

Teaching Introductory Animal Science Utilizing Community Resources

Joe M. Cadle

Abstract

This paper deals with the problems associated with teaching animal science at smaller institutions, namely, the lack of institutionally owned livestock and equipment. The paper suggests some methods on how to circumvent this deficiency and utilize community resources for educational purposes.

Introduction

Animal science teachers may adopt a "prima donna" attitude toward a less-than-satisfactory teaching environment. For example, if the equipment and animals don't exist on campus, then the students won't have exposure to them. When facilities are lacking at community and junior colleges, as well as at some of the smaller four-year schools, the tendency is toward a lecture format, without any applicable laboratories included.

Students attending smaller, less-endowed schools may very well be less knowledgeable if a comparison were made between them and students from a better-equipped institution. Therefore, it is extremely important that a solution be sought to this problem.

I have taught Introductory Animal Science at two different schools, each severely lacking in equipment and animals. The teaching techniques used in these programs were completely dependent upon utilizing resources available in the surrounding area.

An Alternative

The format that I used for the introductory animal science course was to begin the semester with reproduction and end with the hanging carcass and its various cuts. Discussions of the three major classes of livestock (cattle, sheep and swine), along with a short section on horse production, were incorporated into this schedule with laboratory periods complementary to the lecture material.

Laboratories can be arranged with resources available from the community and in the community itself. Arrangements should be made as far in advance as possible, with a "reminder" call placed a few days before the appointed time. Obviously, the laboratory exposure has to coincide with what is available in a given area. The course outline in Table 1 can be adapted to differing geographical locations and conditions.

My experiences in obtaining genitalia for dissection, rumen fluid for microscopic examination, in arranging tours of specific operations, to name a few, have all been positive. People are usually more than willing to help; it provides

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them the satisfaction of contributing to the education of the area's youth and the satisfaction of having been recognized as competent producers. Not only does their involvement provide assistance to the professor, but it also generates good will between the institution and the community.

At the beginning of the course, at least one veterinarian and several producers should be contacted. They should be encouraged to contact the instructor when they recognize or anticipate situations that would be of educational value to the students. This could be any activity from a postmortem to the pulling of a calf.

If operators are given a chance to discuss some aspect of their operation or to participate in the demonstrations, they often impart an enthusiasm and insight that formal instruction may not. Students usually respond favorably to the simple, "no-frills" approach that producers often use.

Tours should be more than site-seeing trips; if possible they should incorporate hands-on experiences. When beginning students, particularly those with urban backgrounds, have a chance to brand a calf, herd a flock of sheep, remove a piglette's eye-teeth or give an injection, the experience means much more than when the students are observers only. To carry this concept further, if students see and do the same things using different techniques the educational benefit is multiplied.

An open-ended laboratory period is the optimum. Although a flexible time schedule and transportation are required, the academic rewards outweigh the coordination problems.

Letters of commendation should be sent to the cooperator, with a copy to their supervisor, if applicable. This demonstrates appreciation and paves the way for future assistance.

This approach to teaching an introductory course in animal science certainly is not novel, but it probably is not utilized to the extent it should be. It takes considerable time and planning on the part of the instructor but the benefits justify the efforts. Even when facilities are adequate, this technique can be used to provide a wider and more realistic exposure to the world of animal science and industry.

Summary

A lack of facilities and livestock appropriate to the instruction of animal science courses is sometimes a problem, particularly at smaller institutions. This deficiency need not restrict the teaching of a course to a lecture format. It is critical in an introductory course, as in any other animal science course, that clear, concise, and applicable demonstrations and experiences be offered the student. If a student is exposed to the realities of animal science, as opposed to

What Skills Do Graduates Need?

Andrew P. Barkley

Abstract

Survey data collected from graduates of the College of Agriculture at Kansas State University from 1978 to 1988 were utilized to determine what skills were important to agriculture alumni in their current employment. The statistical relationships between the graduates' major field of study and the relative importance of selected career skills are presented and discussed. Oral communication skills and

people skills were the most important for a large percentage of agriculture graduates. There was wide divergence in the relative importance of skills for different fields of study.

Employment opportunities within the agricultural sector are changing at a rapid pace. Production agriculture has become increasingly complex, requiring sophisticated management and analytical skills for competent decision-making. Technological advances and economic growth have increased the demand for agriculture graduates in the processing, marketing, and distribution of food products (Coulter, Stanton, and Goecker). Given these ongoing developments, agricultural curricula must accommodate the changing needs of agriculture graduates and their employers.

Students enrolled in agriculture often demand relevance to the "real world." What could be more relevant than knowledge of the skills that former agriculture students use while on the job? The experiences of recent graduates can be used to enhance course planning and evaluation, curricula development, and student advising. A recent alumni survey conducted by Byler and Lamberth indicated that the most frequently cited need for improvement in agricultural curricula among graduates of the Tennessee Technological University School of Agriculture was "more emphasis on career guidance and placement." Students currently enrolled in agricultural programs can benefit from knowledge of the post-commencement experiences of recent graduates by building skills that alumni found useful in agricultural careers. Teachers can contribute to the potential productivity and career satisfaction of currently enrolled students by incorporating the views of former students into both classroom instruction and career advising.

Previous studies of desired career skills and interpersonal characteristics in the agricultural sector are of two types: surveys of employers and surveys of alumni. Broder and Houston surveyed both agribusiness firms and University of Georgia alumni to provide "documentation of employer needs and perceptions." Morrison and Edwards asked agribusiness employers to identify characteristics associated with successful employment in agribusiness. Litzenberg and Schneider provided results of a national survey of agribusiness firms that ranked the desirability of a large number of personal characteristics.

Alumni surveys include that of Byler and Lamberth, who documented curricula revisions at Tennessee Technological University, implemented in part as a result of follow-up surveys of School of Agriculture alumni. Riesenbergh also employed an alumni survey to determine student perceptions. Barkley is an assistant professor in the Department of Agricultural Economics, Kansas State University, Manhattan, Kansas 66506.

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lectured concepts, alone, he or she is more apt to gain interest and possibly pursue the field. The surrounding community is often an overlooked source of needed equipment and livestock. Because of its diversity, this source may even prove to be more effective than institutionally owned facilities.

Table 1. Lecture And Laboratory For Beginning Animal Science

Lecture	Laboratory
Reproduction	
Anatomy of male and female reproductive tracts	Dissect open and pregnant bovine reproductive tracts
Hormones of reproduction	
Introduction to artificial insemination and pregnancy diagnosis	Observe cows in heat at a dairy
Reproductive diseases	Semen collection and evaluation
Nutrition	
Digestive system of monogastric farm animals	Dissect monogastric digestive system
Digestive system of ruminant farm animals	Dissect ruminant digestive system
Nutrients	Tours of feed mills
Swine Production	
History	Swine judging
Breeds of swine	Tours of swine operations
Management practices	
Sheep Production	
History	Tour of sheep ranch
Breeds of sheep	Tour of wool warehouse
Management practices	Wool judging
Wool production and evaluation	
Cattle Production	
History	Tours of commercial and registered cow operations and feedlots
Breeds of cattle	
Management practices	
Horse Production	
History	
Types and breeds of horses	Tour of horse ranch
Management practices	Tour of breeding farm
Common ailments of horses	
Marketing of Farm Animals	
Markets	
Carcass evaluation	Tour of slaughter plant
Wholesale and retail cuts	