

farm shop and 38 acres of ground dedicated exclusively for course use.

Student comments concerning the course were used to make course changes. These changes included increasing laboratory time and acquisition of more equipment. Student comments lauded the hands-on nature of the course.

Future course developments are planned in two areas. These are: 1) acquisition of additional equipment and 2) addition of an irrigation practices component to the course.

References

1. Mortensen, James H. 1981. Field based agricultural skills workshops for students deficient in practical agriculture experience. *NACTA Journal XXV(3)*:21-25.
2. Mayer, Leon A. 1980. Providing practical training for non-farm agriculture students. *NACTA Journal XXIV(2)*:34-35.
3. Vorst, James J. 1979. How do we adequately train the non-farm student. *NACTA Journal XXIII(3)*:13-14.

Relationship

Agricultural Experience and Grades Earned

Roy D. Dillon

The agricultural experience of college students preparing to become vocational agriculture teachers is essential for effective teaching. Moreover, two years or the equivalent of agricultural experience is needed in order to be certified to teach vocational agriculture at the secondary level in Nebraska.

As part of the assessment of this agricultural experience and to help determine if there is a basis for advising students to by-pass basic college courses in agriculture, the study was undertaken.

The problem was to determine the degree of relationship between the type of agricultural experience of junior and senior agricultural education majors and grades earned in selected basic agricultural college courses.

Purposes and Objectives

The specific objectives of the study were:

1. To determine the relationship between agricultural experience and grade earned in Animal Science 101 (Introductory Animal Science and Livestock Evaluation).
2. To determine the relationship between agricultural experience and grade earned in Agronomy 101 (Introductory Crop Science).
3. To determine the relationship between agricultural experience and grade earned for Mech Ag 117 (Metal Working).

Dillon is a professor in the Agricultural Education Department, University of Nebraska, 302 Ag Hall, East Campus, Lincoln NE 68583.

Literature Review

A review of literature found a variety of studies related to the problem. Stufflebeam (1978) found no differences between students reared on a farm and those reared in town in relation to grades earned in an introductory course in animal science. Petermann and Elliott (1964) found that performance in a college freshman botany course was not related to students' secondary school preparation in science or a combination of agriculture and science.

Benton (1964) and Schowengerdt (1971) studied the relationship of rank in high school graduating class and scholastic achievement in college courses. Both found that the rank in the high school graduating class was the single most important predictor of academic success in a college or university.

Two more comprehensive studies utilized regression analysis to predict college academic performance. Stevens and Herburger (1971) studied twenty independent variables. They found that students' personal attributes and backgrounds were of considerable value in predicting academic success in college; i.e., the motivational variables such as an older sibling graduated from college, and father's education level. They found that background employment had no significant influence on college academic grade point average. Knoblauch (1975) studied fourteen predictor variables. He found that high school vocational agriculture courses were important as predictors of performance in agricultural engineering, soil science, and animal husbandry courses. Only 60 percent of the variation, however, was explained using the variables studied.

The literature review was inconclusive in terms of the relationship of agricultural occupational experience to performance in undergraduate college courses.

Methodology

1. Forty-six agricultural education majors evaluated their agricultural occupational experience prior to entering the College of Agriculture. The National Ag Education Competencies Study Report (McClay, 1978), was used as the basis for development of the data collection instrument.
2. Ninety-eight job titles were chosen from the National Ag Education Competence Report, and listed with their supporting skills on the questionnaire. Each respondent was asked to respond to each job title, following the example below:

In the left column check "yes" if you have had experience in the job title listed. Include experiences learned in vocational agriculture classes.

For each job title checked "yes," check one column on the left side for each competency. Indicate by checking **strong**, **average**, **weak**, or **no experience**.

Job Title: Beef-Cattle Ranch Foreman				
<input type="checkbox"/> Yes	ST	AV	WK	NO
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1. Supervise workers.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 2. Inspect cattle.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 3. Manage labor.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 4. Keep records.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 5. Market cattle.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 6. Manage the ranch.

3. A mean was calculated for each skill within the job title over all respondents, and an overall mean calculated for the job title, using the following point scale:

3 = strong: can perform without supervision
 2 = average: can perform with some supervision

1 = weak: acquainted with but need close supervision

0 = no: no experience obtained

4. Using the Pearson r, (Product Moment Statistic) a correlation was calculated between the mean for each job title and grade earned in the student's undergraduate course. A test for the probability of r was also made using the formula: $h_0: RHO = 0$

Results

1. For the objective concerning the relationship of agricultural experience job titles and grade earned in Animal Science 101 (Introductory Animal Science and Livestock Evaluation), Table 1 shows the value of each correlation coefficient and the level of significance for the fifteen job titles related to animal production. Significant correlations were found for two of the fifteen job titles studied:

Small Animal Supplier
 Animal Health Assistant

Job Titles represented by the thirteen non-significant correlations were:

Dog Groomer	Egg Inspector
Slaughter House Worker	Meat Inspector
Breaking House Worker	Game Farmer
Beef Production	Lab Animal Assistant
Sheep Production	Pet Shop Worker
Swine Farmer	Kennel Worker
Animal Technician	

2. For the objective concerning the relationship of agricultural experience job titles and grade earned in Agronomy 101 (Introductory Crop Science), no correlations were found to be significant for the ten job titles studied, and none were above .25 where 17 or more persons responded. The ten job titles were:

Job Title	n	Correlation Coefficient	Level of Significance
Corn Producer	21	.028	.904
Forage Producer	16	.106	.695
Grain Sorghum Producer	16	.188	.483
Potato Producer	5	.136	.826
Small Grain Producer	20	.245	.296
Crop Producer-General	19	.024	.921
Soybean Producer	19	.008	.972
Vegetable Grower	8	-.310	.454
Grain, Fertilizer, Feed			
Sales Worker	10	.511	.130
Irrigation Technician	11	.264	.431

3. For the objective concerning the relationship of agricultural experience job titles and grade earned in Mechanized Agriculture 117 (Metal Working, and Welding), significant correlations were found for two job titles studied:

Production Ag Mechanics
 Tractor Mechanic Helper

Correlation coefficients and levels of significance for the six job titles studied for this objective were:

Job Title	n	Correlation Coefficient	Level of Significance
Production Ag Mechanics	20	.481	.031
Setup Mechanic, Farm Eqpt.	15	-.192	.492
Tractor Mechanic Helper	14	.615	.019
Small Engine Mechanic	10	.426	.219
Farm Tractors and			
Equipment Operator	17	.236	.361
Irrigation Technician	11	.385	.241

Conclusions and Recommendations

Since significant correlations were found for job titles in two of the three agricultural occupation areas studied, the following conclusions and recommendations are made:

1. There is evidence of a strong positive relationship between agricultural experiences of agricultural education majors and grades earned in the basic Animal Science 101 course. A positive correlation of .7 or higher was observed for eight of the fifteen job titles studied. The eight job titles were:

Animal Technician	Dog Groomer
Meat Inspector	Kennel Worker
Small Animal Supplier	Lab Animal Assistant
Animal Health Assistant	Pet Shop Worker

2. There was a wide variation in the breadth of agricultural experience reported by the agricultural education majors, as shown by the variation in the number of respondents for job titles studied.

3. The number of positive correlations for job titles which were closely related to the agriculture courses studied, and provides a basis for recommending that college freshmen in agricultural education in Nebraska carefully assess their occupational experience at time of entry into the teacher education program.

Table 1. Correlation Coefficient and Level of Significance For Relationship Between Agricultural Experience Job Titles and Grade Earned in Animal Science 101.

Job Title	n	Correlation Coefficient	Level of Significance
1. Beef Production	28	.274	.157
2. Sheep Production	13	.431	.147
3. Swine Farmer	25	.124	.557
4. Slaughter House Worker	5	.218	.723
5. Breaking House Worker	7	.076	.865
6. Animal Technician	5	.827	.083
7. Meat Inspector	4	.707	.292
8. Small Animal Supplier	4	.971	.022*
9. Animal Health Assistant	7	.881	.007*
10. Egg Inspector	4	.523	.473*
11. Dog Groomer	4	.807	.193
12. Game Farmer	6	.073	.884
13. Kennel Worker	3	.971	.136
14. Lab Animal Assistant	4	.937	.064
15. Pet Shop Worker	3	.943	.225

* Alpha = .05

4. This study found, as has previous research, that previous agricultural experience had no significant influence on academic achievement in selected basic agriculture college courses.

Bibliography

- Benton, Ralph E., "Relationship of Selected High School Subjects and Other Factors to Scholastic Achievement of Students in the School of Agriculture at Southern Illinois University," *NACTA Journal*, September, 1964, pp. 67-70.
- Knoblauch, Wayne A., "A Predictive Model of Academic Performance in the Michigan State University Agricultural Production Program," *NACTA Journal*, December, 1975, pp. 9-12.
- McClay, David R., "National Ag Occupations Competency Study," Final Report Project No. 498AH6036, U.S. Department of Health, Education, and Welfare, May, 1978, 584 pp.
- Petermann, Kenneth and Elliot, James D., "Performance in College Biology or Related to High School Preparation in Science and Agriculture," *NACTA Journal*, September, 1964, pp. 73-76.
- Schowengerdt, G. Carl, "Predicting Student Academic Success in College," *NACTA Journal*, June, 1971, pp. 44-48.
- Stevens, Joe B. and Herburger, Thomas J., "Determinants of Academic Performance: A Case Study," *NACTA Journal*, March 1971, pp. 12-14.
- Stufflebeam, C.E., "Student Performance Factors in an Introductory Course for Animal Science," *NACTA Journal*, June 1978, pp. 18-20.

Legislative Internship: A Step in the Right Direction

Douglas A. Pals

"DOING IT is so much different that reading about it." This was the observation of Cathy Tesnohlidek following a nine-week internship as an Idaho legislative lobbyist. It was an experience that Cathy enthusiastically recommends to anyone. "It was well worth the time," she remarked.

Cathy, an Agricultural Education major from Fruitland, Idaho, enrolled in a six-credit legislative internship through the College of Agriculture during the spring semester of her junior year. A model of the legislative internship offered through the University of Idaho includes guidelines for selection and qualifications of the intern, intern job description and methods of evaluating the intern experience. THE benefits of the internship to the student, the legislature and the University are also described in this article.

Selection and Qualifications

Cathy was selected from several applicants for the intern position because of her farming background and her outstanding leadership in college and high school activities. Beef cattle and crops in vocational agriculture helped Cathy finance her college education, and her experience as a State FFA officer was a stepping stone to campus student government

office. The selection and qualifications process established at the University of Idaho included the following points.

1. The student follows an application-interview process.
2. The student must be of sophomore status or higher at the University of Idaho and show interest in agriculture and lobbying.



Cathy Tesnohlidek confers with Representative Bob Geddes about legislation. Cathy was a University of Idaho student interning with the Idaho State Wheat Growers Association during the legislative session. Representative Geddes is from Preston, Idaho, and is a former ISWGA President.

Pals is head, Department of Agricultural and Extension Education, University of Idaho, Moscow, Idaho 83843.

3. An agricultural background is preferred; the intern works primarily on legislative issues pertinent to agriculture.
4. Ability to type is desirable.

Intern Job Description

The intern reports to a registered lobbyist with the Idaho legislature. The lobbyist is involved with an agriculturally based organization.

Cathy Tesnohlidek interned with the Idaho State Wheat Growers Association. Some of her duties included:

1. Researching, delivering preliminary testimony and following up bills that were of significant interest to the membership and policies of the Idaho State Wheat Growers Association.
2. Working on a day-to-day basis under the direction of the executive director of the Idaho State Wheat Growers Association.
3. Attending legislative committee meetings, related industry meetings, and corresponding with legislators on issues affecting agriculturally related items.
4. Attending industry meetings related to the legislature.
5. Developing some experience in following legislation through the legislative process in Idaho.
6. Becoming familiar with names, backgrounds, and philosophies of Idaho government officials.

Evaluation

Evaluating the intern experience is an important part of the placement. Cathy completed an exit interview with the Associate Dean of Resident Instruction and wrote a summary paper of her experiences. In addition to these activities, her grade was based on the comments of the lobbyist with whom she worked.

The evaluation method chosen should address the learning gained from the experience as well as a personal account of some of the most interesting aspects of the position. In cooperation with the faculty sponsor, the student intern may elect from several evaluation methods.

1. A seminar presented to an undergraduate agricultural class.
2. An oral presentation at the Summer Vocational Agricultural Teachers' Conference or other conferences.
3. A display in the College of Agriculture display case.
4. A written report of experiences — possibly publishable in a magazine or newspaper.
5. An exit interview with the assigned lobbyist, responsible faculty member and College of Agriculture administration.

Benefits to Student

Cathy listed the following items gained during her internship:

1. Gained excellent experiences in learning to work with many different types of people.
2. Became interested in politics and what's happening in the state of Idaho.
3. Became familiar with bills of interest to agriculture.
4. Learned quickly which key legislators have the most influence and interest in agriculture.
5. Met and became acquainted with key individuals in Idaho agriculture — future contacts for employment.
6. Learned important concepts in presenting a budget and explaining key issues to groups of people.
7. Learned how to talk to legislators, who to contact, and what to say.
8. Learned the importance of becoming involved in our government.

The benefits Cathy noted were verified by Steve Berglund, Executive director of the Idaho State Wheat Growers Association, and Cathy's supervisor during her internship. Mr. Berglund remarked, "Cathy began her experience seeming somewhat intimidated by the legislators and the process. But by the close of the session Cathy was a valuable member of the lobbying effort."

Benefits to the University of Idaho

Cathy's intern experience came at a time when the College of Agriculture budgets were being cut and personal lobbying was essential to funding. Faculty sponsors and administrators within the College of Agriculture identified benefits of the internship program to the University.

1. Helped keep the College of Agriculture up to date on what was happening in the state legislature with agriculturally related topics.
2. Gave ability to contact more key legislators with the additional individuals working as lobbyists.
3. Will aid in the long term to keep citizens throughout the state of Idaho well informed about the legislature.

Enthusiasm builds enthusiasm. An intern fresh from the legislature can have a ripple effect on other students and teachers within the University.

Impact

In addition to the intern placement being a positive experience for a student, it has other beneficial effects. In the short-range, the legislative intern program can have a positive impact on legislation affecting agriculture and the college. The shortage of financial resources of the late seventies and early eighties have made agricultural educators more aware of the need to keep legislators informed of agriculture programs. If our legislators are to make intelligent

decisions on how to allocate limited resources, they must be informed.

In the long term, the intern program will aid agricultural graduates in having firsthand knowledge of the legislative process. A perennial problem with having a noticeable impact is having enough agricultural graduates actively participating in the legislative contact. It seems that a very small percentage actually DO IT. It is expected that agriculture graduates will be more inclined to contact their local legislator if they have had firsthand experience with the legislature. As Cathy said, "DOING IT is so much different than reading about it."

Cathy has just begun her teaching career as a Vocational Agriculture Instructor in Glens Ferry, Idaho. She has already made plans to teach a unit on legislative information. She'll be inviting a legislator to

class. Cathy is even considering a two-week internship with a lobbyist for her high school students. She feels it would be far more valuable than the traditional high school legislative page experience. Understanding and influencing legislation is a life-long skill that can be developed through an internship experience.

Summary

If our success is minimal in getting agriculture alumni involved in the legislative process with conventional methods, let's build in legislative awareness into our educational process.

At the University of Idaho we are encouraging the development of a legislative internship placement program for selected students to gain experiences in the Idaho legislature. This program allows future agricultural leaders to be more aware of the legislative process. I believe the legislative internship is a step in the right direction.

Team Teaching — Untapped Potential

Mary T. Haque and David W. Bradshaw

Team teaching is an often overlooked teaching method with tremendous potential for innovation, stimulation, and intellectual exchange. The term "team teaching" as it is used in this paper is defined as interaction of faculty members on a regular basis. It should not be confused with teaching approaches where one professor teaches his or her own six week block, followed by another professor who teaches another six week block with little or no contact or exchange. In team teaching, lectures are generally taught jointly or alternated on a weekly basis. Syllabi, reading assignments, course objectives and tests are prepared by two or more faculty members working together.

There are numerous advantages to team teaching. These include bridging the gap between experience and inexperience, capitalizing on diverse areas of specialization, stimulating enthusiasm and support, providing a source for teacher evaluation, and motivating students through varied teaching styles.

While there are potential pitfalls to joint teaching, these can be minimized through planning and awareness.

Advantages of Team Teaching

1. Easing the Transition Between Inexperience and Experience.

In his article, "Dealing with teaching anxiety," (2) Douglas Bernstein observes that teachers in all disciplines face anxiety and stress syndrome which affect their performance. He suggests obtaining help and advice from more experienced colleagues as one way of dealing with teaching anxiety.

Teaching jointly with someone who has previously taught a course gives new faculty the opportunity to

observe teaching methods, to review and organize course material, and to access references and audio-visual aids that may have taken several years to gather. Since both faculty members are working toward a shared goal, the competitive attitude that often causes faculty to be secretive about their teaching methods is eliminated. A dynamic exchange of ideas about teaching promotes productive interaction while minimizing anxiety and isolation.

2. Capitalizing on Diverse Areas of Specialization.

With the advent of the information explosion, much of today's emphasis is given to specialization. It is utterly impossible for one person to know all that there is to know even in a specialized field, and professionals often feel frustrated by their inability to keep up with new developments in their specialties. Team teaching enables professors to capitalize on diverse areas of specialization within agriculture. Split appointments among teaching, research, and extension are common in land grant universities. Libbin and Cattlett (8) point out that research, extension, and teaching are mutually supportive and that research and extension provide first-hand instructional material and exposure to real-life current problems faced by industry. Students are stimulated when they feel that their professors are on the cutting edge of research or actively involved with industry. When two or more professionals with different areas of specialization cooperate in a teaching effort, the base of current information is broadened, credibility is enhanced and students benefit.

3. Stimulating Enthusiasm, Support, and Intellectual Exchange.

Team teaching provides a common experience which promotes communication, understanding and intellectual exchange. A two-way dialogue can enhance teacher motivation and enthusiasm which in turn enhances the classroom environment. Many experienced teachers undergo "burn out"; they find it

Haque and Bradshaw are members of the Dept. of Horticulture, Clemson University, Clemson, SC 29631.