J students had better class attendance than P type students. The exact cause of this can not be gained from this study; however, preferences of lifestyle between J and P students as noted earlier could help explain this finding. P students may find highly structured classes of little appeal and choose not to attend as frequently. Out-of-class assignments and a wide variety of optional activities would be of more appeal to P students. More flexible deadlines on assignments would also be of help.

The type of faculty in this sample leads to some interesting speculation for teaching and learning. Will the higher number of sensing (S) type faculty increase the emphasis on a learning environment more conducive to sensing type students; or are these sensing faculty encultured into the intuitive methods of teaching? Is the distribution in this study similar to other agriculture college faculties?

It is apparent that personality type differences play a major role in teaching and learning. At several universities, colleges of agriculture are leading the instructional improvement movement. College instruction succeeds only as students are willing and able to learn. Every effort must be made to make learning as easy, comfortable, and productive as possible for every student.

References

Jeffrey Hoffman and M. Betkouski. 1981 A Summary of Myers-Briggs Type Indicator Research Applications in Education, **Research in Psychological Type,** Vol. 3.

Jane Jones. 1967. Faculty Perceptions of University Students, **Dissertation Abstracts.** Auburn University.

David Kiersey and Marlyn Bales. 1978. **Please Understand Me, Character and Temperament Types.** Prometheus Nemesis, Del Mar, CA.

Gordon Lawrence. 1982. **People Types and Tiger Stripes.** 2nd Edition. Center for Applications of Psychological Type, Inc., Gainesville.

Mary H. McCaulley, E. Godleski, C. Yokomoto, L. Harrisberger, E. Sloan, 1983. "Applications of Psychological Type in Engineering Education." **Engineering Education,** pp. 394-400.

Mary McCaulley. 1974. The Myers-Briggs Type Indicator and the Teaching Learning Process. Paper presented at 1974 American Educational Research Association meeting, Chicago, Ill.

Isabel Myers. 1962. **The Myers-Briggs Type Indicator Manual,** Consulting Psychologists Press.

Dayton Roberts and H.Y. Lee, 1977. Personalizing Learning Process in Agricultural Economics. **American Journal Agricultural Economics.** December.

Albert Smith and Richard Irg, 1974. Personality Variables and the Improvement of College Teaching. Paper presented at annual meeting of the American Educational Research Association, Chicago.

Involving Students In A Recruiting Process

Mary Taylor Haque

Many agricultural colleges around the United States are experiencing a decline in student enrollment, and as a result, efforts are now being made to actively recruit students.

Jenkinson (1) observed that "undergraduate enrollment in agriculture degree programs peaked in 1978 and 1979 following substantial growth in the early and mid-parts of the decade. In 1980, enrollment began to decline (5 percent) with a further decline of similar magnitude in 1981." He predicts "further declines over the next several years" and pointed out that "most faculties are now more active in student recruitment with the goal of at least slowing the projected decline and, hopefully, maintaining present enrollment levels."

With exactly that goal in mind, the Department of Horticulture at Clemson University initiated a student recruiting program in the fall of 1982. Working through a senior seminar course, the author involved undergraduate students in both the development and perpetuation of an ongoing recruiting program. The motivating goals behind developing this approach were 1) to maximize student learning through involvement, 2) to free faculty committees to pursue research, teaching, and extension duties, and 3) to save departmental spending on recruiting efforts.

Grabow (3), in his article "Resources for Teaching and Learning," discusses the "Eureka Effect," which is linked to curricula designed to require thought and creativity through student involvement. By proposing several project options, including recruiting, to a class, teachers can discover student aspirations in project areas for credit. The student who chose recruiting at Clemson was Danny Shook. As teacher of the seminar course, the author took the role of structuring, organizing, and guiding Danny in a way that encouraged thought, investigation, and creative problem solving. Together we outlined the following process for developing a recruiting program.

Possible target groups were identified first. High schools, vocational schools, two year colleges, continuing education sessions, and underclassmen already on campus without firm ideas about majors were all potential targets. Possible forums for reaching these groups were identified next. Assemblies, classes, club meetings, orientation, parents' day displays, and career day displays were considered.

After identifying potential target groups and forums, we decided to aim primarily at high school junior and senior classes and vocational schools. How

Haque is an associate professor of Horticulture at the College of Agricultural Sciences, Clemson University, Clemson, SC 29631.

to best capture and hold these student's attention while expounding on agriculture became our next question. A colorful, fast moving, slide/tape presentation set to music seemed appropriate for such audiences.

Danny began the process at Clemson by writing a five page script entitled "Horticulture at Clemson." He took photographs to illustrate his script and borrowed slides from faculty members in the department to duplicate for the slide show. The professional services of Clemson's Communication Center were used for recording the script and laying down music. Many editings and retapes were necessary to fine tune the show and to insure that pronunciations and speed were correct. Once satisfied, Danny ran several "test runs" at local high schools. Based on the questions he was asked from these classes, and thinking ahead about others, Danny put together an introduction, conclusion, and list of typical questions for other students to use in preparing for recruiting presentations.

Wanting to present as many talks as possible within a given semester, and feeling that the experience of presenting "Horticulture at Clemson" before an audience was consistent with the goals of seminar class, the author offered other seminar students extra credit for presenting the program at schools. Students electing to work for extra credit through recruiting presentations could earn 10 points to be added to a lecture test grade. Though only 1 percent of their total grade, this was enough to motivate 10 out of 16 students to sign up for the talk. Danny arranged a practice session to instruct these 10 recruiters in how to run the show and in what to expect.

Students receiving extra credit were responsible for contacting their own school and for making all of their own arrangements including transportation. Most chose to arrange their talk at their home high school on a Friday afternoon or Monday morning when they planned to be home for the weekend anyway. Students that lived too far to go home for weekends but were still interested in giving a talk made arrangements with local schools.

The students who presented recruiting talks at their home high schools felt comfortable and enjoyed interacting with their old teachers on a professional basis. The high school students related well to college students and enjoyed having a young speaker. Since our recruiters came from many types of high schools ranging from large urban schools to small rural schools, contact with a good cross section of schools and backgrounds was established.

In addition to making direct contact with perspective students through personal presentations, we felt that it was important to leave follow up information with them. The Clemson horticulture department did not have any pamphlets or other literature appropriate for such use, so Danny did some preliminary layout work for such a pamphlet. It included an introduction, courses of study, career opportunities, facilities, activities, a description of the university, and some admissions information. A graphic artist sketched some pictures to liven up the pamphlet and to represent various areas within horticulture, such as fruit and vegetables, turfgrass curriculum, nursery technology, and landscape design. Clemson duplicating services printed the pamphlet, and copies are distributed to interested students after each recruiting presentation.

Danny's involvement in the development of our recruiting program lasted one semester. He gained experience writing scripts, organizing slides, preparing layout, working with people, making arrangements with high schools, and speaking in public. Such student involvement frees faculty committees to pursue research, teaching, and extension duties within departments. It also saves the department money at a time when "the cost of recruiting a student is on the rise" (4). $957.35 in equivalent travel expenses have been saved by having students combine recruiting presentations with personal trips home. Over 182 estimated student man hours have been spent in addition. Even figured at minimum wage, $3.35 an hour, student workers have saved the department $609.00 in wages. Meals and lodging excluded, students have contributed $1,566.35 in volunteer time and travel costs.

Student recruiting efforts extend the reach of the department into communities while providing an educational and vocational service to high schools. Mr. George Reid, an agriculture teacher at Pendleton High School comments: "This was a very useful presentation. It was presented well." Mrs. Eleen Kelly, a physics teacher at Northwestern High School rated senior recruiter Sharon Summers "an interesting speaker." One high school student confided to a recruiter that he had not planned to go to college because he did not know what career to pursue. He was thrilled to be introduced to horticulture and is now applying to Clemson University for admission.

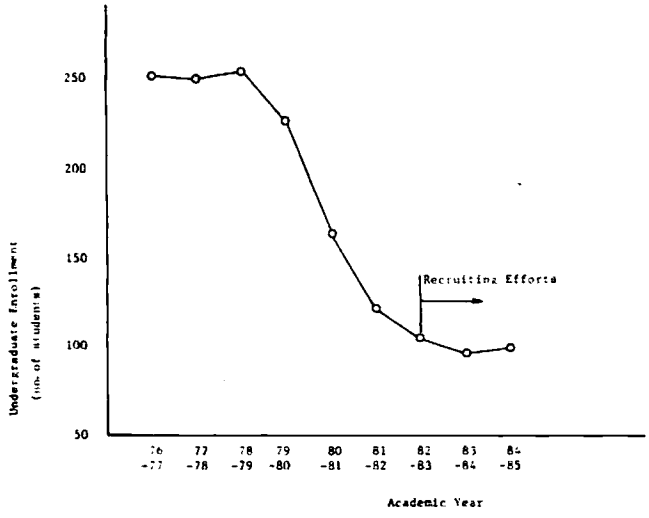

Figure 1. Horticulture Undergraduate Enrollment Trends at Clemson University.

It seems that other students are responding in a similar manner. Though it is difficult to measure the cause and effect relationship between recruiting efforts and enrollments, undergraduate enrollment trends in the Department of Horticulture have taken an upward swing for the first time in five years.

Figure 1 shows a plot of undergraduate student enrollment in the Horticulture Department versus the academic years under consideration. Between the years 1978-79 and 80-81, the figure shows a sharp trend towards decreasing enrollment. Recruiting efforts begun in 1982 seem to slow this downward trend significantly, and at the beginning of the 1984-85 academic year, a positive trend is observed.

Encouraged by this positive trend and by undergraduate's interest and participation in the program, the Clemson Horticulture Department plans to continue involving students in its recruiting process. Our goal has now changed from slowing the previously projected decline and maintaining present enrollment levels to increasing the enrollment!

References

1. G.M. Jenkinson. December 1982. Student Enrollment in Faculties in Canada of Agriculture. **NACTA Journal** XXVI, No. 4, 4-5.
2. David J. Mugler. June 1983. Fall 1982. Enrollment Report National Association of State Universities and Land Grant Colleges. **NACTA Journal** XXVII, No. 2, 37-42.
3. Wesley J.F. Grabow, June 1983. Resources for Teaching an' Learning. **NACTA Journal** XXVII, No. 2, 31-32.
4. The Cost of Recruiting a Student is on the Rise. May 4, 1983. **Chronical of Higher Education** 26:7.

Evaluating the Impact Of An Undergraduate Program

J.C.M. Shute, D.G. Grieve
G.M. Jenkinson and R. Protz

Introduction

It has long been agreed that the evaluation of instructional programs should be undertaken at more than one point in time. Typically, however, such evaluation is done at the termination of a course or program in order to determine to what extent objectives have been achieved. Occasionally, to be sure, evaluations are conducted during the sequence of instruction in the attempt to monitor the progress toward meeting instructional objectives. (Both of these forms of evaluation, summative and formative respectively, assume that initial objectives have, in fact, been established — but that issue is not central to this discussion.) On the other hand, little effort has gone into the attempt to assess the impact of instruction after students have graduated. Desirable as such impact assessment might be, it is thought to be difficult, awkward, and probably somewhat redundant and unnecessary, given the immediate demands on instructors. We must assume, after all, that if course objectives have been met and degrees granted, the instructors have done their job. And if succeeding cohorts of students keep demanding our courses and degrees, we must be doing most things (especially our teaching) right.

The summative or terminal approach to instructional assessment is probably fairly characteristic of most agriculture degree programs, despite the fact that one of the most compelling tests of a professional academic program is the degree to which graduates practice the skills they have learned and express in behavioral terms the attitudes they have developed while undergraduates. Some understanding of the ways in which graduates perceive the value of their undergraduate training would provide valuable feedback for instructors and administrators responsible for maintaining and enhancing the quality of undergraduate education. Although we tend to assume that high quality learning somehow sticks in the graduates, there are doubtless less desirable results and we benefit from knowing about those as well. But how do we find out what those lasting outcomes may be? And even if we find out, what do we in the universities do with the information? It is precisely these questions that prompted the study we report here.

Objectives of the Study

The following objectives guided the evaluation:

1. To assess the value of the Minor in International Agriculture as seen by the participants in the program.
2. To seek input and constructive ideas on ways and means of improving the program.
3. To understand the reasons why (or why not) students enrolled in the minor.
4. To use the information obtained to make recommendations for the future.

The Program

The Minor in International Agriculture was designed in 1972 both to promote an awareness of agriculture's role in international development and to sensitize students to international career possibilities. Students at the University of Guelph normally take 5 courses in each of eight semesters (four academic years), with a minimum of 40 semester courses required for the degree. The six international agriculture courses are usually taken in the third and fourth years. Students who enroll in the minor are usually majoring

Shute is a professor of Extension Education, Grieve is a professor of Animal and Poultry Science, Jenkinson is an assistant to the dean of the Ontario Agricultural College and Protz is a professor of Land Resource Science at the University of Guelph, Guelph, Ontario, Canada N1G 2W1.