The second hypothesis was that there are identifiable cost distributions and variations within equine departments, as well as identifiable procedures for dealing with these variable costs.

The third hypothesis was that the income generated through sources other than equine degree program activities is significantly greater than the income generated through equine degree program activities.

Limitations of the Study

This survey was limited to equine degree programs in the United States offering a major or concentration in equine studies and leading to an associate or higher level degree.

The survey did not address non-degree programs, nor did it attempt to discover anything about any equine programs or institutions outside the selected sample.

Institutions were chosen on the basis of (1) providing a degree program with a major in equine studies, (2) inclusion in the 1992-93 Equine School and College Directory published

by the Harness Horse Youth Foundation, and (3) geographical location in the United States.

Definition of Terms

Department Chair. Department Chair refers to the individual in charge of an equine degree program (department). The official title of such person may vary from director, coordinator, administrator, or chairperson, to dean or other term.

Equine degree. An equine degree refers to any academic degree relating to equines, whether from the aspect of equine science, sports medicine, business management, riding instruction, or farm management, etc. It does not specifically refer to an animal science degree, except as such a degree has a stated major or concentration of courses in equine studies.

Equine studies. Equine studies signifies any academic course work related to equines, whether or not such course work leads to an academic degree.

Planning, Programming, and Budgeting System (PPBS). PPBS is a strategy which combines the planning and budgeting processes by researching and presenting both costs and benefits of an organization's programs. The goal of PPBS is to aid planning, management and resource distribution to those programs.

Zero-based budgeting. Zero-based budgeting is a method in which department or program chairpersons must start each new fiscal year's budget from scratch and must rank each line item in order of importance. Each item must be justified before higher administration. If budgetary cuts need to be made, the items ranked least important would be cut first.

Assumptions

The first assumption was that the sample of 109 equine programs leading to a full minor, two or four year equine degree is an adequate representation of equine degree programs in the United States.

The second assumption was that the questionnaire is a valid research instrument.

The third assumption was that equine departments are structured similarly enough to facilitate comparison.

The fourth assumption was that there would be a continued demand for equine degree programs in higher education.

The fifth assumption was that there is an interest in and need for research on administration of equine programs.

Importance of the Study

Departmental administration and budgeting in higher education seem to be vaguely defined areas, and authorities

call for further research. Since the increase in the number of equine degrees offered is a more recent phenomenon in the United States, there is an even greater lack of literature concerning equine degree department administration and budgeting. It is possible that this survey will be of interest to universities and colleges seeking to implement new or to improve existing equine-related degrees. This study may help both financial and academic administrators better understand the specific curricular demands of an equine program and reveal further options for financial management.

CHAPTER 2

THE REVIEW OF THE RELATED LITERATURE

The History of Budgeting

The review of the literature on current research in academic budgeting revealed that the path of academic budgeting has generally followed in the steps of the development of the budgeting process in industry and government. The literature concurred that the academic budgeting process seemed to closely parallel the trends in government budgeting procedures, perhaps because of the government's strong influence on public institutions as well as private institutions which receive government funding through student aid.

Originally an outgrowth of the cost accounting process, the main emphasis of using budgets during the early 1900s was on control and accountability. Sang M. Lee and James Van Horn, in Academic Administration, described the first 30 years of this century as forming the "executive budget movement" in governmental budgeting (8:16-17).

Throughout the 1930s, 40s, and 50s, the emphasis shifted from control of finances to the relationship of budgeting to

performance and productivity levels. "Formulas" were developed for tying budgeting to performance. The goal was to control employee activity, to motivate efficient management and achievement of goals (8:16-17).

Since the 1960s, a focus on the planning facet of budgeting has emerged. Lee and Van Horn noted that higher education institutions vary in the degree to which they have followed and implemented these three trends in budgeting. The two main systems which have grown out of the third stage of budget emphasis include Planning, Programming and Budgeting Systems (PPBS) and Zero-based budgeting (8:18). The literature concurred that neither educational institutions nor businesses utilize these systems exclusively. When these systems are used, the method of implementation varies greatly from one organization to another. An in-depth examination of complete budgeting systems is out of the scope of this research.

"Budgeting seldom (and never successfully) stands completely alone," Sweeney and Rachlin noted, "but rather flows out of the managerial process of setting objectives and strategies and of building plans. [The] distinction between conventional accounting and budgeting [is] that the latter is oriented toward the future rather than the past" (15:2).

The budget has become more than simply a record of anticipated and actual expenditures, according to H.W. Sweeney and Robert Rachlin in their Handbook of Budgeting. Along with performing the usual financial functions, "complete budgeting systems can and do include manpower, material, time, and other information" (15:3).

In an extensive 1987 survey of over 400 companies from nine industries, Srinivasan Umapathy found that "70% of respondents consider budgets to be an important device for communicating the priorities established by the top management" (18:36).

Lee and Van Horn warned that:

> The efficiency of budgets as communication devices is dependent upon the extent to which they transmit the same meaning to different people... Budget information is often subject to different interpretations and may convey a variety of meanings (8:18,19).

Most of the references dealing with academic budgeting seemed to stress the planning function of the budget. Lee and Van Horn, who developed and implemented decision-making matrices for institutions of higher education and coordinated long-term planning with regular budgeting processes, also looked further ahead. They noted that colleges and universities have

not focused enough on formulation of long term goals and objectives. Lee and Van Horn described four basic time cycles for budgeting in higher education: "(1) fiscal year operations; (2) annual budgeting; (3) short-term academic staff planning; and (4) long-term staff planning. Each of these cycles requires different types of information and support" (8:preface xi, 21-22).

Corporate references to the budgeting process stress both planning and management control more than fiscal accountability. Jeremy Bacon described the control factor in this way:

> Budgetary control consists of verifying that performance is going according to plan and, if it is not, locating and correcting the causes of unfavorable variances. ... Control depends on the ability to identify performance with those responsible for it, and on a clear chain of command through which remedial action can be brought to bear if needed (1:4,5).

Umapathy stated that the budget "translates qualitative mission statements and corporate strategies into action plans, links the short term with the long term, brings together managers from different hierarchial levels and from different functional areas, and at the same time provides continuity by the sheer regularity of the process." Non-financial budgetary targets, such as "productivity, quality of product or service

and new product/service development" were reported in use by 90 percent of the respondents in Umapathy's research (18:Preface xxii, 25).

Although budgets are usually referred to in terms of a specific time frame, such as a month or year, they may be tied to a "single item or project - for example, the construction of a plane or a large production plant," noted H.W. Sweeney and Robert Rachlin in their Handbook of Budgeting (15:3).

Bacon and Umapathy agreed that methods of preparing, reviewing, and approving budgets vary significantly from one corporate organization to the next (1:9).

"Game playing," according to Umapathy,

> ...is a symptom of a serious problem. Managers either did not accept the budgetary targets and opted to beat the system, or they felt pressured to achieve the budgetary targets at any cost. Either type of problem is undesirable, and the situation suggests that there is a need to increase the acceptability of budgetary targets in order to obtain the commitment of the managers toward achieving them (18:90).

The budget games occurring most frequently in the corporations in Umapathy's research were "deferring a needed expenditure," "getting approvals after money was spent, shifting funds between accounts to avoid budget overruns, and employment of contract labor to avoid exceeding head count

limits" (18:90). Umapathy warned that "beyond a certain level, budget games could cause some permanent damage to the organization" (18:124).

Umapathy called budgeting "a self-fulfilling prophecy." Those organizations that recognize the power of budgeting as a management tool, design a quality system, and use it to its full capacity, achieve their goals. Those who do not invest in developing a system appropriate for the specific organization and do not hold their people accountable for adhering to the budgetary system will end up with poor results (18:Overview of the Study xxxix).

Bacon felt that there is a relationship between "the degree of success and the top management's awareness and acceptance of its own role in the budgeting process" (1:5). Research investigating the area of top administrator interest and involvement in the budgeting process and the possible effect on the success or failure of budgeting systems at individual institutions of higher education could be valuable.

The importance of the budget to institutions of higher education is described by Lee and Van Horn. They said,

> In colleges and universities, the development, communication, and execution of the budget lie at the heart of the management process and affect, either

directly or indirectly, most leadership and management decisions (8:16).

In comparing college administrators to business managers, Lee and Van Horn said that presidents, vice presidents and chancellors are the equivalent of Corporate Executive Officers (CEOS) and other top corporation administrators. Deans and directors fit the description of middle management, while department chairs approximate lower management. Head administrators are responsible for strategic planning and require much external and subjective data. Since Deans and Directors (middle management) carry out management control and planning, they need both internal, objective and external, subjective data. Department chairs, who control operations, use mainly internal and objective data for their short-term decisions. They may also need some external data if they are involved in long-term planning (8:48-49).

Approving budgets means that the organization is committed to that course of action. That is why, said Bacon, final budget approval usually must go all the way to the top administration. The cumbersome process of purchase requisitions and approvals is necessary for the institution to maintain control and accountability of its finances. In

addition, this process provides records required by the government and various other agencies (1:27,56).

More is said in industry budgeting literature about dealing with variances than is said in academic budgeting literature, probably related to the control factor being somewhat de-emphasized in academic budgeting. Umapathy found that "written explanation of the causes of deviations (67%) and discussion of deviations with an immediate superior (56%) are the most popular approaches used in dealing with significant variances. ...Oral discussions are least popular...and are used by only 39% of the respondents" (18:88).

Bacon found that "the interpretation of the significance of variances requires judgement, in many cases." Following up variances from the budget targets includes "pinpointing responsibility," finding reasons, and taking appropriate corrective action. To compensate for variances, companies may periodically revise budgets or allow managers a discretionary fund ahead of time (1:38,49).

Bob W. Miller, et al, in Leadership in Higher Education, found fees to be a major source of operating income to the institution, up to 65 percent of the total operating income for private institutions and up to 35 percent for public

institutions. Endowment income, interest from a special trust account funded by donations, is another important source of income, asserted Miller. Although usually a part of current operating income, endowment funds may be earmarked for specific purposes, such as scholarships or building projects (10:387,375).

Three basic steps in the higher education budgeting process were defined by Miller: "preparation, adoption, and execution and control." To begin the preparation stage, each department chair or other head of a spending unit must compile an estimated budget, using input from colleagues in the unit. After the budget has traveled up the chain of command to the president's office, each chairperson must defend his budget to the president. The president accepts or rejects the budgets, his office compiles the final accepted revisions, and the president presents the whole institutional budget to the board of trustees or regents (10:383).

The Budgeting Process on the Departmental Level

A key part of the department chairperson's duties is planning, submitting, revising and implementing a department budget each year. Colorado State University's Handbook for

academic administrators simply defined a budget as "a plan; a devi[c]e for translating the programs of a university into financial terms" (7:30).

In planning a budget on a departmental level, the first step is to identify all expenses or costs to be allocated. The second step is to define the programs which take advantage of these allocated funds. These programs would include actual curriculum, research, service, and anything else related to the education of a student in that academic field. Thirdly, a basis for allocating costs must be determined. Traditionally, as described by Zaumeyer, this is the FTE or full time equivalency (32:29). Another important measurement is TCH or teacher contact hours, a basis for distribution of faculty salaries to various courses, according to Anthony Gambino (4:2). Gambino mentioned some difficulties in determining and using cost data in higher education. Specifically, he noted problems in measurement of interrelated activities, overemphasis on cost vs. quality, and misinterpretation of results (4:26-27).

Nevertheless, "useful cost comparisons, either over time or among institutions, require that expenditures be related to the number of units of service rendered," said Howard Bowen (2:4).

Bowen found that "institutions...spend their money in very different ways and experience widely different costs per student." According to Bowen, the most common system of planning and implementing a budget in higher education is the revenue theory of cost, which he defined as "an institution's educational cost per student unit...determined by the revenues available for educational purposes" (2:15-18). Gambino's research supported this statement (4:35). Most institutions depend on tuition as the main source of their revenue, with the exception of public universities, which receive additional state funding. Bowen listed several sources of revenue: government appropriations, tuition, private donations, endowments and sales of goods and services. Shifting resources within an institution can enable the school to provide new or improved services at the same cost per unit (2:17).

Miller, et al, in Leadership in Higher Education, agreed that the administration style, goals and resources of each institution of higher education differ significantly. "The proportion of income from each source also varies from college to college, with the result that a common pattern of financial administration in institutions of higher learning is lacking." Miller believed that four separate income needs have to be

accommodated in any institution: "current operating income, endowment capital, physical plant funds, and scholarship funds" (10:374).

Sometimes additional funds may be derived through sales and services related to an academic department. The Colorado State University's Handbook said that activities such as horse breeding farms, veterinary hospitals, etc. "are conducted primarily for the purpose of providing professional experiences for students. [The activities'] earnings are incidental to the educational function, but may serve to reduce the cost of instruction" (7:29).

The History of the Academic Department and the Chairperson

The review of the literature on current research in administration of higher education revealed more opinions and subjective experience than statistical data related to the actual duties of the job of department chairperson. Robert Scott noted that "there are not many research reports on the department or its administrative structure" (37:2).

Howard Bowen concluded that

> any analyst of higher education is handicapped by the unavailability and inadequacy of data. One must splice together bits and pieces, fill in gaps,...and in many cases make some informed guesses (2:28).

Other sources expressed doubts as to the value of current research in higher education. Paul Dressler felt "the results of research on administration in higher education...say very little to the administrator on the front line" (3:x). Daniel Layzell agreed with Dressler that "most research on higher education is stale, irrelevant and of little use to policy makers," and he charged higher-education researchers

> not to search for trivial fragments of knowledge but to improve the effectiveness of college and university operations by analyzing issues affecting them and presenting findings to decision makers in ways that are both accessible and thought provoking (26:B1).

Some of the complicating factors of being able to analyze this area of research are described by Miller, et al, in Leadership in Higher Education, who asserted that the job of administrating an institution of higher education is "a very complex, challenging, and, in many instances, frustrating undertaking." The administrator is required to interact with, deal with a wide variety of people and special interest groups, including students, faculty, administrators, all levels of governing agencies, accreditation associations, business organizations, and alumni. To be effective, the administrator has to be "sensitive to the needs of the popula-

tions served by the institutions, the pressures exerted by outside groups, and the internal functioning of the institution" (10:3).

The history of the academic department in the United States can be traced back to 1825 at the University of Virginia, where eight distinct "departments of knowledge" were established. As more of America's major universities followed suit, towards the end of the nineteenth century, the concept of the academic department as an organizational unit became widely accepted. "Today," Bill Middlebrook and Tom Trail of Washington State University at Pullman assert, "the department is the dominant unit in a college or university;...the major vehicle for faculty involvement in governance;...the principal part through which the major work of the university is carried out; and...the focus of the academic career" (27:14).

In his Chairing the Academic Department, Allan Tucker said:

> A key position in the hierarchy of college and university administration is that of department chairperson, for it is the chairperson who must supervise the translation of institutional goals and policies into academic practice. Yet most chairpersons are drawn from faculty ranks and assume the position having had little administrative experience. Moreover, few opportunities for orientation and training are available to them (17:xiii).

Further research would benefit future chairpersons, as an average of one in three faculty members will serve as department chairperson at some time during their academic careers, according to Tucker (17:14). Summarizing her work on the transition of faculty members to department chairs, Rita G. Seedorf noted the importance of research to allow potential chairs to "gain a glimpse of the position and...make an informed decision on whether or not to serve" (38:16).

The Role of the Academic Department Chairperson

While the original responsibilities of the department chair seem to have been primarily academic, this position has become more administrative in nature because of increased governmental regulations, institutional policies, and budgetary limitations. Opinions on the duties of an academic chairperson are varied. Middlebrook and Trail listed seven types of administrative duties: "1. Planning...2. Budgeting...3. Facilities/Equipment...4. Staffing...5. Records...6. Advocacy...7. Reporting" (27:15). Other duties which may be expected of department chairs, according to Seedorf's research, are teaching, student advising, graduate student supervision and research (38:10).

After examining lists of department chair duties ranging from 12 functions to 97 activities, James B. Carroll and Walter H. Gmelch chose to use a list of 26 duties in their 1992 study of 800 department chairs (33:8). Using principal components analysis, the researchers identified four roles of the chairperson: "Leader," "Scholar," "Faculty Developer," and "Manager" (33:8).

Studies done within the last three years show a trend away from classification of duties and activities and towards more in depth analysis of the department chair position. In 1992, John P. Murray focused on faculty perceptions and expectations of department chairs (36:3). Carroll and Gmelch not only analyzed roles of chairs in 1992, but also described stresses resulting from role ambiguity (33:5). Perceptions of department chairpersons of the transition from faculty to chair, changes in time allotment, and attitudes towards these changes were described by Seedorf in 1991 (38:6).

Role ambiguity was mentioned in all three of the above studies. Murray delved the most deeply into some of the reasons for the tensions resulting from role ambiguity. He noted a tendency to overburden the chair, inefficiency resulting from "ill-defined role expectations", faculty who resent being

supervised and a general mistrust of the chair by both faculty and administration in spite of the chair's holding both a faculty and an administrative position (36:11,12,13,17). Murray also noted that this ambiguity was caused in large part by the "wide variety of tasks formally or informally assigned to department chairpersons" (36:10).

Being a go-between for the various constituencies of the college community "causes tensions that do not appear to be part of any other academic, quasi-administrative or administrative position," commented Murray (36:15). He added:

> the role of chairperson has become a bureaucratic functionary...He or she lives in a world where the chairs' mentors include court decisions and federal regulations...A world where vice-presidents of finance have more influence over academic decisions than vice-presidents of academic affairs (36:8).

Regarding the time distribution of a department chair's duties, Seedorf attempted to determine the change in personal and professional time allotment following the transition from faculty to chair rather than defining specific amounts of time spent by department chairs on various administrative duties. "The top four areas where [department chairs] had less time were: research and writing, keeping current in their fields, teaching, [and] leisure..." (38:14).

Carroll and Gmelch found that "major stressors" of chairs were "having insufficient time to stay current in [their] field[s]" and "trying to gain financial support for department programs." They also found that the mean years of service by department chairs varied between 4.4 and 5.3 years among roles (33:16,23). Paradoxically, with the relatively short average term served by chairs, the extensive duties assigned to the position make the chairperson, as Tucker noted, "the chief architect of the department's future" (17:17).

A caution related to the study of administrators and budgets came from the research of John C. Smart and Charles F. Elton, who suggested that "universal conclusions are likely to mask broad diversity among chairmen in different types of academic departments" (30:56). Their study on the variations between chairmen in different academic departments found that chairmen in departments of agriculture (in which equine degree programs are sometimes included) tended to spend more time on research activities than those of any other academic discipline. This would tend to influence the weight of research funding in the chairperson's budget planning. This large amount of research did not seem to result in an higher frequency of publication, perhaps since agriculture as an applied

discipline tends to disclose research findings via technical reports, rather than publication in scholarly journals (30:55).

Defining the Role of the Equine Department Chairperson

Examining the literature in light of Smart and Elton's comment leads to the conclusion that research in individual department administration is needed and useful. However, a review of the literature on administration in higher education revealed nothing directly addressing the chairperson of the equine department and very little dealing with equine studies in higher education as an academic field or department.

Equine journalist David Hollis noted that the equine studies program represents a type of crossover field between agriculture, business and recreation (22:19). With such a multifaceted character, the equine studies program may have the power to significantly affect the future of academic departments it is associated with, especially as financial constraints in higher education increase and schools of agriculture consider cutbacks in their undergraduate programs, as observed by Douglas A. Gelinas (21:A56).

Lyndon E. Taylor, Assistant Chancellor for Instructional Services at a community college, described one institution's

goal to develop a "public education institution that is independent of tax support for its funding." In Restructuring the Community College at Yorba Linda Education Center, a proposal was made to use an equestrian center to generate income

> through rental of stalls for horses, riding lessons, and horse and rider training. In addition, this facility will form the basis for an equestrian program that will include service courses and programs for the equestrian industry and for local horse owners (39:15).

Taylor anticipated Yorba Linda's equestrian center to be a revenue-generating enterprise. "This [the new equestrian center] will generate somewhere around an additional $250,000 per year, in the first few years, then get 'better!'" (39:18). Yorba Linda is a strong illustration of Bowen's point that each university or college must make its own niche in the market of higher education (2:14). Out of nearly 3600 degree-granting institutions in the United States listed by the U.S. Bureau of the Census (13:166) and Peterson's Registry of Higher Education, 4th ed. (12:vii), fewer than two hundred offer equine studies courses for credit, making this truly a distinctive academic field.

Table 1, on page 26, shows a comparison of equine degrees listed in the 1987 and 1992-93 Equine School and College

Directory compiled by the Harness Horse Youth Foundation and edited by Charlotte Maurer. Excluded from the count were institutions offering only riding courses or equine studies courses that do not lead to an equine-related degree or concentration (9:3-72,77-81).

TABLE 1

INCREASE IN NUMBER OF EQUINE DEGREE PROGRAMS

Source:	Minor	Associate	Bachelor	Master	PhD
1987 HHYF Directory	35	24	13	1	1
1992-93 HHYF Directory	60	44	23	2	1
Percentage increase	71.4	88.3	76.9	100.0	0
1991 Stuska Directory	46	50	23	4	2

Sue Stuska's 1991 Equine Educational Programs Directory revealed slightly different figures (14:1-36). Possible causes for this disparity could be dissimilar methods of recording institutions and programs, separate criteria for inclusion, and/or an actual increase or decrease in numbers between publication dates. The College Entrance Examination Board's 1991 Index of Majors was not included in Table 1 because the Harness Horse's Guide and Sue Stuska's Directory contained more extensive listings (16:280-281). In spite of the variation between figures, the number of equine degrees and equine studies programs have definitely increased, from

which one can infer that more academic department chairpersons have become responsible for equine programs.

The equine degree program is a unique entity, sometimes placed into the category of animal sciences and other times combined with the business or education department, according to an informal review of listings in these two directories. In an article, equine journalist David Hollis has further broken down the study of equines by differentiating between three basic types of equine courses: equine science, equine business and equitation (23:67-68). Overseeing the operation of a degree program which overlaps differing academic areas is a challenge that seems to be particular to the equine department chairperson.

L.M. Lawrence noted that the uniqueness and diversity of students' interest and experience levels is another factor which department administrators and their faculty must deal with (24:25). "Some students feel that lack of prior experience [with animals] influences their ability to compete academically (Burger and Brandenburg, 1980)," but results from a survey of prior horse experience of students in a light horse management class conducted at the University of Illinois in Urbana suggested that "motivation or level of interest ap-

pear[s] to be a more important determinant of academic performance than prior experience" (24:27).

Ronnie Edwards described a similar study conducted at Texas A & M University which found that over 70 percent of nearly 1,000 students in an introductory Animal Science course had no farm background. While most students had an average of five to nine years experience with small animals, the average exposure to large animals such as horses was only one to three years, which the study considered "limited" in relation to animal agriculture. Edwards asserted that teachers of agriculture "must recognize these changes and be willing to restructure courses to meet the needs and expectations of these students" (20:35). Changes in student demographics can be expected to affect both curriculum and budgeting concerns of administrators and faculty.

One equine degree program responded to the changing needs of its students through the technology of interactive television instruction. An analysis of this course at Washington State University found no statistical difference between average grades of on or off-campus students (25:29).

At Midway College, a two-year school in Kentucky, Catherine Dendle described how the Equine Office and Administration

Management program works with the college's bilingual studies requirement to offer a one credit hour course in Equine French after first year French Language. Students are also offered a six week summer course called International Living/Learning Experience in which they may do an internship at a horse farm in France (34:3-4).

In developing procedures to fully utilize institutional and departmental resources, close cooperation with institutional support services can also maximize cost efficiency and program quality. In a report on Lamar Community College's equine program, Dr. Marvin Lane described the interaction of the equine department with the college's placement staff, who perform one and five-year follow-up surveys of equine graduates and their employers, boasting a 90 percent placement rate of equine graduates (35:5). A strong internship program is achieving a partnership between the private sector and the institution, something which has been called for by agricultural faculty in the National Association of Colleges and Teachers of Agriculture Journal (29:13) and the U.S. Department of Education in The Chronicle of Higher Education (19:A20).

At Lamar Community College, Lane found that although the average instructional cost per equine student was less than the average instructional cost per student for all of the college's programs, a similar comparison of FTE costs revealed that the average FTE cost per equine student was significantly higher than average FTE cost per student across the board (35:6).

In a study to analyze the benefits of outsourcing (hiring out operations to private businesses) or eliminating various programs at Oregon State University (OSU) in Corvallis, a Leadership Implementation Team (LIT) discovered that the Horse Center not only generated 81.89% of its operating costs, but also had the lowest general fund cost per student credit hour. "This...is lower than any other academic program at OSU," the LIT's 1993 report said. The conclusion of the LIT was that OSU's Horse Center should not be outsourced "because the Horse Center supports the core teaching, Extension, and research missions of OSU, and because its cost/benefit ratio is very favorable" (28:6).

The Demand for Equine Degree Programs

Hollis described the need for equine programs on the college level in this way:

> "As the horse industry continues to diversify, the need for skilled employees to handle a wide range of jobs is increasing....An increasing number of horse farms and businesses are looking for employees whose equine knowledge is complemented by other skills that can enhance an operation's efficiency, competitiveness and, ultimately, its chances for success. As a result, ...a number of institutions across the country are broadening their equine-related educational offerings" (23:65-66).

In an article comparing careers in the equine industry, editor Juli S. Thorson and Sue M. Copeland, listed nine major fields of equine-related employment and claimed that salaries range from $15,000 to $100,000 annually. Of these fields, two required an associate or bachelor degree, four more recommended a minimum of an associate degree, and three required specialized training with less emphasis on formal education (31:70-71). Lane, in his report to the Colorado Commission of Higher Education, estimated entry level positions at $12,000 to $16,000, not including benefits (35:6).

In his 1992 Comparative Salary Study of the harness racing industry, Raymond A. Gomez identified 112 different racetrack employee positions. Not all of these positions involved direct contact with horses; however, the horse was the central figure and performer at the track. Thus, all racetrack jobs depend, to some extent, on the horse for their

existence. For some of these positions (e.g. parking attendants, publicity directors, or security officers), an equine degree would not be necessary, but for other positions, specific equine training or degrees would be required. The track veterinarian and paddock farrier are two examples of positions which would require specific equine training or degrees. The mean 1991 annual salaries for these two positions were $36,207 and $17,159, respectively (5:7,8,9).

Estimating the size and influence of the United States horse industry in 1986, the American Horse Council said that there are 5.5 million horses in the country and that the horse industry has a $15.2 billion impact on the nation's economy. Another organization, the U.S. Equine Marketing Association, arrived at a figure of 10.6 million horses contributing $20.4 billion to the economy in 1988. Discrepancies between the two studies were primarily attributed to differences in research methodology, noted Hollis (22:17).

Summary

The literature reveals a diverse and growing market for individuals possessing equine degrees. As higher education responds to this increased demand for degree programs, the gap in the literature concerning these programs and their adminis-

tration will become even more apparent. To facilitate cost efficiency, academic quality and program diversity, more current data on the operation and financial management of existing equine degree programs must be gathered, analyzed and "presented to decision makers in ways that are both accessible and thought provoking" (26:B1).

CHAPTER 3

THE DATA AND THE TREATMENT OF THE DATA

The Data

The data were in the form of written responses of equine department chairpersons to a survey questionnaire. The questionnaire was sent out with a cover letter and an addressed, stamped return envelope to 109 department chairs. After six weeks, a second questionnaire and cover letter were sent to those institutions which had not responded. A phone contact was also attempted to ascertain if the chair had any questions about the survey or required reassurance of the confidentiality of the data to be submitted.

The data were entered into a computer database program in preparation for analysis and were tabulated in a computer spreadsheet program.

Criteria for Admissibility of Data

The data had to be in the form of written responses of equine department chairs to the "Equine Program Administration Questionnaire." These department chairs were currently in position at institutions within the selected sample at the

time of filling out the questionnaire. Questions on budgetary matters could be answered by an administrative assistant or other financial specialist of the institution as deemed appropriate by each department chair.

Selection of the Sample

The criteria for an institution's inclusion in the sample were the following: the institution had to (1) offer a major or minor in equine studies, leading to an equine-related degree, (2) be listed in the 1992-93 Equine School and College Directory, and (3) be geographically located within the United States to facilitate comparisons and eliminate disparity caused by differences in culture, government, educational systems and economic structures.

The Research Methodology

Since no research was found on equine department administration or chairpersons, no currently designed instrument was discovered to meet the specific goals of this research. Utilizing lists of department chair duties and roles, a questionnaire was designed to focus on specific aspects of the equine department chair and a pilot research project was conducted with nine equine department chairs in the northeastern United States (32:1). This study validated the usefulness of the

instrument, and helped to clarify or eliminate difficult and ambiguous questions. With adjustments to layout and wording, the questionnaire was revised for use in this research study.

The questionnaire was designed to obtain enough data on facilities, budget, revenue, faculty, staff, and enrollment to form an adequate picture of the physical size and other common characteristics of the equine programs in this sample, dealing with the financial and administrative demands faced by equine department chairpersons. Characteristics of the chair which were examined were title, years in position, training, effectiveness of training, desire for more training, time distribution, hours worked, specific responsibilities and authority to make final decisions in areas of responsibilities.

Treatment of the Data

The data were compiled and analyzed to determine the median and mean as well as any statistically significant variations from the mean for each of the subproblems. The data were also examined for any significant distribution patterns and meaningful relationships. Possible correlations between specific groups of data were tested by using the Pearson Product Moment Correlation Coefficient.

Results of this tabulation and manipulation of the data are presented in Chapter 4 of the thesis, with appropriate tables to show means and relationships of data. Chapter 5 of the thesis contains the summary, conclusions and recommendations.

The first subproblem. The first subproblem was to determine the type and level of training current equine department chairpersons possess and how their time is allocated to various tasks that comprise their administrative position.

The data needed. The data needed for solving the first subproblem were department chair responses to questions concerning their degrees and training, their evaluation of the helpfulness of this education, need for further training, time distribution in eight areas, and years as department chair.

Treatment of the data for the first subproblem. Qualitative data regarding department chair titles, degrees and training, and need for further training were categorized, summarized statistically and examined for possible relationships to other groups of data in this study. Numerical data regarding years as department chair, helpfulness of degrees and training, time distribution, and total time involvement were analyzed to determine the frequency distribution, mean,

median, standard deviation, and possible correlation to other groups of data in this study.

The second subproblem. The second subproblem was to identify typical cost distributions and variable costs that exist in equine departments as well as the procedures used to deal with these variable costs.

The data needed. The data needed were the department chair responses to questions regarding budget line items, variables, procedures to deal with variables, authority in decision making, opinion on current budgetary process, and ownership of equipment, facilities, and horses.

Treatment of the data for the second subproblem. Qualitative data concerning authority in decision making, type of institution, descriptions of specific variable costs and methods of dealing with variable costs, and ownership options were categorized, summarized statistically and examined for possible relationships to other groups of data in this study. Numerical data concerning opinion on current budgetary process, total student body, basic annual tuition, department enrollment, department personnel, horses used in program, facilities, and budget were analyzed to determine the frequency

distribution, mean, median, standard deviation, and possible correlations to other groups of data in this study.

The third subproblem. The third subproblem was to identify the sources of income for equine degree programs and the amount of income generated through each source.

The data needed. The data needed were the department chair responses to questions about sources of revenue.

Treatment of the data for the third subproblem. Qualitative data regarding fundraising activities and collections of fees were categorized, summarized statistically and examined for possible relationships to other groups of data responses in this study. Numerical data regarding special fees and sources and amount of income were analyzed to determine the frequency distribution, mean, median, standard deviation, and possible correlations to other groups of data in this study. In addition, the data on the amount and the sources of income were compared to determine if the income generated through sources other than equine degree program activities is significantly greater than the amount of income generated through equine degree program activities for this sample.

CHAPTER 4

ANALYSIS OF THE DATA

The Data

A total of 73 questionnaires were returned, seven of which failed to meet the research sample criteria. Other responses by mail and telephone revealed that 11 more equine programs either did not fit the research sample criteria or had been terminated, reducing the total possible sample size from 109 to 91. The 66 usable questionnaires represent a 72.53% response rate out of 91 possible responses.

The reasons for the disqualification of equine programs in this research varied. Ten equine degree/minor programs were found to have been closed or discontinued. One more was in the process of phasing out during the 1993-94 academic year. Seven equine programs did not offer official equine degrees or minors, and therefore did not meet the sample criteria. Two of these seven were in the process of implementing equine minors or options for their students in 1994, but did not have 1992-93 budget data for a minor or option program.

Unfortunately, not all of the questionnaires were filled in completely. The number of usable responses in each category will be indicated in the related chart or table.

Common Characteristics

To assist in analysis of the data pertaining to the three subproblems, common characteristics of the equine studies degree and minor programs needed to be identified. A brief examination of these characteristics will give a more detailed understanding of job requirements and demands of the equine studies department chairperson.

Total student body (Table 2, page 42) ranged from very small private institutions to large public universities. Although the average student body size was 7862 students, 26 or 40.63% of 64 respondents indicated a total student body of 2000 or less. A majority, 35 or 54.69%, had 5000 or fewer students. These data disagree with the findings of a small unpublished 1992 report by Grace Matte. The majority of the nine colleges and universities offering four-year equine degrees in Matte's study were found to be relatively small, private institutions with a mean total student body of 3748 and a mean annual tuition of $9,361.78 (40:16). From the data in this larger research project, it could be concluded that

the majority of the participating equine degree and minor programs are offered at public institutions with an average total student body of 7862 and an average annual tuition of $5263.80 per year. Further examination of the trends, similarities and differences in public and private institutions could provide useful data to assist decision-making processes of guidance counselors, prospective students and institutions involved in long-range planning. By looking at the differences between public and private institution figures, insight may be gained into unique functions of public and private equine program offerings and their interaction with institutional characteristics.

TABLE 2

INSTITUTION CHARACTERISTICS

Category:	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
Public	49 (74.24%)	N/A	N/A	N/A	N/A	N/A
Private	17 (25.76%)	N/A	N/A	N/A	N/A	N/A
Student Body	**64 (96.97%)**	300-42000	7862.17	8972.52	3650	1200
Public Stu. Body	49 (74.24%)	600-42000	10247.66	9368.63	7000	1200
Private Stu. Body	17 (25.76%)	300-6000	1267.00	1311.20	889	600
Basic Tuition	**53 (80.30%)**	$400-16500	$5263.80	$4854.60	$2700	$12000
Public Tuition	49 (74.24%)	$400-10000	$2771.29	$2264.67	$7000	$1800
Private Tuition	17 (25.76%)	$2800-16500	$11578.00	$3794.88	$12000	$12000

Five public institutions specified that they were submitting in-state tuition rates. Where both in- and out-of-state tuition rates were given, the in-state rate was chosen to keep the figures as uniform as possible. However, it is possible that some administrators submitted only nonresident tuition

rates or included room and board rates without indicating a breakdown of figures. For the purposes of this research, it was assumed that these figures represent basic annual tuition only and generally resident rates for public institutions. These tuition figures in Table 2 may not be absolutely accurate for these reasons.

In Table 3 on page 44, some basic department statistics are shown. The mean age of equine degree and minor programs is 11.58 years. Comparative data on other degree programs were not found, but this age is young when compared to the development of the academic department near the end of the nineteenth century, as described by Middlebrook and Trail (27:14).

Private institution equine departments were, on average, 50 students smaller than public institution equine departments. Some institutions listed only full time or only part time faculty, so the figures in Table 3 do not mean that the average equine department had five faculty members total. Part time office staff were often shared with other departments or divisions, according to administrators' comments. Use of both paid and unpaid student labor was frequent. Further study on the financial costs and benefits of using

student labor could be useful research to institutions and equine departments considering the implementation of student labor. Data on hours worked by the equine department staff, faculty or students were not requested and were out of the scope of this research.

TABLE 3

EQUINE DEPARTMENT/PROGRAM CHARACTERISTICS

Category:	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
Degree/Minor Age	55 (83.33%)	1-26	11.58	6.52	10	7
Dept. Enrollment	62 (93.94%)	3-1100	142.39	172.69	76	120
Public Dept. Enr.	46 (69.70%)	14-1100	155.61	179.65	80	50
Private Dept. Enr.	16 (24.24%)	3-600	104.38	149.59	52	120
FT Faculty	54 (81.82%)	1-37	2.96	4.94	2	1
PT Faculty	46 (69.70%)	0-18	2.19	2.74	1	1
FT Office	23 (34.85%)	0-15	1.88	3.02	1	1
PT Office	25 (37.88%)	0-3	1.28	0.67	1	1
FT Horsecare	32 (48.48%)	1-8	2.02	1.43	2	2
PT Horsecare	20 (30.30%)	0-10	2.10	2.38	1	1
Pd Students	49 (74.24%)	1-120	7.90	16.88	4	4
UnPd Students	27 (40.91%)	0-39	11.61	12.03	4	2

Although one institution listed 37 full time faculty members, it only offered an equine major as part of a Bachelor of Science in Animal Science, so this figure probably represents all animal science faculty, rather than only equine faculty. Other institutions may have reported faculty and staff in similar manner. Therefore, the mean number of full time faculty reported in this research may be higher than the actual mean number of full time equine faculty in minor and degree programs.

Department enrollment figures, as summarized in Table 4 for all institutions, also showed different tendencies when data from public and private institutions were analyzed separately. Private equine programs tended to have smaller enrollments, an average of 47.4 equine majors and 9.9 minors. An average of 60.97 equine majors and nearly twice as many minors, 19.22, were enrolled in public institution equine departments. The mean total equine department enrollment at private institution was 104, compared to 142.4 for public institutions. This total enrollment figure includes all students enrolled in the equine department, including non-majors/non-minors—those just taking one or two equine department courses as electives. For some schools, this figure probably included other animal science, nutritional science or agricultural majors/minors encompassed by the department covering the equine program.

TABLE 4

EQUINE DEPARTMENT ENROLLMENT

	Response:	Range:	Mean:	Std.Dev.:	Mode:
Equine Majors:	54	3-300	57.20	61.91	30
Equine Minors:	35	0-100	17.09	19.46	15
Non-equine major/minors:	39	1-800	104.13	146.98	100
Total Department Enrollment:	62	3-1100	142.39	172.69	120

Because of the large standard deviations from the mean, these descriptive statistics on equine department enrollment in Table 4 on page 45 may be misleading. The large standard deviation in equine majors was mainly caused by three institutions with over 200 equine majors enrolled. Although the mean total department enrollment was 57.20 students, the majority of equine studies degree departments, 36 or 66.67% of 54 responses, had enrollments of 50 or fewer equine majors. Thirty-six or 58.07% of 62 responses had total department enrollments of 100 or fewer students. Twenty or 32.26% departments had total enrollments of 50 or fewer students.

As the data in Table 5 on page 47, reveals, the ratio of students to faculty members varied widely. A strong majority of institutions 43 or 76.79% of 56 had a relatively low student to faculty member ratio - 25 or fewer majors and minors per faculty member. When the whole department enrollment is compared in ratio format, only 28 or 48.28% of 58 responding with student and faculty data had 25 or fewer students per faculty member. Because it is impossible from the questionnaire data to determine the hours worked by part time faculty, this estimate of students per faculty may not be accurate.

TABLE 5

RATIO OF STUDENTS TO FACULTY MEMBERS

	# Responses:	Range:	Mean:	Std.Dev.:	Mode:
Equine Majors	50 (75.76%)	1.00-83.33	16:1	13.972	20
Equine Majors+Minors	56 (84.85%)	0.54-83.33	18:1	14.507	20
Dept. Enrollment	58 (87.88%)	1.50-247.0	45:1	47.128	60

Smaller class sizes would appear to facilitate the hands-on learning necessary in equine degree and minor programs. Because of the size and unpredictable nature of the horse, it would also seem to be an appropriate safety measure to keep student to faculty ratios low.

In Table 6, two institutions were not included in calculating these statistical descriptions for Teaching Contact Hours (TCH) because they gave extremely high TCH figures in relation to the rest of the questionnaire data received. It is probable that some administrators submitted TCH in credit hour requirements, some in actual clock hours per week, and these two in clock hours per semester or quarter.

TABLE 6

MEAN TEACHING CONTACT HOURS (TCH) AND FULL TIME EQUIVALENCY (FTE)

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
Official TCH	44 (66.67%)	.75-50	19.01	10.09	20.0	24
Actual TCH	44 (66.67%)	3-70	24.77	11.01	24.5	30
Official FTE	39 (59.09%)	1.75-25	12.44	6.10	12.0	12
Actual FTE	22 (33.33%)	2-30	14.34	8.40	12.0	12

Equine degrees and minors were divided into four categories in Table 7, page 48, based on their descriptions given in

the questionnaire, Harness Horse Youth Foundation Guide (9:3-72,77-81), and Sue Stuska's Directory (14:1-36). Several institutions offered equine degrees in more than one category. The majority of equine degrees are offered in the equine science area. The number of equine science degrees offered, 76, is greater than the number of usable questionnaires in this research study, 66, because several institutions offered either several levels of equine science degrees or more than one emphasis in the equine science area.

TABLE 7

BREAKDOWN OF DEGREES OFFERED

Equine Science	
Associate Degree/Minor:	30
Bachelor Degree	12
Bachelor Minor:	21
Master Degree/Emph:	4
PhD Degree/Emph:	1
Both Associate & Bachelor:	8
Total:	76
Equine Business	
Associate Degree/Minor:	5
Bachelor Degree	7
Bachelor Minor:	3
Master Degree/Emph:	0
PhD Degree/Emph:	0
Both Associate & Bachelor:	2
Total:	17
Equitation	
Associate Degree/Minor:	2
Bachelor Degree	8
Bachelor Minor:	2
Master Degree/Emph:	0
PhD Degree/Emph:	0
Both Associate & Bachelor:	0
Total:	12
Other	
Associate Degree/Minor:	1
Bachelor Degree	0
Bachelor Minor:	1
Master Degree/Emph:	3
PhD Degree/Emph:	1
Both Associate & Bachelor:	0
Total:	6
More than one area of equine studies:	
Associate Degree/Minor:	3
Bachelor Degree	5
Bachelor Minor:	1
Master Degree/Emph:	1
PhD Degree/Emph:	1
Both Associate & Bachelor:	N/A
Total:	11

Further research could examine whether or not these areas of specialized equine study are properly correlated to the job market in the horse industry. Employer and alumni surveys could give feedback on the practicality and career value of specific courses and skills.

Also to be taken into consideration are those students for whom equine studies degree programs lead to an avocation with horses. It would seem that an equine degree would result in safer, more knowledgeable horsepersons whether graduates choose to be involved with horses as a profession or a hobby. Both groups of students would have brought their tuition and fees to a college or university with an equine degree or minor program. Any long term involvement with horses will tend to benefit the horse industry economy as a whole.

The physical characteristics of the equine programs in this sample were also examined. Because of the physical space required for maintaining and working with horses, an administrator often must oversee the operation and budget of both an academic staff and a working equine facility. These figures will give a basic picture of the average facility utilized by equine degree and minor programs.

As the figures in Table 8 show, most equine programs have two stables, 37 stalls, seven paddocks and pastures, and at least one outdoor arena. Over half the programs also have an indoor arena and round pen. Access to specific use facilities such as breeding sheds, cross-country courses and training tracks varied from program to program, as seen in Table 8.

TABLE 8

FACILITIES

Type:	Yes: % of 66:	Range:	Mean:	Std.Dev.:
Stable	59 (89.39%)	1-6	2.12	1.23
Stalls	59 (89.39%)	3-100	36.70	21.79
Paddocks/pastures	51 (77.27%)	1-20	7.12	4.91
Outdoor arena	58 (87.88%)	1-4	1.50	0.86
Indoor arena	44 (66.67%)	1-3	1.23	0.52
Round pen	42 (63.64%)	1-5	1.71	1.04
Breeding facility	32 (48.48%)	1-2	1.09	0.30
Cross-country course	9 (13.64%)	1-2	1.00	0.34
1/2 Mile Track	10 (15.15%)	N/A	1.00	0.00
Cropland	23 (34.85%)	1-1200	187.30	286.69
Other	12 (18.18%)	N/A	N/A	N/A
Total acreage	52 (78.79%)	2-1250	152.18	255.36

Shown in Table 9, the number of horses used in the equine program provides a basis for figuring other important comparisons such as horses per student and cost per horse.

TABLE 9

HORSES USED IN PROGRAM: ALL INSTITUTIONS

Horses Owned by:	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
a. Institution	50 (75.76%)	1-150	36.94	29.91	35.0	35
b. Non-Profit Found.	8 (12.12%)	2-120	48.13	39.32	47.5	N/A
c. Students	26 (40.91%)	3-70	41.09	28.91	15.0	5
d. Outside	32 (48.48%)	1-300	30.31	60.80	12.5	10
e. Total	65 (98.48%)	2-337	58.32	56.78	45.0	50

The number of horses per student (Table 10, page 51) is an equalizing factor among equine degree departments. Regardless

of the institution's size or budget, this factor affects the students' learning environment and available experiences. It would seem to be beneficial for students pursuing an equine degree to be exposed to as many different types of horse personalities and levels of training as possible to prepare them for working with all varieties of animals during their careers.

TABLE 10

HORSE TO STUDENT RATIO

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
ALL INSTITUTIONS						
Equine Majors	54 (81.82%)	0-13.00	1.69	2.21	1.07	1.33
Equine Majors+Minors	60 (90.91%)	0-7.40	1.44	1.40	0.94	2.50
All Dept. Students	62 (93.94%)	0-5.33	0.76	0.97	0.50	0.50

The equine programs in this research study provided an average of 1.68 horses per major or .76 horses per student enrolled in equine department. Since this sample included so many equine programs offering only minors or emphases in equine studies, the number of horses per student for a combination of equine minors and equine majors was found. This figure, 1.44 horses per student, is probably more accurate since some programs cater to mostly majors while others offer only minors. The figure of 1.44 horses per student is 34.58% greater than the 1.07 horses per major found by Matte's unpublished 1992 study of nine four-year equine degree programs (40:19).

Related to the skill levels and employability of graduates is the available hands-on class time with horses. Two factors which affect this are curriculum design and number of horses. The emphasis on development of students' practical equine skills seemed to vary from program to program in this research. As shown in Table 11, the most frequent ratio of lecture to lab time was 50%:50%. It should also be noted that these lecture to lab ratios may be the administrators' perceived ratios, not figures based on an actual breakdown of curriculum class hours.

TABLE 11

LECTURE TO LAB RATIO

	Responses:	Range:	Mean:	Std.Dev.:	Mode:
All Institutions	65 (98.48%)	10:90 - 100:0	52.08:47.92	18.62:18.62	50:50
Public Institutions	48 (72.73%)	10:90 - 100:0	50.69:49.30	20.11:20.11	50:50
Private Institutions	17 (25.76%)	25:75 - 80:20	55.98:44.02	13.33:13.34	50:50

Using the Pearson Product Moment Correlation Coefficient, a possible weak relationship was found between the amount of hands-on class time and the ratio of horses to equine majors (coefficient of 0.13916) and the amount of hands-on class time and cost per horse (coefficient of 0.15958). It is possible that the subjective nature of the lecture to lab class time ratio numbers or incompletely reported budgetary figures had an effect on the correlation of these data categories. Matte's smaller study found a significant inverse correlation coeffi-

cient of -0.72384435 between the annual cost per horse and the number of horses per student (40:38).

Although this survey was designed to gather information regarding equine department chairs, the data revealed that not all persons in charge of college or university equine studies programs are actual department chairs. In addition, the degree of administrative responsibility varies greatly from one school to the next. Respondents are categorized by position title in Table 12.

TABLE 12

POSITION TITLE AND YEARS SERVED

TITLE:	Responses:	Mean years:	Std.Dev.:
Department Chairs/Heads	17 (25.76%)	8.27	7.79
Division Director	1 (1.52%)	6.00	N/A
Equine Program Director	18 (27.27%)	8.86	6.63
Other Program Director	3 (4.55%)	10.33	3.22
Unspecified Program Director	9 (13.64%)	7.22	7.01
Associate Dean of Equestrian Studies	1 (1.52%)	1.00	N/A
Professor/Instructor	15 (22.73%)	9.67	9.67
No title given	2 (3.03%)	6.25	N/A
Total:	66		

Mean Years served for all categories: 8.49 Std.Dev.: 7.08 Median: 6.5 Mode: 1
Range: .5-30

The frequency distribution for the data in Table 12 revealed that 47 or 71.21% of 66 respondents have been in position 10 years or less. Only 6 or 9.09% have been in the position for over 20 years. This average length of service, 8.49 years, is a longer term (3.19 years or 60.19% longer than 5.3) than the 4.4 and 5.3 mean years of service of department chairs found by Carroll and Gmelch (33:23).

Restatement of the first subproblem.

The first subproblem was to determine the type and level of training current equine department chairpersons possess and how their time is allocated to various tasks that comprise their administrative position.

The first hypothesis was that most administrators of equine programs have more training in their particular academic field than in administration or financial management.

The data summarized in Table 13, page 56, support the first hypothesis. Equine-related degrees or training were held by nearly three-quarters (49 or 74.24%) of the administrators participating in this research. Degrees and training in education were held by 27 or 40.91% of the administrators. Only 17 or 25.76% of these administrators had received administration/financial management degrees and training. Degrees and training in various miscellaneous areas were received by 30 or 45.45% of the respondents to this questionnaire.

The average score for helpfulness of degrees and training (based on a 1-5 scale, with one as extremely helpful) was highest for degrees and training in "Equine-related" fields, 1.89. Thirty-four administrators (81.81%) out of 44 gave "Equine-related" degree and training a score of 2 or higher.

Next, "Other" fields received an average score of 2, "Education" fields scored an average of 2.26. "Administration/ financial management" fields were given a mean score of 2.41, the lowest helpfulness score. This is ironic because "Administration and financial management" skills were the second most requested area of further training by equine program administrators. It should be noted that many administrators listed training or degrees in more than one category. This caused the data and percentage overlap seen in the following figures.

Out of the 49 equine program administrators from public institutions participating in this research, 26 or 53.06% responded to this question on further training, and 18 or 36.74% desired further training. This information is summarized in Table 14 on page 57. From the 17 private institutions in this research, 12 or 70.59% responded. Seven or 41.18% of 17 desired more training. Approximately one third of both public and private institution equine program administrators desired further training.

The written responses to this open-ended question were categorized into eight basic areas in Table 14. The two areas receiving the most interest were "Personnel/People Skills" and

TABLE 13

ADMINISTRATION/FINANCIAL TRAINING AND DEGREES

Type:	Number:	Percent of Sample:
Associate:	0	(0.00%)
Bachelor:	2	(3.03%)
Master:	0	(0.00%)
PhD:	4	(6.06%)
DVM:	2	(3.03%)
Other:	12	(18.18%)
TOTAL:	17	(25.76%)

Helpfulness of Training/Degrees: 2.41 (Rated on a scale of 1-5 with 1 as most helpful.)

EDUCATION TRAINING AND DEGREES

Type:	Number:	Percent of Sample:
Associate:	0	(0.00%)
Bachelor:	7	(10.61%)
Master:	12	(18.18%)
PhD:	7	(10.61%)
DVM:	2	(3.03%)
Other:	4	(6.06%)
Post Doctoral Research	1	(1.52%)
Vocational Certification:	1	(1.52%)
TOTAL:	27	(40.91%)

Helpfulness of Training/Degrees: 2.26 (Rated on a scale of 1-5 with 1 as most helpful.)

EQUINE-RELATED TRAINING AND DEGREES

Type:	Number:	Percent of Sample:
Associate:	1	(1.52%)
Bachelor:	9	(13.64%)
Master:	8	(12.12%)
PhD:	19	(28.79%)
DVM:	3	(4.55%)
Other:	9	(13.64%)
TOTAL:	49	(74.24%)

Helpfulness of Training/Degrees: 1.89 (Rated on a scale of 1-5 with 1 as most helpful.)
Although 49 indicated degree/training in this area, only 44 gave helpfulness rating.

OTHER TRAINING AND DEGREES

Type:	Number:	Percent of Sample:
Associate:	1	(1.52%)
Bachelor:	7	(10.61%)
Master:	5	(7.58%)
PhD:	9	(13.64%)
DVM:	0	(0.00%)
Other:	8	(12.12%)
TOTAL:	30	(45.45%)

Helpfulness of Training/Degrees: 2 (Rated on a scale of 1-5 with 1 as most helpful.)

"Administration/Financial Skills." These responses would seem to support the conclusion of Tucker that most department

chairs come to the post with little experience in the administration and management area (16:14). The total positive response to this item was 25 or 37.88%, indicating that over one-third of the participating administrators desire further training and are concerned with increasing their effectiveness.

TABLE 14

FURTHER TRAINING DESIRED BY EQUINE PROGRAM ADMINISTRATORS

	Responses:	% of 38:
Personnel/People Skills	8	(21.05%)
Administration/Financial	7	(18.42%)
Equine-related	6	(15.79%)
Marketing	2	(5.26%)
Fundraising	1	(2.63%)
Computer Skills	1	(2.63%)
Teaching Skills/knowledge	1	(2.63%)
PhD	1	(2.63%)

* A total of 38 (57.58%) of 66 responses to this question were received.
Yes: 25 (65.79%) (37.88% of 66) No: 13 (34.21%) (19.70% of 66)

The third most desired area of further training was equine-related training. One administrator commented, "I would like to be able to attend numerous equine seminars throughout the year (time and budget do not allow for this)." Other administrators mentioned "workshops in specific areas, such as driving Standardbreds, tax changes, etc." and "riding with professionals."

Those administrators desiring further training in administration and financial management wanted "better ability to

plan and stick to a budget," "clear, effective communication," and "leadership/motivational techniques."

By examining the areas in which equine administrators themselves indicate a need for further training, institutions may begin to design and implement practical training to help their equine department chairs and program directors become more effective.

Examining the time distribution of equine degree and minor program administrators in Figure 1 and Table 15, page 59, will give a picture of the demands and responsibilities of the job of equine administrator. It should be noted that time distribution data reported on the questionnaires did not always total 100%. Therefore the figures in Figure 1 and Table 15 are close approximations, not exact percentages of schedules.

"Teaching" occupied by far the largest amount of time in the respondents' schedules. A majority, 40 or 60.61%, spent over 20% of their schedule teaching. Nearly a third, 18 or 27.27%, indicated that they spent 50% or more of their time teaching. Three administrators (4.55%) reported no teaching responsibilities at all.

Figure 1

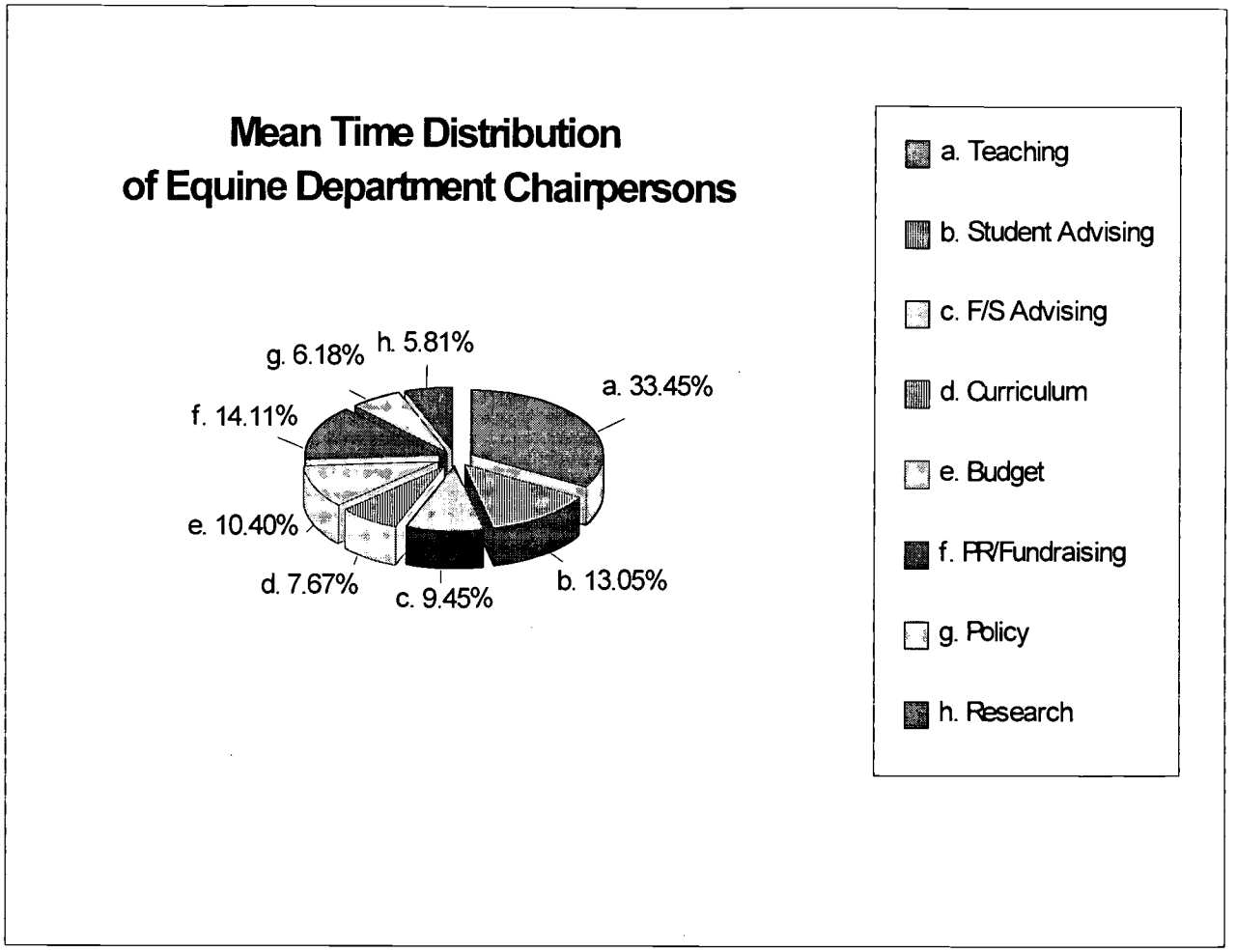


TABLE 15

TIME DISTRIBUTION

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
a. Teaching	66 (100.00%)	0-50+	33.45	15.88	35.5	50.0
b. Student Advising	66 (100.00%)	0-35.5	13.05	9.74	15.5	5.5
c. Faculty/Staff Advising	66 (100.00%)	0-35.5	9.45	9.07	5.5	5.5
d. Curriculum	66 (100.00%)	0-25.5	7.67	5.23	5.5	5.5
e. Budget	66 (100.00%)	0-45.5	10.40	9.03	5.5	5.5
f. PR/Fundraising	66 (100.00%)	0-45.5	14.11	11.19	15.5	5.5
g. Policy	66 (100.00%)	0-25.5	6.18	4.76	5.5	5.5
h. Research	66 (100.00%)	0-45.5	5.81	8.66	5.5	0.0

"Student Advising" was the third most time-consuming activity. Five respondents spent 31-40% of their time advis-

ing students. However, the majority of respondents 53 (80.30%) spent 20% or less of their time advising students.

"Faculty and Staff Advising" took 31-40% of the time of three respondents. The majority of respondents, 47 or 71.21% gave 10% or less of their time to faculty and staff advising.

Two administrators spent 21-30% of their time on "Curriculum Review and Change", but the overwhelming majority of respondents spent 10% or less of their schedule on this activity. As seen in Table 12, page 53, many of those in charge of equine programs are actually professors or instructors. It is possible that because they are not "official" administrators they are not as involved in curriculum review and change as those with the title of Department Chair or Program Director are.

"Budget Planning and Revising" was the fourth most time-consuming activity reported by respondents. Over 41% of one administrator's schedule consisted of budget-related activities. Nearly two-thirds, 44 or 66.67% of the respondents, spent 10% or less of their time in budgetary matters.

"Public Relations and Fundraising" appeared to be an important activity, coming in second behind "Teaching." Three respondents spent 41-50% of their schedule on P.R. and fund-

raising. Nineteen (28.79%) reported spending 11-21% of their time in P.R. and fundraising efforts. Thirty-one (46.97%) spent 10% or less of their time in this area.

Only nine (13.64%) of the respondents gave more than 10% of their time to "Policy Review and Change." This seems to be a less important or less time-consuming activity for the equine administrators participating in this research.

"Research" comprised 41-50% of one administrator's schedule, but the great majority of respondents do not spend much time on research. Twenty-nine (43.94%) spent no time, and 27 or 40.91% spent 10% or less of their time on research.

Administrators were also asked how many hours per week they spent in the department chair position. From the data in Table 16, page 62, on "Hours per week spent in department chair position," it appears that the equine administrators in this research are committed to their positions even when the position requires a significant amount of overtime work. Prospective equine program administrators should be aware of this required commitment before considering an equine program administrative position, and institutions of higher education should be aware of the workload demanded of equine program administrators.

In examining the frequency distribution of the "Hours per Week" data, over half of the 57 respondents to this question, 33 or 57.90% of equine department administrators indicated that they worked over 40 hours per week in the department chair or administrator position. Twenty-two of these (38.60%) indicated that they spent over 50 hours per week in this position. At public institutions, 22, or 55.0% of the administrators spent over 40 hours in that position. For private institutions, there was a gap between the 11 or 64.71% who worked over 40 hours and the six or 35.29% who worked 30 hours or less per week.

TABLE 16

HOURS PER WEEK SPENT IN THE EQUINE PROGRAM ADMINISTRATOR POSITION

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
All Institutions	57 (86.36%)	1-80	42.19	20.53	48.0	60
Public Institutions	40 (60.61%)	1-80	42.66	19.87	46.5	60
Private Institutions	17 (25.76%)	3-70	41.09	22.60	50.0	60

One administrator noted that he worked 60-80 hours for the nine months of the year that classes were in session. Two equine program administrators commented that they devoted more than 100% of their time to their jobs. As one of them said, "Reality is I devote more than 100% to this job - 110-120% - that is a fact!"

A few respondents emphasized that they were not actually department chairs, but were in charge of the equine program and had some administrative duties. One explained, "I am the one in charge of the teaching program, but not technically an administrator who handles budgets."

Another administrator noted that weekend responsibilities added to the hours required of equine program administrators.

It is apparent from the wide variety of the data and comments in response to this question that some administrators felt their time was divided between the department chair/ administrator position and other duties/positions. They only indicated the hours per week spent on specifically administrative duties - budget, meetings, etc. Other administrators seemed to include all of their activities: teaching, curriculum development, and administrative duties within the department chair/administrator position. A few instructors viewed the question as pertaining only to department chairs and not to general administration of equine programs, so they indicated that they spent no time in the department chair position. The result of these differing views is a range from 1-80 hours spent in the equine program administrative position.

Although the data in Table 15, page 59, show that the average amount of time spent on budgetary matters is only 10.40 for the equine program administrators in this research, the budgetary process is an integral part of the academic institution. If budgets are important tools of management and communication, it is vital for department chairs to not only understand how to use budgets, but also to devote adequate time to planning, revising and reviewing the budget. To further define the budgetary responsibilities of equine program administrators, the participants in this research were asked to indicate whether or not they were responsible for five specific areas of the budget process and who had the final authority in each area. These data are summarized in Table 17, page 64, and Table 18, page 66. In these tables for the purposes of this research, the term "department chair" refers to the person in charge of the equine program, regardless of official title.

TABLE 17

RESPONSIBILITIES OF EQUINE DEPARTMENT CHAIRS

	Budget Proposals	Budget Revisions	Salary Increases	Emergency Requests	Department Policy
Department Chair	39 (59.09%)	34 (51.52%)	17 (25.76%)	32 (48.48%)	39 (59.09%)

Administrator comments on their budgetary responsibilities gave a taste of the many flavors of budgetary structure. For instance, one administrator commented,

> I am not classified as an administrator, although I am in charge of our horse program. Our situation is typical of Land Grant Universities in that equine studies are part of our animal science department along with beef cattle, swine, sheep, etc. One Unit Leader (Department Chair) oversees all species."

Describing a different situation, another said, "I am a one person department but have total control of the pro gram/budget and barn technician."

From very little budgetary responsibility to nearly complete budgetary control, the range of data in this category was quite wide. However, Table 17, page 64, shows that half or nearly half of those in charge of equine degree and minor programs in this study were responsible for budget proposals, department policy, budget revisions and emergency requests. Deciding salary increases were part of the duties of only one quarter, 17, of the respondents to this survey.

As seen in Table 18, page 66, equine program department chairs and administrators do not have authority to make the final decision in every area which they are responsible to

oversee. The area of least final authority is salary increases. As would be expected, the area of most final authority is department policy.

TABLE 18

FINAL DECISION-MAKING AUTHORITY

	Budget Proposals	Budget Revisions	Salary Increases	Emergency Requests	Department Policy
Department Chair	25 (37.88%)	19 (28.79%)	4 (6.06%)	23 (34.85%)	32 (48.48%)
Dean	17 (25.76%)	19 (28.79%)	20 (30.30%)	23 (34.85%)	19 (28.79%)
Fiscal Affairs	7 (10.61%)	8 (12.12%)	10 (15.15%)	8 (28.79%)	3 (4.55%)
President	12 (18.18%)	12 (18.18%)	16 (24.24%)	9 (13.64%)	5 (7.58%)
Non-Profit Foundation	0 (0.00%)	1 (1.52%)	1 (1.52%)	0 (0.00%)	0 (0.00%)
State	2 (3.03%)	0 (0.00%)	5 (7.58%)	1 (1.52%)	0 (0.00%)
Other	1 (1.52%)	4 (6.06%)	6 (9.09%)	1 (1.52%)	3 (4.55%)

In an attempt to determine administrator satisfaction with budgetary systems, each department chair was asked to give an opinion on a scale of 1 (very efficient and achieves department/institution goals) to 5 (inefficient and does not achieve any goals). The results of this question are shown in Table 19.

TABLE 19

SATISFACTION WITH PRESENT BUDGETARY SYSTEM

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
All Institutions	64 (96.97%)	1-5	2.92	1.13	3	4
Public Institutions	47 (71.21%)	1-5	2.87	1.11	3	2
Private Institutions	17 (25.76%)	1-5	3.06	1.19	3	3

Private equine administrators seemed to be slightly less satisfied with the present budgetary system than public equine administrators. However, when the data were examined in a

frequency distribution pattern, the percentage difference between private and public scores of 4 and 5 was only 1.25%. The frequency distributions of the scores for both private and public equine administrators were similar, with a higher rate (9.76% more) of private equine administrators giving "middle-of-the-road" scores to their current budgetary system.

Although an extensive examination of the ownership and management options shown in Table 20 is out of the scope of this research, a summary of this data will show what options equine degree and minor programs are currently using. It is assumed that the administrators responding to this question have a thorough knowledge of the management structure of their program and the ownership of various physical aspects of the program.

TABLE 20

OWNERSHIP/MANAGEMENT OPTIONS

Category:	Institution:	Non-profit foundation:	State:	Other:
Facilities owned by	44 (66.67%)	2 (3.03%)	9 (13.64%)	9 (13.64%)
Maintenance equip. maintained by	52 (78.79%)	0 (0.00%)	7 (10.61%)	5 (7.58%)
Instructional equip. owned by	48 (73.73%)	3 (4.55%)	6 (9.09%)	6 (9.09%)
Donated horses transfer to	41 (62.12%)	12 (18.18%)	5 (7.58%)	1 (1.52%)
Donated equipment transfers to	46 (69.70%)	10 (15.15%)	5 (7.58%)	0 (0.00%)
Liability insurance carried by	51 (77.27%)	2 (3.03%)	10 (15.15%)	1 (1.52%)

The parent institution was the most frequently involved organization for all of these categories. Non-profit organizations seemed to be utilized most for dealing with donated

horses and equipment. A state government was primarily involved in owning facilities or carrying liability insurance. It is possible that the distinction between state-owned facilities and institution-owned facilities is blurred at some public institutions, since the entire institution is owned by the state. Further research could delve more deeply into the possible relationships between these ownership/management options and efficient functioning of the equine program.

Restatement of the second subproblem.

The second subproblem was to identify typical cost distributions and variable costs that exist in equine departments as well as the procedures used to deal with these variable costs.

The second hypothesis was that there are identifiable cost distributions and variations within equine departments, as well as identifiable procedures for dealing with these variable costs.

For this purpose, equine department chairpersons and administrators were asked to submit their 1992-93 Operating and Academic Budgets. The figures were tabulated and analyzed to obtain mean figures. The results are displayed in Table

21, page 71; Figure 2, page 72; Table 22, page 73; and Figure 3, page 73. The most obvious conclusion was that equine programs vary in total budgets and line item expenditures.

Reporting of budgetary data was not as complete as hoped for. Therefore these figures are partial, not complete, representations of the actual equine degree and minor program cost distributions in this research study. Out of 19 reported Academic Budgets (Table 22, page 73), 17 contained at least one line item, but two contained only final totals. Out of 45 reported Operating Budgets (Table 21, page 71), 44 contained one or more line items, and one gave only a final total. Five institutions reported only an Academic Budget, 31 reported only an Operating Budget, and 14 reported both an Academic and an Operating budget. Reasons given for non-reporting of this budgetary information included: "not available for use in a survey," and "this information cannot be released."

Other respondents simply did not have access to the needed information. One administrator explained:

> I am unable to provide this breakdown. Presently, we operate with one farm budget, which covers dairy, equine and farm service (cropping, etc.) Routine vet care, for example, is provided by our station vet, - a salaried position covering all farm species. Unfortunately at this time, I have no way to accurately attribute all expenses to the appropriate enterprise.

Another administrator said, "All budgetary matters are handled centrally and cover all livestock centers. Individual estimates are not available for the horses."

A third comment on the complexity of separating out equine program expenses from other related budgets came from an administrator who did submit budgetary figures. "These figures are as close as I can come. Our monies come from various budgets (including general farm and cattle.) We grow...and purchase feed. We grow our own hay but hire the harvesting out."

Variable costs unique to equine degree and minor programs, along with procedures used to handle these variables in planning budgets and dealing with emergency expenses are summarized in Tables 24, 25, and 26.

Only 22 out of 44 Operating Budget respondents reported a total. Five institutions reported Operating Budget totals which did not agree with the sum of their reported line items; two were smaller than the actual sum of line items. For tabulation purposes, the amounts in Table 21, "1992-93 Operating Budget," on page 71 and the percentages in Figure 2, "Mean Equine Department Operating Budget," page 72, are based on the actual sum of the reported line items. The percentages

represent all 44 respondents who reported Operating Budget figures. An average of line items amounts including only those institutions actually reporting a figure greater than zero would give a more realistic average of actual expenditures in each category.

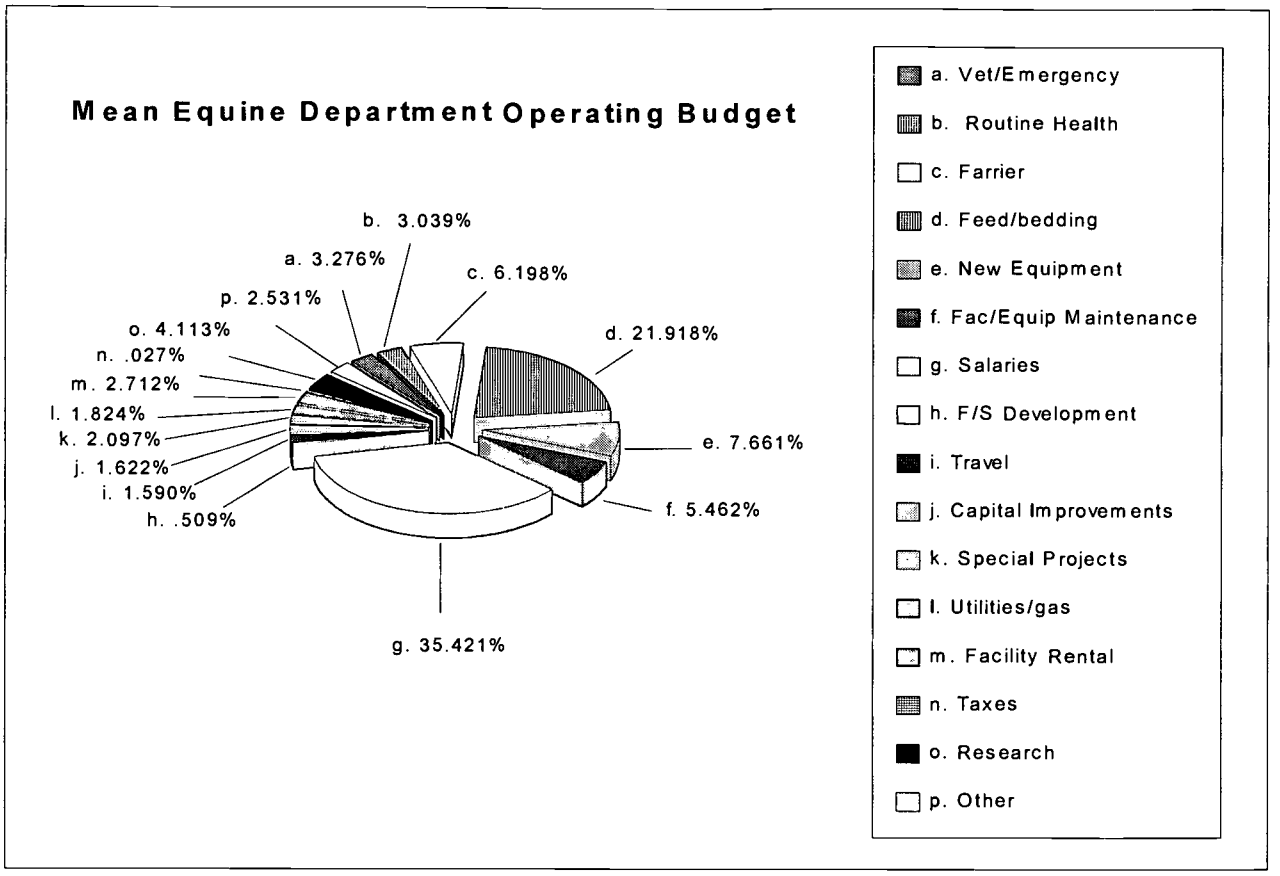
TABLE 21

1992-1993 OPERATING BUDGET

Line Item:	Range:	Mean:	Std.Dev.:	Median:	Mode:
a. Vet/Emergency	0-$20000	$2070.32	$3937.18	$500	0
b. Routine Health	0-$10000	$1930.14	$2526.85	$1000	0
c. Farrier	0-$30000	$3336.39	$5801.52	$750	0
d. Feed/Bedding	0-$50000	$13564.25	$13975.47	$11000	0
e. New Equipment	0-$21000	$2314.77	$3931.17	$1000	0
f. Fac/Equip Maint.	0-$17500	$2897.91	$4242.76	$750	0
g. Salaries	0-$244823	$43472.43	$55700.00	$20000	0
h. Faculty/Staff Dev.	0-$5000	$573.86	$1279.19	0	0
i. Travel	0-$5000	$1089.02	$1583.71	$375	0
j. Capital Imp.	0-$30000	$2150.73	$6550.61	0	0
k. Special Projects	0-$21000	$1404.61	$4023.17	0	0
l. Utilities, Gas...	0-$10000	$1114.57	$2663.99	0	0
m. Facility Rental	0-$180000	$5421.59	$27382.23	0	0
n. Taxes	0-$2500	$56.82	$376.69	0	0
o. Research	0-$110000	$5955.36	$19524.60	0	0
p. Other	0-$42454	$2643.02	$7727.69	0	0
r. TOTAL	$1000-$329918	$88551.44	$86136.85	$48650	$22500

From the existence of zeros in the Mode column in Tables 21 and 22, it seems that the reported budgetary data figures were incomplete. In future research, more complete budgetary data might be obtained through a telephone or personal interview in place of or as a supplement to a written questionnaire.

Figure 2



In Table 22, "1992-1993 Academic Budget," on page 73, one institution was excluded from tabulation because of a one-time "Capital Improvement" line item of $1,800,000. This caused the descriptive statistics to be skewed in an unrealistically high direction. The mean for capital improvements with this institution was $102,244.44; without this institution, the mean was $2376.47. Figure 3, "Mean Equine Department Academic Budget," page 73, shows budget categories in percentages.

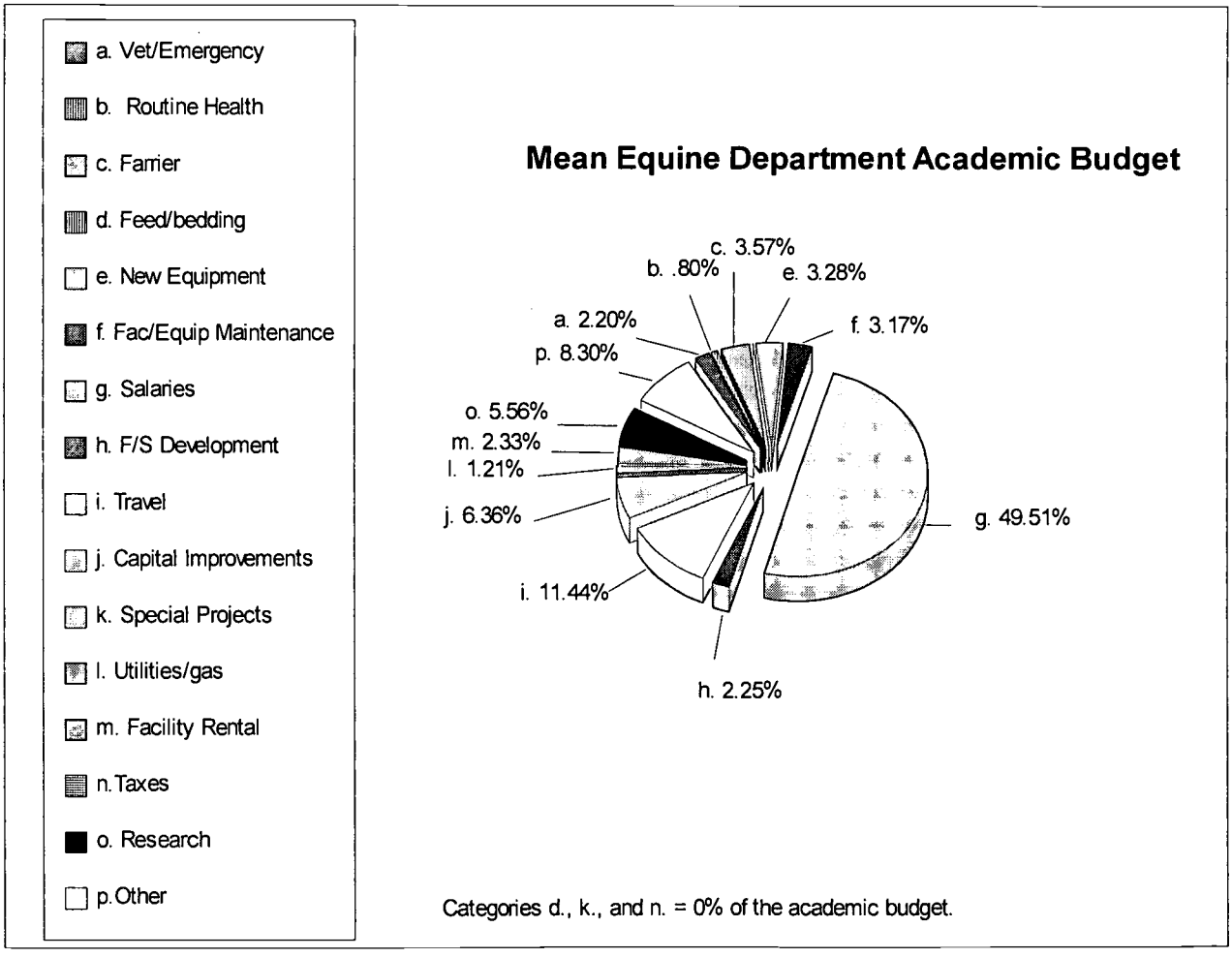
Only 12 total academic budget figures were reported. None of those differed from the actual sum of reported line items.

TABLE 22

1992-1993 ACADEMIC BUDGET

Line Item:	Range:	Mean:	Std.Dev.:	Median:	Mode:
a. Vet/Emergency	0-$500	$70.59	$168.69	0	0
b. Routine Health	0-$500	$35.29	$122.17	0	0
c. Farrier	0-$1000	$88.24	$264.30	0	0
d. Feed/Bedding	0	0	0	0	0
e. New Equipment	0-$5000	$955.88	$1803.29	0	0
f. Fac/Equip Maint.	0-$1200	$117.65	$485.07	0	0
g. Salaries	0-$517000	$79176.47	$129496.25	36000	0
h. Faculty/Staff Dev.	0-$2500	$264.71	$634.37	0	0
i. Travel	0-$10200	$1423.53	$2829.43	0	0
j. Capital Imp.	0-$30000	$2376.47	$7517.27	0	0
k. Special Projects	0	0	0	0	0
l. Utilities, Gas...	0-$10000	$600.00	$2422.81	0	0
m. Facility Rental	0-$13000	$941.18	$3191.21	0	0
n. Taxes	0	0	0	0	0
o. Research	0-$4000	$235.29	$970.14	0	0
p. Other	0-$380000	$30117.64	$98460.35	0	0
r. TOTAL	$1700-757200	$108202.63	$185636.17	$36000	$50000

Figure 3



Some institutions had only an Academic Budget because they were under a lease agreement with a private facility. Therefore the breakdown of Operating Expenses was the responsibility of the private facility, not the institution or equine department. For other institutions, the program administrator either did not directly control Operations or did not have equine expenses separately figured from all Animal Science expenses.

In both the Operating and Academic Budgets, the "Salary" line item is the largest percentage of the budget. This figure may be low according to comments from administrators who submitted this information. One administrator noted that the "Salary" line item applied to "part-time students over breaks, etc. No salaries except miscellaneous come from the budget."

One institution indicated that the "Salary" line item did not contain Director's salary. Another noted that the "Salary" line item covered the salaries of four individuals, but not the stall cleaner, night person, or part time riding instructors. Thus, even those reporting a high percentage of line items may not have reported the full scope of the equine program budget.

Table 23 shows the mean total budgets for all institutions. Some of the budgets appeared to be incompletely reported; this may have contributed to the wide range and large standard deviations seen in this category. The mean total budget which the equine administrators in this research study were responsible for is $121,427.02.

TABLE 23

1992-1993 TOTAL BUDGET

	Responses:	Range:	Mean:	Std.Dev.:
Operating Budget	45 (68.18%)	$1000-$329918	$88551.44	$86136.85
Academic Budget	19 (28.79%)	$1700-757200	$108202.63	$185636.17
Total Budget	50 (75.76%)	$2000-$757200	$121427.02	$142274.16

Returning to the second subproblem, equine program administrators were asked to list variable costs they felt were unique to equine degree and minor programs, along with procedures they used to handle these variables in planning their budgets and dealing with emergency expenses. The variables are summarized in Table 24 on page 76, and methods for dealing with variables are categorized in Table 25 on page 78 and Table 26 on page 80.

TABLE 24

VARIABLE COSTS UNIQUE TO EQUINE PROGRAMS *

Category:	Responses:	% of 46:
Vet/Health Care	17	(36.97%)
Horse Care & Maintenance	12	(26.09%)
Feed/Bedding	10	(21.74%)
Farrier	6	(13.04%)
Facility Maintenance/Repair	6	(13.04%)
Equipment Purchase/Repair	6	(13.04%)
Labor/personnel	4	(8.70%)
Facility Rental Fees	2	(4.35%)
Horse Showing Expenses	2	(4.35%)
Breeding Expenses	2	(4.35%)
All costs	2	(4.35%)
Other	12	(21.74%)

* A total of 46 responses to this question were received.
All Horse Care Categories (overlaps eliminated): 32 (69.57%)

In Table 24, the "Other" category included: nonpayment of client bills, horse replacement, sales consignment fees, foal registration fees, travel to industry meetings, unusual research expenditures, and transportation of students and horses.

Equine administrators views on horse-care related costs as unique variable costs ranged from one end of the spectrum to the other. This comment summed up the observations of several equine administrators on unique variable costs of equine programs: "None are unique. [Costs are the] same as other animal units. The need to maintain horses that won't generate income may be unique."

Another administrator felt that unique variables in equine programs were "Tack acquisition and maintenance," but

that "veterinary costs, fencing, feed costs, labor, etc. will be common to any livestock operation."

On the other hand, yet another administrator stated, "All costs are unique in that no other university program has such an upkeep cost in order to utilize the animals and facilities. (i.e. history - maps and textbooks)."

"The costs of maintaining animals are high," explained one respondent. "Thus these programs are expensive relative to those for courses requiring a typical lecture format."

Other administrators commented on their own situation regarding variable costs. At an equine program in a lease situation, the administrator said, "We are on a contract with a private farm so costs are quite stable. Excessive veterinary expenses could come up."

Dealing with these unique variable costs when planning the equine program budget was accomplished through a variety of methods, as seen in Table 25, page 78. The comments given in this area were generally quite brief, considering the complex nature of the budgetary process. It is possible that many of the administrators in this research actually utilize more than one of the methods listed in Table 25.

Most of these methods of dealing with variable costs fall into the realm of common sense solutions, but a few are unique. In the category of "Other" in Table 25, solutions included suggestions to: overbudget (plan for more expense than expected), "get all you can and hope for the best," spend as little as possible, make up from state, federal or private grants, deal by contract with the same hay dealer each year, sell horses, and use the best estimate.

One administrator indicated that the farm budget was a separate cost center under someone else's supervision, therefore the task of dealing with such variables was delegated to someone else.

TABLE 25

HOW EQUINE ADMINISTRATORS DEAL WITH VARIABLE COSTS IN: A. PLANNING THE BUDGET *

Category:	Responses:	% of 37:
Use prior experience as a guide	8	(21.62%)
Allot a percentage of total budget to variable expenses	7	(18.92%)
Plan for dept. generated income to cover variables	5	(13.51%)
Be sure projected income covers costs	2	(5.41%)
Allow flexibility in budget	2	(5.41%)
Adjust student/service fees	2	(5.41%)
Figure average cost/horse x number of horses	2	(5.41%)
Other	10	(27.03%)

* A total of 37 responses to this question were received.

Additional comments from administrators describe how they deal with variable costs in planning their budgets. For instance, those administrators who mentioned basing the budget on prior experience, also specified aspects of this method

such as "allowing for current year changes in numbers of horses or usage" and "[trying] to err in the conservative." Although only two administrators mentioned flexibility directly, it can be seen from other administrator's comments that ability to revise the budget during the school year would be helpful to deal with variable expenses listed in Table 24, page 76.

The degree of success in planning for variable expenses varies. One administrator explained, "I try to figure them in but must depend on horse sales to cover them."

Planning for equine department activities to cover variable expenses may involve raising student and horse owners' lease fees, according to one of the five respondents who mentioned this technique of dealing with variable costs.

Methods for dealing with emergency variable costs in Table 26, page 80, included two of the same techniques used when planning the budget - generating more income through the department and selling horses. The main method of dealing with emergency costs overlaps the function of planning ahead in the budget for variable costs. This method, maintenance of either a specific contingency fund or extra general funds, was mentioned by over one third, 38.24% or 13 of the respondents

to this item. Taking the amount from or changing line items around was utilized by nearly one third 11 or 32.35%. Methods less frequently mentioned are also listed in Table 26.

TABLE 26

HOW EQUINE ADMINISTRATORS DEAL WITH VARIABLE COSTS IN: B. HANDLING EMERGENCY COSTS *

Category:	Responses:	% of 34:
Change budget line items around/take from another line item	11	(32.35%)
Maintain a specific maintenance/contingency fund	7	(20.59%)
Keep a reserve/extra funds	6	(17.65%)
Ask institution for help	5	(14.71%)
Liquidate assets (sell horses)	3	(8.82%)
Pray	2	(5.88%)
Generate more income through equine department or donations	2	(5.88%)
Ask state for help	1	(2.94%)
Cut Programs	1	(2.94%)
Choose alternative management options (student labor)	1	(2.94%)
Has not come up that it could not be handled in the budget in 10 years	1	(2.94%)

* A total of 34 usable responses to this question were received.

While one administrator asserted "Our school is extremely understanding in these matters," another administrator felt it was necessary to "plead with Dean and then take it from one of our other accounts anyway." When this budgetary "game-playing" is necessary to keep the equine degree program in operation, an examination of the expectations placed on equine department chairs by the institution and attitudes of department chairs toward the budgetary process is required according to Srinivasan Umapathy. He warned that unchecked circumventing of the system will eventually damage the organization (18:90,124).

Planning ahead seemed to be the preferred method of dealing with emergency variable expenses. "I always have a 'cushion' to fall back on," said one respondent. "We can also raise training fees." At another institution, alumnae donations were set aside for emergency expense use.

The sole administrator who differentiated between types of emergency costs also detailed how these costs were charged to the equine program at that institution:

> Minor items are charged against the equine program. Major items may require that funds are diverted from planned purchases or projects to cover the expense. We also have an independent Agriculture Development Fund that can be tapped if necessary.

Where funds were generated by the equine program, some administrators had more freedom than others to reinvest those funds, such as one who said, "I maintain a 'Sale of Horses' account for large equipment purchases and emergencies."

To obtain the basic annual maintenance "Cost per Horse" figures in Table 27, page 82, the reported Operating Budget (Table 21, page 71) categories of "a. Emergency/Vet Expenses," "b. Routine/Preventative Health Care," "c. Farrier," and "d. Feed and Bedding" were totalled and divided by the reported

total number of horses for each institution. Costs which were not included are salaries/benefits for horsecare workers and facility operational costs.

The mean annual maintenance cost of $459.92 had a large standard deviation of $324.31. To decrease the influence of probable incomplete budget data, all cost per horse figures under $200 were eliminated, resulting in a new cost per horse figure of $597.83 with a standard deviation of $266.49.

TABLE 27

COST PER HORSE

	Responses:	Range:	Mean:	Std.Dev.:	Median:	Mode:
All Institutions	37 (56.06%)	$ 4.45-$1200	$459.92	$324.31	$460.00	$500
Responses over $200	27 (40.91%)	$214.29-$1200	$597.83	$266.49	$506.25	$500

This mean cost per horse appears lower than in previous research reports. Horse maintenance costs may vary greatly from one equine program to another or budget data may be reported inconsistently. In Matte's unpublished 1992 study of nine equine degree programs in the northeast, she found the mean annual cost per horse (excluding labor and facility expenses) to be $1,179.60, nearly twice as much as the mean found in this research study (40:38).

In New York State Department of Agriculture and Markets' 1988 Survey of the state equine industry, a total figure of $1720 was found to be the annual expenditure per horse. Extracting the categories of health - $110 (vet fees included), farrier - $84, feed - $500 and bedding - $83, gives a basic maintenance cost of $777, almost a third more (29.97%) than the mean cost per horse of $597.83 found in this research. (This figures also excludes labor and facility costs.) The New York State survey covered nearly 10,000 horse owners in the state (11:19,22).

One of the equine program administrators in this current research commented, "Our total cost per horse per year upkeep is $777 in 1992-93. Our horse maintenance budget revolves around an approximate $800-$1000. No salaries included." This statement surprisingly and precisely supports the New York State survey figures.

Some possible reasons for the "Cost per Horse" figures in this research being lower than previous research may be: incomplete data given by respondents, a higher turnover of horses used in the program (i.e. many horses, but in care of equine program for short-term training, donated horses to be sold, etc.), a shorter budget year (nine or ten months instead

of 12 months), or an actual lower cost for vet services, farrier work, feed, and bedding at certain institutions or in particular parts of the country.

Several equine program administrators gave additional comments on budgeting data which may provide further explanations for the low annual horse care cost figures. For example, some school farms grow their own hay. Others do their own farrier or vet work. Some mainly utilize outside horses for training, resulting a higher turnover rate in horses. Several indicated that the equine operating budget was shared with other animal science units, making breakdown of equine costs difficult and incomplete.

Those equine programs without institution-owned facilities often did not have access to a breakdown of horse care costs. Such costs were the responsibility of the private equine facility being leased. Other programs had students directly charged for facility/horse use instead of having the equine program charged. Those management options may serve to reduce the expense of horse care for the equine department itself. Further research could compare costs in various areas of the country and examine more closely the relationship between management options and actual "Cost per Horse." Since

horse care expenses require a significant amount of the budget, this would be a valuable area to investigate.

Restatement of the third subproblem.

The third subproblem was to identify the sources of income for equine degree programs and the amount of income generated through each source.

The third hypothesis was that the income generated through sources other than equine degree program activities will be significantly greater than the income generated through equine degree program activities.

The data in Table 28, page 86, and Figure 4, page 87, support the third hypothesis. The average difference between the amount of income generated by other sources and the amount generated by equine degree program activities was $38,401.89 or 9.934% more revenue. Thirty-five equine programs gave income figures or totals.

At 20 (57.14% of 35; 30.30% of 66) institutions, the income generated by other sources was greater than income generated by equine degree program activities. One institution brought in an equal amount from other sources and from

equine program activities. At 14 (40% of 35, 21.21% of 66) institutions, equine program activities brought in more revenue than other sources did.

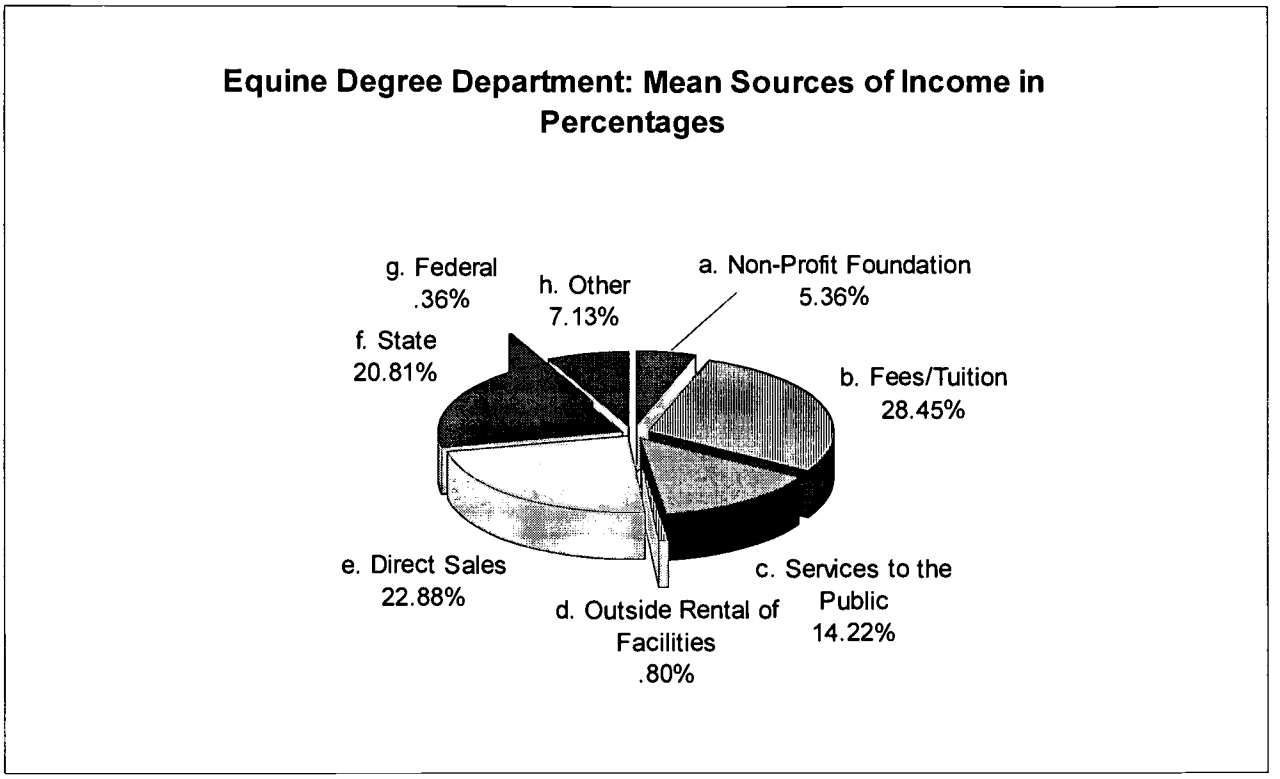
Although the income percentage of the budget brought in by six programs was 100%, the actual dollar amount of this income ranged from $2000-$26,000 with a mean of $11,166.67. Four of the six brought in total income of under $7000. It is possible that income was very low for these institutions or that it was incompletely reported. The average percentage of income raised by equine department activities where the equine department raised more than other sources generated was 64.88% or $67,608.75. Figure 4, "Equine Degree Department: Mean Sources of Income in Percentages," on page 87, illustrates the categories of income in percentages.

TABLE 28

SOURCES OF INCOME

Source:	Range:	Mean:	Std.Dev.:	Median:	Mode:
Non-profit Foundation/ Endowment Fund	$0-50000	$ 3714.29	$10185.26	0	0
Student Fees/Tuition	$0-280000	$ 33807.60	$65424.05	$5000	0
Services to Public	$0-220000	$ 14357.14	$37981.34	0	0
Outside Rental of Fac	$0-10000	$ 814.29	$2152.58	0	0
Direct horse sales	$0-100000	$ 14580.00	$21976.78	$5000	0
State Funds	$0-650000	$ 47334.29	$116899.58	$2000	0
Federal Funds	$0-20000	$ 571.43	$3380.62	0	0
Other	$0-340000	$ 17274.29	$59158.29	0	0
Total Income	$2000-750000	$132453.31	$158895.02	$80000	$5000

Figure 4



Not all institutions consider tuition and fees to be income for a particular department. Some equine programs were required to return all moneys generated through department activities to the parent institution. Others were able to keep funds generated in a separate contingency account or redirect the funds toward appropriate expenses as the equine administrator saw fit. A respondent said the equine program was "90% self-sufficient—money generated through student user fees and sales/services."

One equine department chair commented that donated funds significantly assisted that equine program in the development

of facilities. The institution was in the process of finishing one indoor arena and adding another, to be used primarily for teaching purposes. "The entire center has been built with donated money - total value is $5 million," the department chair said.

Further research into who does the actual fundraising could reveal whether there is a relationship between the equine department doing fundraising, the institutional advancement office doing fundraising and the effectiveness of their separate or coordinated efforts. Twenty per cent of this department chair's time was spent on PR/Fundraising and 25% on Budget Planning and Revising. Using the Pearson Product Moment Correlation Coefficient, a weak possible relationship was found between the percentage of time equine administrators spent on PR/Fundraising and the percentage of the budget in income from all sources brought into the equine program. The coefficient was 0.197196147.

A slightly stronger correlation was found between the percentage of time equine administrators spent on PR/Fundraising and the percentage of the budget in income generated by equine program activities. This correlation, 0.312938002, implies that there may be a relationship between

a greater amount of an equine administrator's time being invested in PR/Fundraising and a higher percentage of the budget in income being raised by the equine program. If the amount of time that the equine administrator is free to or chooses to devote to fundraising may affect the amount of money, horses or publicity given to the equine program, this would be a valuable area of further research for institutions of higher education offering equine degree or minor programs.

Thirty-five equine programs were identified as generating revenue through one or more of the categories of "Services to the Public," "Outside Rental of Facilities," and "Direct Horse Sales." Totalling these categories for each institution revealed that these 35 equine programs raised between 3.49% and 147.17% of the amount budgeted for their own departments. The average percentage of the budget raised through equine department resources was 40.24% or $47,025.71. A more in-depth study of how various institutions set up and operate these programs to bring in revenue would be useful to other equine degree programs.

Types of revenue-generating services offered to the public varied from traditional equine services such as riding lesson programs and boarding to more innovative activities

such as parimutuel racing and conducting research projects as shown in Table 29. Another institution charged $300 per month to foal out privately owned mares.

TABLE 29

EQUINE PROGRAM FUNDRAISING ACTIVITIES *

Category:	Responses:	% of 24:
Horse Sales	10	(41.67%)
Breeding	8	(33.33%)
Boarding	6	(25.00%)
Putting on Shows	5	(20.83%)
Offering Clinics	5	(20.83%)
Training	3	(12.50%)
Continuing Education Classes	2	(8.33%)
Outside Rental of Facility	2	(8.33%)
Seminars	2	(8.33%)
Student Horse Club sponsors shows to support IHSA* Teams	2	(8.33%)
Receiving Awards	1	(4.17%)
Forums	1	(4.17%)
Parimutuel Racing	1	(4.17%)
Conducting Research Projects	1	(4.17%)
Running Summer Camp	1	(4.17%)
Other	1	(4.17%)

* A total of 24 comments regarding income-generating activities were received.

The wide ranges and large standard deviations of the reported data on equine program fees (Table 30, page 91) may be reflections of several factors: differences in management styles; variations in horse care (forage, bedding and labor) costs by geographic location; or dissimilar goals behind particular fees. Some institutions by necessity charge fees for the purpose of funding the program partially or fully, others may view the equine program fees as a method of generating profit for the equine program or parent institution, and yet others by choice, law, or university

mission may offer services at or below cost to students and the community for public relations or educational purposes.

TABLE 30

SPECIAL FEES FOR EQUINE PROGRAM SERVICES

	Yes:	Usable Resp.:	Range:	Mean:	Std.Dev.:
Add. Equine Tuition	12 (18.18%)	7	$12.5-2000/sem	$445.71	$740.29
Riding/Lab Fee	31 (46.97%)	20	$20-650/sem	$232.50	$190.05
Extra Riding Fee	7 (10.61%)	0	N/A	N/A	N/A
Student Boarding	26 (39.39%)	22	$50-380/mo	$179.02	$ 98.57
Public Boarding	13 (19.70%)	10	$98.50-380/mo	$247.85	$100.03
Public Lessons	15 (22.73%)	12	$7-30/hr	$ 16.00	$ 8.03
Public Training	11 (16.67%)	6	$100-400/mo	$251.67	$ 98.22
Other	6 (9.09%)	0	N/A	N/A	N/A

Note: The range, mean and standard deviation are based on the number of usable responses (those which gave dollar amounts based on a common time frame) in each category.

In general, special fees for equine program services were higher at private institutions than they were at public institutions. For example, the highest additional equine tuition at a public institution was $125/semester. Private additional equine tuition ran as much as $2000/semester. Riding/lab fees averaged $175.67 at public universities, but averaged $403/semester at private institutions. The mean student boarding fee was $138.46/month at public institutions, while private institutions charged an average of $250/month.

Average public institution fees for equine services to the outside community were $218.08, $14.57, and $253 for monthly boarding, hourly lessons and monthly training, respectively. The same mean fees for private institutions were

$292.50, $18, and $245. Only one private institution reported a monthly training fee. These fees demonstrate practical ways of implementing some of the fundraising activities mentioned in Table 24, page 76. Through reasonable fees, some equine degree and minor programs are supporting themselves and/or bringing income to the parent institution.

The collection of outside fees for the equine programs was explored from the aspect of which department was responsible for collection of those fees (Table 31). Over half, 38 or 57.58%, of the equine programs collected their own fees. The fees of other equine programs were either collected by the Fiscal Affairs Office (25 or 37.88%) or by Non-Profit Foundation staff (5 or 7.58%). A combination of the Non-Profit Foundation and Equine Program were involved in fee collection at three institutions (4.55%). Both the Fiscal Affairs Office and the Equine Program collected fees at seven institutions (10.61%).

TABLE 31

COLLECTION OF FEES FOR EQUINE PROGRAM SERVICES

Category:	Responses:
a. Fiscal Affairs	25 (37.88%)
b. Non-Profit Foundation	5 (7.58%)
c. Equine Department	38 (57.58%)
b. + c.	3 (4.55%)
a. + c.	7 (10.61%)

Future research could investigate the most cost effective method of collecting fees for equine program services. The best and most efficient method may vary from institution to institution, depending on size and structure of the equine department, fiscal affairs office, and non-profit foundation office, as well as other factors.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

In spite of an excellent response rate of 72.53%, the tabulation of the data revealed a very diverse population of equine degree and minor programs. Common characteristics of these programs were difficult to identify because of the considerable variance and wide ranges of the data. However, these deviations support the concurrence of the literature that institutions vary a great deal in organization, structure and operation.

As Miller said, "The goals and means of each institution of higher learning may differ. ...a common pattern of financial administration in institutions of higher learning is lacking" (10:374)

The data reported by equine administrators on the questionnaire were fairly complete in the areas of administrator descriptions, institutional characteristics, department characteristics, facilities, time distribution, variable cost descriptions, and collection of fees. Administrator response

was less than two-thirds in the areas of department chair responsibilities, final decision, operating budget, academic budget, dealing with variable costs, income, fund-raising activities, and special fees.

Enough data was obtained to draw a rough sketch of the equine department chair position, responsibilities, cost distributions, variable expenses, and income sources, as well as the size of department and facilities he/she oversees. Administrators have various titles from Instructor to Equine Department Chair. Budgets and budgetary systems are structured in different ways, some are viewed as effective, and others are viewed as ineffective, from the point of view of the equine program administrator.

If effectiveness of equine programs can be measured in terms of the percentage of their allotted budget which they are able to generate in revenue, over half of these equine programs have some degree of effectiveness. Some of the equine degree programs in this research brought in from 3.49% to 147.17% of their budgets during the 1992-93 fiscal year.

Equine department chairs tend to serve longer as administrators than other academic department chairs in Carroll and Gmelch's research study (33:16,23). Although no comparative

figures were available for hours per week spent in the department chair position, over one-half of equine department chairpersons worked more than 40 hours. Over one-third worked more than 50 hours per week. These two factors - length of service and hours worked - point out the dedication to and involvement in the position of equine department administrator.

Conclusions

The equine programs in this study represent a wide spectrum of tuition, enrollment size and age. Both public and private equine programs participated in this research with the public institutions represented more frequently than private institutions at a 2 to 1 ratio.

To obtain a more meaningful analysis of the data, some categories were divided into two groups - public institutions and private institutions - and analyzed separately. In some cases, the distinction between the two groups was very significant. For example, although the average institution in this study was found to have a student body of 7862 and a basic annual tuition of $5263, the average public institution had a student body of 10,248 and a basic annual tuition of $2771. The same mean figures for private institutions were 1267 and

$11,578. Obviously, the two groups had very different tendencies in these two categories of data.

Degrees and minors offered by these equine programs were overwhelmingly in the area of equine science. More specialized degrees included equine business, equitation and miscellaneous equine fields such as Horse Packing and Station Management. The average age of all equine degrees in this research was 11.58 years, indicating that most equine programs are fairly young academic offerings when compared to the development of the academic department in the early 1900s. While comparative data were not available for department size, the majority of the participating equine programs, both public and private, had a department enrollment of less than 100. The ratio of students to faculty members was 18:1 for equine majors and minors, the two groups of students who would spend the most time with equine faculty.

From the data, it can be concluded that most equine degree and minor programs in this study place a fairly strong emphasis on the development of hands-on career skills. The average ratio of lecture to lab class time was 52%:48%, and the mean number of horses per student (for equine majors and minors) was 1.44. This emphasis was also reflected in the

average equine degree or minor program facility consisting of stabling, turnout and pasture areas, and riding and training facilities.

On the other hand, specialized facilities existed for particular programs, such as racehorse management and breeding emphases. One equine business administration program had no equine facilities because its curriculum was aimed at training equine organizational administrators and did not deal with the actual hands-on management of the animal. While some equine programs focused on a specific area of the equine industry, other programs diversified, covering a broad range of equine industry fields. The area of planning equine academic programs and facilities, financial options, and management structure is a field ripe for further investigation.

The research supported the first hypothesis that most administrators of equine degree programs have more training in their particular academic field than in administration or financial management. Nearly three-quarters of the administrators in this study held equine-related degrees or training. Equine-related training seemed to be more useful than other types of training to the equine department administrators. Although the high helpfulness ratings given to equine-related

training and degrees in this study could reflect helpfulness toward teaching responsibilities in the field, a knowledge equine management would seem to facilitate oversight of a working equine facility and horsecare staff, in addition to the traditional department components of faculty, office staff, students and academic programs.

Because degrees and training in administration and financial management were given the lowest helpfulness rating, but were requested, along with personnel/people skills, more than any other "Further Training Desired," the type of administration/financial training may affect its usefulness to the equine department chair. Nearly 40% of the respondents indicated they desired some type of further training; this seems to reflect a significant need which institutions should examine.

Equine administrators spent an average of 47% of their time teaching and advising students. From this data, it can be concluded that most are still in contact with the students who benefit from the program. The second largest amount of time was spent on Public Relations and Fundraising Activities (14%). A comparative study of equine administrators and other

academic department administrators would reveal whether these are standard figures or are unique to equine department administrators.

According to the data, over one-half of the department chairpersons in this research were responsible for budget proposals, budget revisions, and department policy. Less than one-half were responsible for emergency requests and salary increases. Although department chairs in this study had responsibility for these areas, the final decision-making authority was not always vested in them. Along with department chairs, deans and presidents were most likely to hold final decision-making power for budgets or budget revisions, emergency requests, and department policy. The fiscal affairs office was most likely to have control over salary increases.

The mean score of equine administrators satisfaction with present budgetary system was 2.92 on a scale of 1 to 5 with 1 indicating the highest satisfaction. From the data on responsibility, decision-making authority and satisfaction rating, it can be concluded that most department chairs in the study are highly involved in the budgetary process, and that they feel reasonably satisfied with their institution's current budgetary system, considering it moderately efficient.

The second hypothesis, that there are identifiable cost distributions and variations within equine departments as well as identifiable procedures for dealing with them, was also supported by the data. Definite distributions were identified, but the actual tabulated amounts and percentages may not be accurate because of the incompleteness of the data. Some institutions would not release data; a few equine department administrators did not have access to specific equine-related budgetary data because it was combined with other animal science areas.

When operating and academic budgets were combined into a total budget for each institution and then averaged, the greatest cost in the average equine program was salaries at 44%, horsecare (vet, health, farrier, feed, and bedding) at 21%, and equipment purchase/facility maintenance at 10%. Miscellaneous areas included research, facility rental, taxes, and utilities, etc. Fewer equine programs had academic budgets, and these tended to be smaller than the more standard operating budgets.

Variable costs were identified - the primary variables listed as "vet and health care," "horse care and maintenance," and "feed and bedding." Some very basic methods of dealing

with these variable costs were identified. For planning purposes, the three main methods were "Use prior experience as a guide," "allot a percentage of the total budget to cover variable expenses," and "plan for department-generated income to cover costs." Methods of dealing with variable emergency costs included "change budget line items around/take from another line item," "keep a reserve/extra funds," "ask institution for help," and "sell horses."

The average annual maintenance cost per horse, $459.92, in this study seems to be lower than in previous research, probably because of incomplete budgetary data. Additional research into horse care costs and stable management techniques utilized at equine programs in higher education could reveal time-, labor-, and money-saving procedures which could be implemented by other equine educational programs at various levels.

The third hypothesis was supported by the data as well. This research study found that an average of $438,401.89 or 9.934% more income was generated by other sources than by equine degree program activities. Student fees/tuition and state funds were the largest average sources of income.

However, the mean amount of the budget generated by equine programs was 40.24% or $47,025.71, a significant benefit to the institution. Most traditional academic departments such as English or Mathematics do not have the ability to generate any income other than student tuition and fees.

Some of the activities equine programs used to generate income were sale of horses, breeding, boarding, putting on shows and clinics, and training horses. A more in-depth study of how profit-generating programs utilize school horses and facilities to generate income while providing hands-on educational experience for students could benefit other financial and academic administrators as they consider the specific requirements of and financial management options for equine degree and minor programs.

Recommendations

Future studies on equine department chairpersons should focus in on one or two specific areas of the position, such as more detailed job descriptions, suitability of training to task, or tracing the budgetary process from department chair to institution president. A combination of a written questionnaire and a follow-up personal interview would enable the research to obtain a fuller and more accurate set of data.

Personal interviews would allow more-in-depth exploration of specific aspects of the equine department administrator's position and clarification of qualitative data. Other equine programs in higher education which have not yet been re searched are certificate and adult-continuing education programs.

Further research could also compare the income potential of equine programs and other livestock-oriented or service-oriented programs such as food service. Questions to investigate include: How are these programs managed? Can equine programs adopt any of their management or budgetary techniques to increase effectiveness?

In addition, industry surveys of employers and alumni would help equine administrators integrate planning curriculum with program and budget design. They could address the question: To what extent are industry internships being utilized and could internships be financially beneficial both to equine programs and equine industry employers? Because the equine industry requires extensive hands on skills and abilities, any method which could reduce the cost of students' obtaining those skills and abilities would be worth examining. Alumni

feedback would help institutions and equine department chairs evaluate the effectiveness of their curriculum.

The research reported here may be biased by the economic, social conditions, and attitudes of the researcher and the participants in the research. However, it is hoped that this data will prove thought-provoking for prospective equine program administrators and contribute to mutual understanding between current equine department chairpersons and the institution's administrators. It is also hoped that this will facilitate cost efficiency, academic quality and program diversity as equine degree and minor programs seek to improve, expand, and change to meet the needs of their students and the equine industry.

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APPENDIX A

COVER LETTER SENT WITH QUESTIONNAIRE

TO EQUINE DEPARTMENT CHAIRPERSONS

6628 Woodruff Road
Lima, NY 14485
(716) 346-5212
Date

Equine Department Chair
University
City, State 00000

Dear :

I am a Master of Arts student at Salem-Teikyo University, West Virginia, specializing in Equestrian Education. As part of my thesis research, I am conducting a survey of equine degree department administrators. [University] is one of 109 institutions in the U.S. offering a degree or minor in this field. I hope you will participate in this important research.

Out of nearly 3600 degree-granting institutions in the United States (Peterson's Registry of Higher Education, 1990), fewer than 200 offer equine studies courses for credit, as listed in the 1992-93 Equine School and College Guide, Harness Horse Youth Foundation and Sue Stuska's 1991 Equine Educational Programs Directory. As many colleges and universities face budgetary reductions, course consolidation, and faculty retrenchment, solid statistical figures are essential to support the case of the equine program. I'm sure you are aware of the wide gap in research and literature regarding equine studies programs. This survey will hopefully begin to fill in a part of that gap by comparing:

- Administrator training and responsibilities
- Enrollment numbers
- Source and distribution of income
- Facilities
- Number of horses and cost per horse
- Number of faculty, staff and student labor, etc.
- Methods of dealing with budgetary variables, such as horse replacement

If you are aware of any other research being conducted or proposed in the area of equine studies, please let me know.

Enclosed is the questionnaire with an addressed envelope and return postage. Please feel free to jot down any thoughts, additional comments, critiques on the survey as you are filling it out. Your timely completion of this questionnaire will enable me to get the results tabulated and back to you quickly.

Thank you for your assistance. If you have any comments or questions, please feel free to contact me at (716) 346-5212. You may fax your questionnaire to the same phone number, if you wish.

Sincerely,

Grace E. Matte

Enc. Questionnaire
SASE

* Please return survey within two weeks to facilitate tabulation of the results.

APPENDIX B

QUESTIONNAIRE

SENT TO

EQUINE DEPARTMENT CHAIRPERSONS

Equine Program Administration Questionnaire - *Page 1*

Code No. _____

Thank you for participating in this research. Please note that each questionnaire has been assigned a code number to maintain your anonymity. After tabulation of this data, all questionnaires will be destroyed due to the sensitive nature of the data. Feel free to write in the margins and make any notes necessary to adapt these questions to your particular situation. All comments and data will remain anonymous. Your comments on this questionnaire will help make future research more useful to equine degree programs.

1. Title of Administrator:_____

2. Years as administrator of this equine program:_____

3. Equine degrees/concentrations offered by your program: First year offered:

4. Please indicate degrees and/or training you have received in the following areas:

5. How helpful was your training in carrying out the duties of department chair?

	Bachelor	Master	PhD	DVM	Other	Very useful					Not helpful
a. Administration or financial management						1	2	3	4	5	
b. Education						1	2	3	4	5	
c. Equine-related studies						1	2	3	4	5	
d. Other:						1	2	3	4	5	

6. Please estimate the percentage of time that you, as administrator, spend on the following activities:

Activity	Time Spent *						
a. Teaching	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
b. Student Advising	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
c. Faculty / Staff Advising	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
d. Curriculum Review / Changing	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
e. Budget Planning / Revising	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
f. Public Relations / Fundraising	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
g. Policy Review / Changing	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%
h. Research	0%	1-10%	11-20%	21-30%	31-40%	41-50%	over 50%

** Total time spent should equal 100%.*

7. Is there any further training you would like to receive which would help you increase your effectiveness as an equine program administrator? _____
Please briefly describe this training below:

8. How many total hours per week, on average, do you spend in this department chair position?_____

9. Please indicate which of the following areas you are responsible for and who makes the final decision in each category.

DEPARTMENT CHAIR'S RESPONSIBILITY	AUTHORITY TO MAKE FINAL DECISION						
	Dept. Chair	Dean	Fiscal Affairs	President	Non-Profit Foundation	State	Other
a. Budget Proposal							
b. Budget Revision							
c. Salary Increases							
d. Emergency Requests							
e. Department Policy							

Equine Program Administration Questionnaire - *Page 2*

Code No. _____

10. How well do you feel the present system of budgetary planning and implementation works at your institution? (Circle.)

Very efficient and achieves dept./inst. goals 1 2 3 4 5 Inefficient/does not achieve any goals

11. INSTITUTION DATA

a. Is institution ☐ public or ☐ private?

b. Total student body:_____

c. Basic Annual Tuition (excluding Room & Board):_____

12. 1992-93 DEPARTMENT ENROLLMENT

a. Equine Majors:	
b. Equine Minors:	
c. Non-majors/minors:	
d. TOTAL ENROLLMENT:	

13. In your program, what percentage of time do students spend in the classroom vs. in hands-on learning with horses? _____% classroom (lecture) / _____% hands-on (practicum)

14. DEPARTMENT FACULTY AND STAFF

1992-93 EQUINE DEPARTMENT PERSONNEL			
a. Full Time (FT) faculty		b. Part Time (PT) faculty	
c. FT office staff		d. PT office staff	
e. FT horsecare staff		f. PT horsecare staff	
g. PAID student staff		h. UNPAID student staff *	

	Official	Actual
i. Average TEACHING CONTACT HOURS per Full Time equine faculty member (with labs, riding sessions, supervising chores, etc.)		
j. Full Time Equivalency (FTE) for equine faculty (minimum # of hours FT equine faculty are required to teach per semester/quarter)		

** Please include students doing hands-on stable management work for course credit.*

15. HORSES USED IN PROGRAM:

Owned by:	Number:
a. Institution	
b. Non-profit foundation / endowment fund	
c. Students	
d. Outside individuals / businesses	
e. TOTAL HORSES USED IN PROGRAM	

16. FACILITIES

Type	Number	Dimensions/unique features
a. Stables / barns		
b. Stalls		
c. Paddocks / pastures		
d. Outdoor arena		
e. Indoor arena		
f. Round pen / longe ring		
g. Breeding facilities		
h. Cross-country course		
i. 1/2 mile track		
j. Crop land, hay, etc.		
k. Other		
l. Total acreage		

Code No. _____

17. Please check appropriate box:	Institution	Non-profit foundation	State	Other
a. Current facilities owned by				
b. Maintenance equipment maintained by				
c. Instructional equipment (including tack) owned by				
d. Donated horses transfer to				
e. Donated equipment transfers to				
f. Liability insurance carried by				

18. 1992-93 BUDGET DATA:

Please list the following amounts as they apply to your department:

BUDGET LINE ITEMS*	Operations Budget	Academic Budget
a. Veterinarian / emergency		
b. Routine / preventative health care		
c. Farrier		
d. Feed and bedding		
e. New equipment purchase		
f. Facilities / equipment maintenance		
g. Salaries		
h. Faculty / staff development		
i. Travel		
j. Capital Improvements		
k. Special projects		
l. Utilities, gas, etc.		
m. Facility rental		
n. Taxes		
o. Research		
p. Other		
q. Other		
r. TOTAL		

** Please clarify any budget line items which do not exactly fit your budget.*

19. What are specific variable costs which you feel are unique to equine academic programs?

20. How do you deal with these variable expenses in:

a. planning your budget

b. handling unexpected emergency costs

Code No. _____

21. SPECIAL FEES RELATED TO EQUINE PROGRAM (as applicable):

FEE	Amount	per time period (circle one)				
a. Additional equine tuition				semester	year	other
b. Riding or lab fee for classes		hour	month	semester	year	other
c. Fee for extra riding		hour	month	semester	year	other
d. Student horse boarding			month	semester	year	other
e. Public horse boarding			month	semester		
f. Public lessons		hour				
g. Public training		hour	month	semester	year	other
h. Other:_____		hour	month	semester	year	other

22. Please show amount of revenue from sources pertaining to your program.*

SOURCES OF REVENUE	Amount
a. Non-profit foundation/endowment fund	
b. Student fees / tuition	
c. Services to public (lessons, training, school-sponsored shows, etc.)	
d. Outside rental of facilities	
e. Direct horse sales	
f. State funds	
g. Federal funds	
h. Other	
i. TOTAL INCOME	

* 22. j. The purpose of this question is to determine what percentage of equine program budgets are raised through fundraising or program activities (compared to traditional academic departments, such as English or Mathematics, which usually do not have the capability or necessity of bringing in revenue). If your program brings in revenue by means of shows, breeding, training, boarding, sales, clinics, special fundraisers, etc., please briefly describe these activities below:

116

23. What agency/department is responsible for collection of fees for special services provided by equine department?

____a. Fiscal affairs office ____ b. Non-profit foundation staff ____ c. Equine department

If you have any comments on this questionnaire or ideas for future research on equine degree programs and departments, I would appreciate hearing them. Please use the back of any page for additional remarks and return the questionnaire in the enclosed envelope to:

Grace E. Matte, 6628 Woodruff Road, Lima, NY 14485

If you have any questions or would prefer to fax the questionnaire, please call (716) 346-5212.

Thank you for your assistance in this research!

APPENDIX C

RESEARCH SAMPLE

Averett College
West Main St.
Danville, VA 24541

Black Hawk College
P.O. Box 489
Kewanee, IL 61443

California State Polytechnic University
3801 West Temple Ave.
Pomona, CA 91768

Cazenovia College
Cazenovia, NY 13035

Central Texas College
P.O. Box 1800
Killeen, TX 76540

Central Wyoming College
2660 Peck Ave.
Riverton, WY 82501

College of Southern Idaho
P.O. Box 1238
Twin Falls, ID 83303

Colorado State University
Fort Collins, CO 80523

Cooke County College
1525 West California
Gainesville, TX 76240

Delaware Valley College of Science and Agriculture
Doylestown, PA 18901

Ellsworth Community College
1100 College Ave.
Iowa Falls, IA 50126

Elms College
291 Springfield St.
Chicopee, MA 01013

Feather River College
P.O. Box 11110
Quincy, CA 95971

Ferrum College
Ferrum, VA 24088-9001

Harcum College
Bryn Mawr, PA 19010

Illinois Valley Community College
2578 E. 350th Rd.
Oglesby, IL 61348-1099

Johnson & Wales University
Abbott Park Place
Providence, RI 02903

Lake Erie College
391 W. Washington St., Box 345
Painesville, OH 44077

Lakeshore Technical College
1290 North Ave.
Cleveland, WI 53015

Lamar Community College
2401 S. Main
Lamar, Co 80152

Louisiana Technical University
P.O. Box 10198, T.S.
Ruston, LA 71272-0045

Martin Community College
Kehukee Park Rd.
Williamston, NC 27892-9988

Merced Community College
3600 M St.
Merced, CA 95348

Middle Tennessee State University
P.O. Box 261
Murfreesboro, TN 37132

Midway College
512 E. Stephens St.
Midway, KY 40247-1120

Montana State University
Bozeman, MT 59717

Morrisville College, SUNY
Morrisville, NY 13408

New Mexico State University
Box 3-I
Las Cruces, NM 30003

North Carolina State University
NCSU, Box 7621
Raleigh, NC 27695-7621

Equine Program Department Head
Northeast Louisiana University
Monroe, LA 71209-0510

Northeast Missouri State University
158 Barnett Hall
Kirksville, MO 63501

Northeastern Junior College
Sterling, CO 80751

Northwestern State University
Natchitoches, LA 71497

Ohio State University Ag/Tech Institute
1328 Dover Rd.
Wooster, OH 44691

Oklahoma State University
900 N. Portland
Oklahoma City, OK 73107

Oregon State University
Corvallis, OR 97331-6702

Otterbein College
Westerville, OH 43081

Pace University
Bedford Rd.
Pleasantville, NY 10570

Parkland College
2400 W. Bradley Ave.
Champaign, IL 61821-1899

Rocky Mountain College
1511 Poly Dr.
Billings, MT 59103

Rogers State College
Claremore, OK 74017

Rutgers University
P.O. Box 231
New Brunswick, NJ 08903

Salem-Teikyo University
P.O. Box 369
Salem, WV 26426

Shasta College
1065 N. Old Oregon Trail, Box 496006
Redding, CA 96049

Sierra College
5000 Rocklin Rd.
Rocklin, CA 95677

Southern Arkansas University
SAU, Box 1385
Magnolia, AR 71753

Southern Illinois University at Carbondale
Carbondale, IL 62901-4417

Southern Seminary Junior College
2721 Walnut Ave.
Buena Vista, VA 24416

Southwest Missouri State University
901 S. National Ave.
Springfield, MO 65804-0094

St. Andrews Presbyterian College
Laurinburg, NC 28352

St. Mary-of-the-Woods College
St. Mary-of-the-Woods, IN 47876

Sul Ross State University
Box C-110
Alpine, TX 79832

SUNY Cobleskill
Cobleskill, NY 12043

Tarleton State University
Stephenville, TX 76402

Texas A & M University
College Station, TX 77843

University of Connecticut
Storrs, CT 06269-4040

University of Findlay
1000 N. Main St.
Findlay, OH 45840

University of Georgia at Athens
Athens, GA 30602

University of Kentucky
Lexington, KY 40506

University of Louisville
School of Business, Box 301
Louisville, KY 40292

University of Massachusetts at Amherst
Amherst, MA 01003

University of Minnesota at Crookston
Crookston, MN 56716

University of Missouri at Columbia
College of Agriculture
Columbia, MO 65211

University of New Hampshire
Kendall Hall
Durham, NH 03824

Virginia Intermont College
Moore & Harmeling Streets
Bristol, VA 24201

West Texas State University
Box 998 W.T. Station
Canyon, TX 79016

Wood Junior College
Mathiston, MS 39752

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