

meaningful principles and make the principles relevant to situations significant to the student.

A recent communication from Dr. Raold Peterson, FAO headquarters, has suggested that present American Agricultural programs do not meet the needs for an international scientist. He suggests that through better conceptualization and more emphasis on human factors we can actually turn out a better product in less time. He may well be correct, because we have tended to "revise" programs in the past by adding new material rather than working for better conceptualization of the basic principles and making those principles meaningful.

One objective of education is to broaden the perspectives of students. Such broadening is especially needed with agricultural students, and no subject is more basically related to world problems. With the human population near the three and one half billion mark and growing rapidly, no agricultural subject is complete without reference to the demographic change. A situation in which large grain crops grow in America, Australia, and Europe while people starve in less developed countries obviously requires the study of distribution systems and balance of payments; but it requires as well the consideration of social, economic, and political institutions. A minority of 8%, even though they feed the remainder of our country, cannot ignore problems of unemployment, urban blight, environment pollution, and industrial strife. American agriculture must be taught from the standpoint of a minority occupation with a disproportionately high impact on the country as a whole.

The agricultural teacher should not expect his students to get a proper perspective on agriculture and its relation to world hunger from a nutrition course, nor should he expect a course in economic theory to explain how grain production affects balance of payments. Neither should he have to teach such subject matter in a course in crop physiology, but unless through his conferences, discussions, assignments, and seminars students are brought to relate their agricultural work with problems facing mankind, the professor is not teaching and the whole process of education deteriorates into a training program for highly skilled technicians.

Teaching in agriculture involves far more than merely the presentation of facts and evaluation of the students ability to regurgitate them on demand. The teachers' responsibility consists of four main objectives:

1. Creating an awareness of world problems and needs in the student. With the advancement of communications, transport, and global intercourse there are few actions that do not have world-wide implications. Certainly local and regional problems exist, but their ultimate solution will be achieved only in relationship to broader international goals.
2. Developing scientific competence in the student in a chosen profession. Far too often this is viewed as the major goal in education. In reality, this phase of the educational process only supplies the tools necessary for a specific skill.

3. Leading the student to relate the skills of his profession to the needs of society. Regardless of the amount of technical knowhow a student may achieve, he is simply a trained technician and not an educated individual unless he can visualize his skills in relation to human need.
4. Fostering the desire to apply the skills required to the solution of problems. The teacher must lead the student to relate his own personal goals to the broader world situation.

Once a student is made aware of the needs of society, is given the tools and skills of a profession, relates his profession to solving specific needs, and sets his own personal goals in the context of what is needed and what he can do about them, then he can be considered an educated man. The teacher, or teachers, who guide him through the process of awakening, discovery, and implementation cannot rely on a single technique or formula for teaching. The world situation is constantly changing, and each student is an individual with a unique combination of background, motivation, goals, and ability. The confrontation of the individual student with the challenge of a dynamic system of human needs and possible solutions is the exciting role of the university professor. He is usually poorly equipped for the task and there can be no handbook of rules for him to follow. It matters little whether he uses lectures, discussions, or tutorials; whether visual aids are used or not; whether he teaches in a modern lecture hall or a World War II surplus quonset. It is the professor's ability to recognize individuals and communicate with each person as an individual that will bring the student to the realization of his own potential.

The education of people in Agriculture in the United States has been tremendously successful because it related itself to real world problems. Today's teacher must constantly search his own soul to be certain he knows what the real world is. Is the real world one of stock judging, crop grading, and preserving the family farm as a way of life? Or is the real world made up of starving people with different religions, political affiliations and colors of skin living in an overpopulated, polluted environment? If the teacher misjudges the real world, the world and his students will suffer. The teacher of agricultural students must bring the individual student face to face with the ever-changing patterns of human existence, and point each individual toward the portion of the dynamic process that he can best handle with his training and ability.

A main cause for disturbances on today's campuses is the lack of relevance of what is being taught to what is needed in the world. Granted, some of the solutions offered by students are no more relevant than present programs, but this does not relieve the individual professor of the responsibility of assuring that his courses have meaning. Theoretically he should be much more able to relate his subject matter to the needs of society than his students. If he does not, it is he, not his students, who is to blame for the time wasted under the guise of the educational process. He simply is not teaching and should not attempt to fill the shoes of a professor.

## Some Thoughts on Teaching Introductory Courses

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I can say without reservation that for me teaching has been consistently the most rewarding activity of my professional career. *Teaching* as I conceive it, is more than the usual operation of a classroom environment designed to transmit knowledge and develop understandings. It involves a concept wherein the classroom serves as the point of origin for experiences that extend into the real world of work. To me it is essential that this connection or identification be made for effective teaching. There is nothing fancy about this idea –

teacher educators have always maintained that realism is more effective than pretense and doing is, from the teachers' and learners' point-of-view, more efficient than any other teaching method. As a teacher, I am interested in the things that will improve my ability to break through the various barriers that resist change in the student, including limited student aptitude, student experiences, and levels of student motivation. I am also interested in those things a good teacher does to make himself competitively more effective in bidding for the student's interest. As far as I am concerned, I want always to treat the opportunity of teaching as a privilege ultimately granted to me not by the administrative authority, but rather by the learner.

**About the Learner:** A good many of my colleagues have inferred that the modern student in Agriculture is some how brighter, more self assured and surely more knowledgeable about the world in which he or she lives, than were the students of several decades ago. The natural consequence of these rather poorly founded conclusions (it seems to me) has been to divest many teaching programs of much useful instruction in fundamental courses and in those designed to orient the student to the world in which he not only lives, but where he finds a deep need to be creative – **The World of Work.** It may be unsophisticated in these days to speak of the world of work, yet it seems to me that the modern student in agriculture and other natural resource fields is today more disoriented as to requirements, opportunity and direction than any student body before.

**The Paradox:** The problem that confronts us as teachers in the various fields of agriculture and particularly in Agricultural Economics is that even if our students are more worldly, and do exhibit high levels of self assurance, they are probably not favored with greater general aptitudes or native intelligence than were students of several decades ago. In addition the modern student has tended to be isolated even further from the realities of agriculture and from employment in creative or productive work than they were in the past. For the most part, students in agriculture today, even if they come from farms or ranches seem no longer to be exposed to a variety of experiences capable of enlarging insights, sharpening skills, and evolving useful attitudes. Much of what passes for modern wisdom on the part of students is artificial and rather non-related to realities in agriculture. Then too, many of our students in colleges of agriculture do not have agricultural backgrounds. These students are often motivated or attracted to our programs by fine sounding titles, and by the romance and glamour of working in the wide open spaces.

**Need for Experience:** Perhaps it is no longer necessary for the modern student to have a farm or ranch background. That in fact, almost everything the future agricultural entrepreneur requires can be taught to him or her in the absence of actual participation. Yet, there is a real need for students to acquire a feel for the arts and sciences of agricultural entrepreneurship and for rural-urban leadership. This feeling or attitude is not something the student is born with or for that matter acquired simply because he or she enrolls in formal courses in Agriculture. In relation to this attitude, a question that very often comes to my mind when I think about the ways and means for alluding to learning needs as these relate to the students' future is: "Am I identifying too much with my own background and biases?" I imagine that much of what the student learns from my efforts to teach is likely to be obsolete before he effectively enters into the competitive environment of ideas.

Not only is the market for ideas (technological innovations, new methodology and changing attitudes) difficult to prognosticate, but the range of potentials open to the student are so exceptably wide that to have many of our students choose a fixed narrow professional option, particularly in the first and second years of his academic career, is to say the least, wasteful of both the teaching effort and student motivation. Yet even so, many curricula pretend to offer the student an opportunity to qualify professionally in a number of disciplines in agriculture and natural resources, and agricultural economics is a particular case in point. From my vantage point as a teacher, I would argue that students are not qualified professionally at the end of four years, nor is the market there for the sort of specialization the student is able to demonstrate at the end of four years of college. The need it seems to me, is to provide the student with opportunity to grasp fundamental concepts, develop attitudes, sharpen skills and broaden his horizon to fit him for the widening range of opportunity that exists for those well schooled in the fundamentals. The program ought to build a sound foundation upon which professional specialization can be made to flower.

And here, I am not too sure that the flowering ought to be through graduate schools – it could just as well be brought about in the real environment of entrepreneurial apprenticeship or through specialized training in the field or enterprise area offering the most challenges or largest rewards. Likely, the student will retrain a number of times before he is forced into retirement sometime in the future.

**Alternatives and Flexibility:** The educational effort ought to be designed in such a way that maximum opportunities exist for the student to choose from among many alternatives. The flexibility probably ought to be less designed into curriculum and more into the applicability of the learner to fit many professional options. That is, there probably is a good deal of justification for designing programs with rather heavy emphasis on fixed or common cores. As teachers, we ought to be willing to devote much more effort in the development of courses of instruction designed to have a wide applicability. The problem, I suppose, has to do with what we as teachers conceive our goals in teaching to be. On the one hand, some of us hold that our goal is to produce professional economists and that therefore, our particular course offering is significant to the successful adjustment of the student to the world of professional work. On the other hand, some others hold that the ability of the student to adjust to a wide range of options is a more practical educational goal, but this is dependent upon a broad general education, where specialization is left to the last two years or better yet, to the graduate program.

**About Introductory Courses in Agricultural Economics:** Because so many students are no longer oriented to the traditional concept of agriculture and because there is as cited above, a need for broadening the students' outlook concerning the environment in which agricultural economics deals, I have tended to subscribe to a program of study with the following sorts of objectives.

**Teaching Objectives:** The following are considered the major objectives in teaching Agricultural Economics 100, "Agriculture and Resources in the Economy."

1. To develop an interest in principles of economics as a basis for resolving human issues and problems.
2. To establish an inquisitive attitude and action-oriented motive in the student to use principles of economics *in making things happen.*
3. To explore, with the student, the concepts of alternatives – the goals of a modern viable society – and the opportunities and places in the society open and available to the student.
4. To develop an understanding of a number of specific basic economic principles.
5. To encourage the application of economic principles, theories, and techniques to current study and future professional and occupational pursuits.

With these objectives in mind, the course of instruction must be designed in such a way that it fits more nearly the goal system of the general education advocates cited above. The course is, as far as I am concerned, most effective when it can be made a part of the general core offerings.

**Justification for Course:** Food, clothing and shelter are basic needs of all people. Too often, students graduate from a university with little or no knowledge of the processes, problems and people who are involved in providing for these basic needs. Moreover, these students are expected ultimately to provide industrial, political, cultural and social leadership, and this often without even a minimal amount of study in economics. And it is economic decisions that these leaders are finally forced to make more than any other. Problems of agriculture in production, prices, people, poverty, policy and potentials are also a concern to all consumers. Finally, the student in agriculture, technology and industrial sciences should have at least a fundamental exposure to the basic concept of economic analysis. The need for economizing in the use of technical, physical and human resources becomes progressively more critical as we become a more highly industrialized society.