

ASSESSING

Experiential Learning

Dennis C. Scanlon

Abstract

The Penn State Experiential Assessment Model was developed to assess the background and agricultural experiences of students entering the Department of Agricultural and Extension Education. The model employs two techniques for assessing student knowledge: self assessment and the faculty interview. Students deficient in technical agriculture and leadership skills are remediated through a variety of approaches that include but are not limited to credit courses, student organizations and advising. Preliminary indications are that the task of monitoring and making recommendations for additional skill development are working. Students are becoming more confident in their ability to perform and are entering the classroom with greater credibility and self esteem.

Introduction

The assessment of undergraduate experiential learning is pre-requisite to the development of a functional undergraduate curriculum. Because learning is comprised of a series of cognitive experiences that collectively impact an individual's role in society, education should supplement real life experiences in ways that contribute to the development of the whole individual.

In this regard, Odell (1984) found that 82% of students entering the College of Agriculture at The Pennsylvania State University had no experience in agriculture, agribusiness, or education. Odell indicated that the "typical" College of Agriculture freshman had completed an academic high school program and was an 18-year-old male from a town or rural, non-farm area. This profile led faculty in the Department of Agricultural and Extension Education at Penn State to conclude that a valid and reliable procedure was needed to assess the backgrounds and agricultural experiences of students entering the department.

The Assessment Model

A model was developed for the Department to use in assessing prior learning in two domains: leadership and technical agriculture. Successful experiences comprising the leadership domain are indicated by basic skills in the areas of communication, speaking, and organization. These skills are fundamental to successful teaching and correlate strongly with effective teaching (Cruickshank, 1978).

Technical agriculture knowledge encompasses the second domain upon which the vocational agriculture curriculum is built. Unlike mathematics, science, and

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1. Instructors should consider placing a greater emphasis on assignments. Assignments will almost automatically move the student away from recall into the higher levels of cognition.

2. Instructors need to place a greater emphasis on the higher cognitive levels in their classroom discourse. Although this is not likely to be easily accomplished, several factors could help instructors with this task. First, instructors need increased knowledge about the cognitive levels at which they teach. Second, instructors could examine their courses with several questions in mind.

- What facts or understandings are essential knowledge within the course?
- What do you, the instructor, expect students to be able to do upon completion of the course? The answer or answers to this question should provide a guide to the cognitive levels which must be incorporated into the classroom instruction and evaluation procedures.
- What teaching methods are most appropriate for the skills and abilities you hope students will develop as a result of the course?

3. Instructors need to design in-class testing instruments which incorporate higher cognitive level questions. Tests will almost certainly continue to be heavily used in classrooms. Exams provide an excellent method for testing recall; thus questions at the knowledge level on exams may continue to be represented disproportionate to the emphasis given knowledge in the course. However, other levels can be tested on exams, even though they are sometimes more difficult to evaluate. Instructor training in the construction of test questions at the various levels of cognition may be necessary.

Finally, further research which seeks to explain student cognitive achievement in the short term is needed. Additionally, longer term studies which would describe and explain the development of cognitive skills is necessary for both instructors and curriculum planners.

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social studies, much of agriculture is developmental in nature, particularly activities related to crop and livestock management practices. Even though an individual can do extensive reading to acquire cognitive knowledge about dehorning or removing extra teats from calves, the novice teacher must actually master the psychomotor dimensions to be able to teach students how to perform these two skills. Therefore, it is critical for faculty to determine the "depth and breadth" of agricultural "hands-on" experience that a student has accumulated prior to entering the teacher education program. The Penn State model employs two techniques for assessing student knowledge: self assessment and the faculty interview.

Self Assessment

First, students must perform a self assessment. Each student entering the program is given a checklist of specific agricultural competencies. The list contains over 900 competencies distributed throughout seven major instructional areas. Competencies in each of the areas have been identified and refined over the past 15 years through a series of national (McClay) and local (Williams) studies in agricultural education. Competencies listed in a major instructional area are considered "fundamental" and "essential" for teaching agriculture in that particular area. For example, ag mechanics is a major area on the checklist. Within this area are over 125 competencies which range from questions about the operation of power tools to items on correct welding procedures. Students are asked to indicate whether they have "no experience," "limited experience," or "I can teach this." Students must complete the checklist and return it to their advisor within the first four weeks they are in the program.

Checklists are summarized individually and collectively. Individual summary data are used by advisors for making specific recommendations regarding remedial work necessary to graduate. Collective summary data are used to design a series of seminars to provide students with "hands-on" experiences in deficiency areas.

In addition to ascertaining competence in certain skill areas, all students must also write a narrative that describes their employment and leadership experiences up to their enrollment at Penn State. The checklist and the narrative provide a comprehensive evaluation of each student's experiences. These two items set the stage for the second portion of the assessment activity.

Faculty Interview

After completing the individualized competency checklist, each student schedules a 20 to 30 minute interview with a three member faculty panel. Faculty members serving on the interview panel are involved with the undergraduate program and represent a specific area of technical expertise. Prior to the interview, each faculty member is given a summary of the checklist completed earlier by the student. The summary enables faculty to better focus the area of

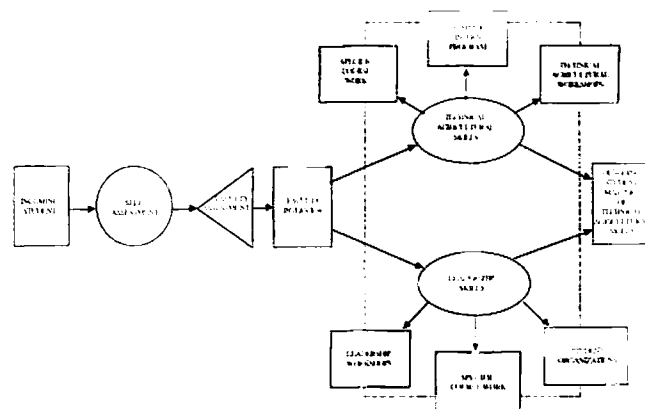


Figure 1. Experiential Assessment Model for Agricultural and Extension Education.

questioning. During the interview, students are examined at length regarding extracurricular leadership activities and occupational competencies. The chief goal of the interview is to determine the degree to which the desired technical competencies and leadership skills have been mastered. Notes about each student are recorded and summarized on the "interview score sheet." At the conclusion of the interview, the faculty review panel discusses each case, and makes appropriate recommendations. Each student receives a written copy of the recommendations.

Remediation

Students with appropriate backgrounds in both technical agriculture and leadership are encouraged to continue to build upon these strengths by becoming involved in agriculturally related programs and activities at both the college and university levels. Students with limited agricultural and/or leadership experiences are given several opportunities to develop additional leadership and technical skills.

Agricultural Education 205, Teaching Ag Competencies

In addition to specific coursework designed to remediate a lack of experience in technical agriculture, a special course, Ag Ed 205, has been developed to address the problem of technical competence. This course includes a series of five Saturday workshops designed to develop specific technical skills in areas of livestock, crop management, and agricultural mechanics. Based on student needs, as suggested by the summary of individualized competency checklists, this course is revised each semester. Students with deficient technical agriculture skills are required to take at least two credits of Ag Ed 205; they can enroll for as many as four credits.

Agricultural Education 395, Internship

Students with extremely limited backgrounds are required to spend at least one and possibly two summers in an "on-farm" or agribusiness intern experience. Internships are arranged independently or through the department in collaboration with other departments within the College. All internships are supervised and

must last at least six weeks. They may be paid or unpaid, but must be taken for credit. Pennsylvania teacher certification standards require that each student submit evidence of occupational competency within the field. This occupational competency provision can be satisfied with one summer of supervised internship experience.

Student Organizations

Students in need of leadership skills are encouraged to get involved in one of the three student organizations operating within the department. Students are encouraged to become members of the Collegiate Chapter of the Future Farmers of America, the Eta Chapter of Alpha Tau Alpha—the professional agricultural education fraternity, or the World Agriculture Service Society. All three organizations provide workshops, leadership opportunities and professional enrichment activities designed to be congruent with students' occupational goals.

Advising

In addition, students are advised to select courses which will add technical breadth and depth to their undergraduate program of agricultural education. Faculty advisors have responsibility for monitoring students' progress as they move through their professional preparation programs.

Summary

This article is not about just making recommendations to remediate student deficiencies in technical agriculture and leadership skill areas. A more accurate description would be a comprehensive system for monitoring a student's entire program so as to dovetail past experiences with proposed education. Through self assessment and the careful use of a faculty interview process, the experiential base of each student entering the department is carefully assessed. Students deficient in technical agriculture and leadership skills are remediated through a variety of approaches that include but are not limited to credit courses, student organizations, and advising.

The experiential assessment model is entering its third year of use. Preliminary indications are that the tedious task of assessing student skills, monitoring skill development, and making recommendations for additional skill development is paying enormous dividends.

Students are becoming more confident in their ability to perform and are entering the classroom with greater credibility and self esteem. In the classroom they are able to relate, discuss, demonstrate, and impart technical agriculture knowledge and skills that were previously foreign or unfamiliar to them. In addition, cooperating teachers (secondary teachers who supervise student teachers) report a much higher degree of satisfaction with student teacher performance.

Overall, the experiential assessment model is helping to produce teachers who perform at a higher

level in the schools. But more importantly, the process is developing teachers who feel more confident about what they do, are more satisfied with their jobs, and ultimately make a significant difference in the learning of students studying vocational agriculture.

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Experiential Learning Models For Training Programs

H. Gene Peuse

Experience-based training programs begin with the premise that participant experience should be the main genesis for learning. Accordingly, the design and execution of training should allow for maximum participant activity as the central stimulant for learning. All three models reviewed here incorporate a learner-centered approach to transferring agricultural knowledge and skills. First, they draw upon a common set of learning activities which simulate life work experiences. Types of simulated experiences include, for example, role plays, field trips, games, modeling exercises, demonstrations, critical incident reviews, work simulation tasks, case studies, and scenario projections. Second, the common aims of these models are to enhance knowledge and skills in agricultural subject matter and also to impart an ability to learn from experience. Not only should learners become more expert technical agriculturalists, but they should develop into more self-aware, self-reliant users and analyzers of experience.

These pedagogical typologies differ, however, in the extent to which participant input is given a place in the learning process. The area of prescribed teacher or trainer influence in the process consequently differs as well.

In preparing and implementing an experience-based agricultural training program, the course leader must resolve a number of basic questions such as: How much structure should be established for the training

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