

A Natural Resources Internship Program

Robert W. Clark and Dennis C. Scanlon

Abstract

In this internship program, natural resources teachers spend a week with a natural resources related business or agency to acquire practical experiences which can be included in their educational programs. Information gained from this internship program allows teachers to remain abreast of current technology and trends in natural resources and environmental management.

Teacher educators in agricultural education have long realized that one of the major problem areas in university preparation programs has been the limited amount of available time for providing students with hands on or practical experience. The traditional thinking in agriculture education assumed that aspiring agriculture teachers had farm backgrounds where they acquired practical experience. The National Committee on Agricultural Education (1988) recommended secondary agricultural programs broaden and diversify their offerings from production agriculture to include areas such as natural resources management, biotechnology, and aquaculture. The changing emphasis in agricultural education from traditional production programs to specialized programs in areas such as natural resources management has created problems for teachers who are steeped in formal education but are severely deficient in practical experience in these new specialized areas. This lack of an experiential base has proven to be a major obstacle for teachers in developing high level technical programs. In vocational education, work experience programs have been used as a very effective tool in narrowing the gap between formal education and on the job experiences. Therefore, the idea for this internship program emerged. The purpose of the internship program was to allow agricultural education teachers to participate in a week long intensive work experience with a natural resources related government agency or businesses to develop skills and knowledge to be used for improving the natural resources component of their agricultural education program.

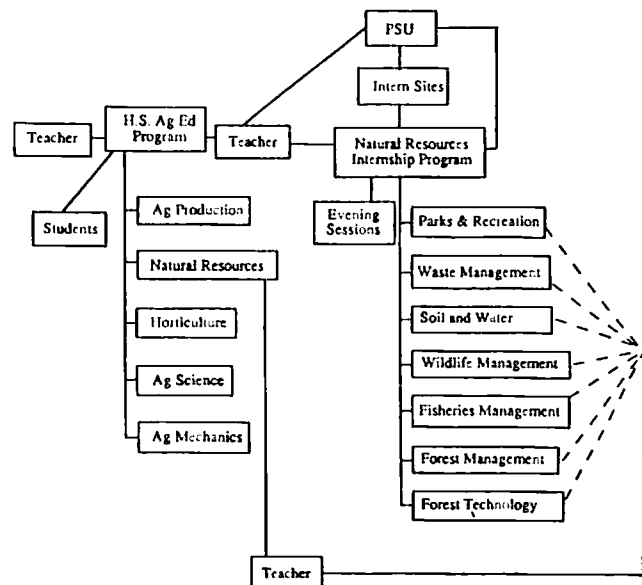
Pennsylvania's Approach

The Natural Resources Internship Program (NRIP) began in 1990 when the Pennsylvania Department of Education funded a professional development proposal submitted by the Department of Agricultural and Extension Education at Penn State. The Penn State Teacher Internship Model (Figure 1) targeted key natural resources areas and identified teacher needs for developing a core knowledge base to improve natural resources instruction. Procedures for selecting potential industry exchange sites and program benefits to participating agricultural education teachers were

Clark is a graduate assistant and Scanlon is an associate professor, both in the Department of Agricultural and Extension Education, The Pennsylvania State University, University Park, PA 16802.

outlined in the model. After the proposal was accepted for funding, an advisory committee of faculty and staff from the Penn State was established to determine potential exchange sites for the natural resources internships to take place. Areas of natural resources identified for inclusion in the internship program were waste management, fisheries technology, soil conservation and water quality, wildlife technology, technical forestry, forestry processing and parks and recreation. The committee also identified local businesses or governmental agencies involved in natural resources. After making the initial contacts with these organizations, each of the potential intern sites was visited to ascertain the type of experience available to program participants. Ultimately, seven organizations were selected as intern sites. Cooperating agencies included the Pennsylvania Bureau of Forestry, Centre Region Parks and Recreation, Centre County Conservation District, Centre Region Solid Waste Management, Pennsylvania Game and Fish Commission, and Alexandria Wood Products. After each site was confirmed, a cover letter and brochure on the program were sent to all Pennsylvania Agricultural Education teachers. Included in the brochure was the program description, program location, application procedures, and program dates. Lodging, food, and travel costs for each participant would be covered by funds from the project. The Penn State campus would serve as the hub of program activities with all cooperating agencies located within a thirty-five mile radius. Teachers were encouraged to consider program needs and their existing knowledge of specific natural resource topics before enrolling in the internship program. Participating teachers could also enroll for two graduate

Figure 1. Penn State Agricultural Education Teacher Internship Model.



credits of agricultural education during the intern program. Enrollment was not limited to agricultural teachers, but was open to any teacher with instructional responsibilities in natural resources and environmental protection. However, all participants were agricultural education teachers from natural resources oriented programs.

By mid-May, participants had been notified of their assignment with a cooperating agency or business that best reflected their area of interest. Housing arrangements were made with a local hotel. Directions to intern sites and other relevant program information was prepared for an orientation meeting to be held at the hotel the Sunday night before the program began.

Program Implementation

The criteria that determine the success of any work experience program is the quality, cooperation, and enthusiasm of the business or agency providing the work experience. In the Natural Resources Internship Model (Figure 1), business and government agencies were selected for the varied experiences they could offer program participants. Cooperating individuals were encouraged to let the teacher become a part of the work force and participate in practical "hands-on" activities similar to what they would be teaching in their programs. Teacher activities for the internship program included electro-fishing, scouting for gypsy moth damage to timber, utilizing laser technology to accurately saw lumber, perform water quality tests and data analysis, assist in habitat restoration for the American Bald Eagle, and developing a long range plan for maintaining various parks and recreational facilities.

To meet the needs of the participants, a high degree of flexibility was maintained with cooperating agencies. Participants were encouraged to contact their intern sites prior to the start of the program and inform them of their specific interests and goals for the internship. In planning the work experience for the participants, cooperating individuals were directed to consider the needs of the teachers in organizing the week long experiential program. Penn State faculty worked closely with the cooperating sites and offered guidance for internship planning. As a result, an excellent relationship with the agencies and business was established.

Although distances between sites made supervision difficult, intense efforts were made to supervise the internship activities by personal visits and telephone calls to insure the program progressed smoothly with teachers participating in the work experiences they requested. In the event that a teacher and the cooperating individual were not well matched, the supervisors were able to tactfully alter the situation to better meet the teachers needs while being careful not to alienate cooperating individuals.

Evening Seminars

In addition to their daily work schedule, participants were required to attend evening seminars on the Penn State campus arranged by the program facilitators. These evening sessions lasted approximately one hour and were held Monday through Thursday during the internship program.

During each session, a cooperating person from an intern site gave a presentation on his or her agency or business. These sessions allowed the teachers to discuss natural resource issues with the presenters and share their experiences in the internship program. The interaction between program participants and the cooperating persons was very important to the overall purpose of the program. The presenters offered new ideas, advice, and guidance for implementing technical natural resources topics. The well planned and carefully organized evening program did much to enrich and broaden the educational benefits of the internship experience.

Program Summary

At the end of the internship program, evaluation information from participants and cooperating individuals was collected and reviewed. The results of the Natural Resources Internship Program evaluation were quite positive. The receptive attitude of the participants toward the program provided valuable feedback for future programs. Comments and recommendations from the teachers will be used to predict the kinds of experiences available from cooperating business and agencies so that future participants will be accurately placed at intern sites which meet their specific needs.

In addition, similar university level programs could be developed and implemented for other teachers in academic and vocational areas on the secondary and post-secondary level. For example, physics or chemistry teachers could participate in an internship with computer or pharmaceutical companies. Vocational teachers involved in Technical Preparation (Tech-Prep) programs may derive benefit from an internship with a civil engineering company.

In conclusion, the Natural Resources Internship Program served as a catalyst for improving the instruction in reorganized agricultural education programs from a production agriculture emphasis toward a technical natural resources and environmental management emphasis. Each participant exhibited a high level of enthusiasm in working with a variety of technical experts at their intern site. After completing the program, teachers were convinced that the inclusion of innovative and modern technology in their high school programs would place their students on the cutting edge of natural resources and environmental protection. Participants emerged from the internship program with new ideas for natural resources instruction, more positive attitudes toward educational innovation, and much enthusiasm for improving their programs.

Reference

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