

would be better to learn by group discussion. On the other hand, students expressed a higher interest in the development of critical thinking by suggesting that the combining of information into complex thoughts is an effective learning situation.

Students reported low interest in learning by (1) listening to taped lectures; (2) using slide tape sets; (3) writing analyses in subject areas; and (4) writing term papers. The percentage based on the frequency of response was 26.3%, 20.7%, 17.1%, and 10.7% respectively.

Instructors may observe that students are reluctant to do term papers because they are too time consuming. Term papers require students to use library resources extensively and then type reports by due dates. Perhaps, students do not feel that the investment in time is worthwhile for the learning by this method. Students may also view the writing of an analysis of a subject in the same way as writing term papers.

The use of slides with or without tapes apparently has little merit to the student as a learning style. It is a substitute for the classroom experience. Students may feel that, as a substitute, it is too impersonal and fails to provide the needed contact with the instructor.

### Conclusion

Instructors may be able to offer a wider range of teaching styles in the classroom in order to obtain better results from students. While the lecture format is viewed as a useful learning style by 50% of the students, it appears that instructors may be able to take advantage of a variety of other teaching styles. The learning-teaching styles of greater interest than lecturing include the following:

1. Take field trips
2. Using individualized instruction
3. Going to workshops of academic interest
4. Watching television
5. Talking about subjects in the classroom
6. Taking simpler thoughts and combining them into complex thoughts
7. Attending show-and-tell lectures

This variety of learning-teaching styles could be used in a single course with adequate course preparation. Instructors could review lesson plans to determine if more effective teaching styles should be implemented in order to get the point across to students. Perhaps, the variation in teaching-learning style would improve the attitude of students toward learning. If attitudes are considered, then this factor must be measured in view of any changes in teaching-learning styles.

The introduction of a variety of teaching-learning styles in the classroom also demands the necessity of effective evaluation. Therefore, instructors should devise ways to measure the effectiveness of the particular style or styles.

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## Preparing Voag Teachers In Livestock Skill Areas

Ed Osborne

### Introduction

Faculty members in colleges of agriculture across the United States are being forced to modify their approaches to teaching technical agriculture courses in order to accommodate the changing livestock skill levels that entering college agriculture students possess. A growing number of journal articles and conference presentations deal with the topic of providing practice in performing agricultural skills at the university level. Those who question the appropriateness of this type of education in a university setting generally focus their arguments around two issues:

1. agricultural skills should be practiced and developed in educational settings other than four year colleges and universities, and
2. college graduates in agriculture will secure positions requiring managers rather than practitioners.

But what about those agriculture graduates who may enter the teaching profession? They must be both educational managers and practitioners. The importance of vocational agriculture teachers having technical skills has been widely recognized. Researchers have generally agreed that successful vocational agriculture instruction requires that teachers possess essential skills in animal science and other technical areas (Thomas, 1977). The development of these requires structured student practice, as explained by Hammonds (1950, p. 144) when he discussed the "kinesthetic" sense or the need to "get the feel" of performing a task requiring significant skill:

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An important implication of the role of the kinesthetic sense is that a manipulative skill cannot be acquired by merely looking at or by listening to an explanation of it. The learner must get the feel of things firsthand if he is to develop a motor skill - no doing or practice, no manipulative skill.

This explanation has significant implications for the process by which agricultural skills are taught and developed.

### Discussion

Research recently completed in the Department of Agricultural Education at Ohio State (Osborne, 1982) provided evidence of the need developing skills in livestock production which could be acquired through additional experience while in college. Essential skills in beef, sheep, dairy, swine and poultry production were identified through literature reviews and input obtained from College of Agriculture faculty and producers in the state. The list of 61 livestock skills was restricted to those performed with the live animal. Current and prospective agricultural production teachers in Ohio were randomly selected and asked to report (1) their experience in developing required skill for livestock production, (2) their confidence in demonstrating the skill to others, and (3) their major source of skill acquisition.

Results indicated that a majority of both prospective and current teachers had only read about or seen the skills used but had never actually performed the tasks requiring these skills. In addition, the average levels of confidence reported by both groups for the set of livestock skills was only medium.

When analyzing these findings, one must consider the background characteristics of the current and prospective teachers. A large majority of respondents in both groups reported they had been reared on a livestock farm and had taken vocational agriculture in high school. In addition, many of the prospective teachers were carrying a dual major in agricultural education and animal science; and the average prospective teacher in the sample was beginning his/her senior year in college. The average current teacher reported ten years of teaching experience.

Although respondents reported limited firsthand experience in livestock skills, the home farm was cited as the major source of skill development by both current and prospective teachers. A relatively small number of respondents also cited college courses, high school vocational agriculture, and "while teaching vocation" as the major setting where they acquired their present performance levels.

### Summary and Implications

The results of this research lead one to conclude that even if prospective agricultural production teachers are reared on a farm and take vocational agriculture

in high school, they still will not have sufficient livestock skills. These and other background experiences provide exposure to important skills but generally do not develop mastery of the skill. This study showed that Ohio teachers who had actually used acquired skills were more confident in their ability to demonstrate these skills. In turn, these teachers reported they taught the skills more often and used teaching methods involving live animal demonstrations and student practice more frequently. If more teachers who lack competency in technical skills enter the teaching arena, vocational agriculture programs could become "all talk and no show" - subject matter oriented experiences with little opportunity for student practice and application. However, if those preparing to teach can be given direct practice of skills, they will be much more apt to do the same for their students in vocational agriculture.

In response to the two issues presented in the beginning of this article, technical agriculture skill development must occur in university settings simply because it is not occurring to a satisfactory degree in other settings, including on the farm. One of the major objectives of vocational agriculture is to prepare students for occupations in agricultural production areas. Thus, college graduates who enter teaching are practitioners, as well as managers, and they must possess the ability and confidence to teach technical agriculture skills to their students.

Agricultural education needs the direct support and assistance of colleges of agriculture in order to meet its goal of preparing and placing teachers of vocational agriculture who are both technically and professionally competent. This cooperative effort is essential at both the preservice and inservice level of teacher preparation. Education in both agricultural management and practical agricultural skills represents a complementary, not contradictory, goal in the preparation of personnel for careers in agriculture and teaching.

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