

Oral Presentations

A Curricular Revitalization Project (NUPAGE)

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Agricultural scientists in higher education have long enjoyed a cooperative relationship with producers, processors, and representatives from agribusiness firms, industries and government agencies. At Nebraska, faculty, student, and external partners have worked together in innovative ways to design courses and renew curricula.

Supported by a grant from the W. K. Kellogg Foundation of Battle Creek, Michigan, the project, designated "New Partnerships in Agriculture and Education" (or "NUPAGE"), focuses on the design of new learning experiences. New materials and approaches are integrative and student-centered, address contemporary issues in agriculture and natural resources, encourage applications to real problems, and promote higher levels of thinking.

Our fifty faculty members from disciplines within the College of Agricultural Sciences and Natural Resources and across the University have worked as teams on seventeen projects to date. NUPAGE projects have ranged from the design of single learning experiences to establishing new curricula. Curriculum-wide projects include new majors in natural resources, a landscape architecture minor, a renewed honors program, a departmental writing requirement, and a co-curricular leadership development program. Examples of specific new learning experiences include a course for non-science majors in the science of food; a course in ethics; a simulation for agribusiness; and a food processing "path" in a senior course in mechanized agriculture.

External partners (about fifty) have contributed their views of what a program of study should include. They evaluated subject matter, participated in pilot learning experiences, made presentations across campus, and generally both challenged and supported project teams.

Student partners also influenced curricular change. They interviewed peers, collected data, reacted to proposed methods and materials, and offered their own suggestions. Approximately sixty students were directly involved in NUPAGE projects.

The NUPAGE mix of faculty, student, and external partners has brought a considerable amount of energy to curriculum renewal and teaching and learning throughout the College.

Farmers First, Students Second: "A Challenge for Distance Education"

J.R. Peters
G.W. Haas

The financial crisis experienced by many farmers in recent years has increased the need for farmer education in applied agricultural science. The challenge for educational institutions is to develop educational opportunities accessible to all farmers which will empower them to successfully manage the farm business.

A survey of potential learners in the province of Saskatchewan indicated that a high percentage of farmers in the 25 to 45 year age group would be interested in taking University agriculture diploma courses for credit at home. In response the School of Agriculture and the Extension Division, both of the University of Saskatchewan, combined their respective expertise and developed a Certificates in Agriculture program. These programs consist of sets of existing on-campus courses delivered to the homes of adult learners throughout the province as enhanced distance education.

Four courses in the area of crop production were delivered off-campus for the first time in 1990-91. Of 157 applicants, 124 students registered for a total of 266 courses. The average age of the students was 35.5 years compared to a four year average of 20.9 years for on-campus diploma students. Just over 20 percent were women compared to only 9.7 percent in the on-campus diploma program.

Regular telephone contact with an instructor and periodic group sessions at regional centres, interconnected by telephone and by satellite television with a University based instructor, resulted in nearly 90 percent of students completing the courses. Off-campus students out performed first year students taking equivalent courses on campus by a considerable margin. The off-campus certificate students performed on par with second and third year on-campus diploma in agriculture students.

Course evaluations by students indicated the courses to have been interesting and applicable. A feeling of isolation, a common problem with distance learners, had been successfully overcome by the group sessions and the regular telephone contact with the instructor.

International Exchanges: An Inventory of Programs

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Central Missouri State University
Robert C. Kirt
University of Arkansas-Monticello
Robert L. Beck
University of Kentucky

As agriculture continues to move into the international arena, there becomes a need for a better understanding of other countries' cultures, resources, and practices. One way to improve our knowledge and experiences is through international exchange programs in agriculture. The objectives of this initial study were to 1) inventory current international exchange programs (particularly agriculture educational exchanges) associated with NACTA institutions and mem-

bers, 2) explore the possible interests in cooperative exchange programs among departments, colleges, and universities, and 3) determine the appropriate level of NACTA involvement in international exchange programs.

Surveys were mailed to all NACTA members. Of the 829 sent, 156 were completed and returned for a response rate of 18.8%. Represented were 86 different academic institutions. Of the surveys returned, 26.3% (41) indicated that their departments/colleges have international faculty and/or student exchange programs primarily for those in agriculture. Three (1.9%) expect to have programs in place soon. However, 71.8% (112) of the respondents indicated that no such programs were housed in their departments/colleges.

Of the 81 programs specified by the 44 respondents, 55.6% of the student participants were undergraduates only, 17.3% were graduate students only, and 27.1% were both graduate and undergraduate students. When asked if students from other universities could participate in the 81 programs, 19.8% answered yes, while only 13.6% responded that faculty from other institutions could participate in these programs. When asked if faculty members and/or students would be interested in participating in exchange programs directed by other universities, 67.6% said yes; 59.5% of those with exchange programs responded positively and 70.4% of those without access to agricultural exchange programs said yes.

There are a minority of reporting NACTA members' departments/colleges that have international exchange programs in agriculture. Of these programs, there are less than 20% that are accessible to faculty and/or students from other institutions. Although two-thirds of the respondents indicated that faculty and/or students would be interested in participating in exchange programs directed by other institutions or coordinated by NACTA, less than half of the respondents thought NACTA should go beyond being a facilitator of information. There appears to be significant interest in getting NACTA involved in the international arena, but primarily as a facilitator of information. Many of the respondents brought up excellent points and questions regarding agricultural exchange programs in general, resource requirements for such programs, and NACTA's mission(s). It is safe to say that NACTA (through the NACTA Journal) should become a facilitator of information regarding agricultural exchanges, but additional input from the membership should be obtained before expanding the scarce resource use beyond such a role.

Getting a Start in International Linkages

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Delaware Valley College

We live in a world that describes itself as developing a global society and one in which changes in international relationships and in the national politics that effect them occur at a mind-boggling pace. We also service a segment of our own national society -- agriculture -- that has much to offer other parts of the world, especially so-called developing nations. Those of you that represent the land-grant

institutions are probably well familiar with the opportunities international linkages have made available to your institution. Perhaps you have participated in international initiatives yourself. And I am absolutely sure that we have numerous folks in our NACTA family whose international experiences far outstrip my own modest background. My purpose today is really to recount an overview of some of the international experiences we have recently accumulated at Delaware Valley College. Out of that I hope to give some degree of comfort and encouragement to those of you who may have an armchair interest in international work but have yet to take your first plunge.

I have to go back to about 1988 when our College appointed a new president who came to us not from an academic background but from industry. One of the things he did in preparing himself for the challenge was to inventory our college's assets and liabilities. And a conclusion he came to was that because our programs in agriculture have a strength in the applications side of technology, there ought to be a market for exporting our agricultural expertise. Numbers of us had thought about that from time to time but there is nothing like a presidential initiative to stir action. Over Christmas break in 1988-89 about a dozen of us spent a good many hours hammering out a generic proposal of how we believed Delaware Valley College could link itself to a sister institution in a developing nation. We armed our Associate Dean for Agriculture, John Plummer, with that proposal and he began to seek ways to spread word of our interest. His explorations led him to John Benoit, then at the University of Maine who headed a consortium of Northeastern land-grants involved in international programs in agriculture. Our people were invited to a meeting of the group at Rutgers in early 1989....and were politely told that the principal source of funding for such programs, the Agency for International Development, was locked onto the landgrants as contractors in this arena. There would be no room for little, private Delaware Valley College in that context, except, perhaps, as a subcontractor.

As you might imagine, we were more than a bit discouraged at that point. And we had some unquotable feelings about monopolization as well. Then, in rapid order, things turned for the better.

In the course of his discussions with the land-grant people, John Plummer had passed around copies of our Catalog and other pieces of company "propoganda." One of those Catalogs wound up -- via John Benoit -- in the hands of a group in Washington who were undertaking a noble experiment in the Republic of Haiti....the founding of a brand-new university on the American model, the American University of Les Cayes. Based on our Catalog, AULC sent me a letter asking me to solicit our faculty for examination textbooks for donation to the developing AULC library. That led to my undertaking a plane trip to Haiti to see what AULC was really all about. That, in turn, led to our getting our local Congressman involved to break the ice with AID in Port-au-Prince. After due pro forma obfuscation, that led to AID funding to both allow us to import Haitian students to our campus for the practical training they can't yet get in their

own country as well as local dollars to help AULC to develop its own teaching farm. That all meant more trips back and forth for me, etc. I'll return to that momentarily.

Via an entirely different but equally circuitous route we found ourselves establishing a linkage with an institution in Beijing. That is an agribusiness training institute for China's Ministry of Commerce. Another plane ride (much longer this time!), negotiating sessions through interpreters, exchanged faculty visits, etc...another international initiative!

Yet a third connection came to us via a graduate of our College who is a Ph.D. student at the University of Florida. He had become vitally involved in Florida's exchange linkages in Poland and is, in fact, doing his thesis work jointly at Florida and at Poland's Poznan Agricultural University. In this case we wound up with representatives of Florida, Poznan Agricultural University and our own college signing a tripartate agreement of collaboration in the Polish Embassy in Washington!

The point is this: there are lots of opportunities to develop collaborative relationships in developing nations. And you do not have to be a 30,000 student land-grant university to participate in them! The foremost ingredient needed to ferret them out is genuine interest. And, contrary to popular belief, the main ingredient necessary to make them happen is not money! The most important ingredient for success is, again, sincerity. In our experience, if you have that...belief in what you are trying to do, belief in the worth of the initiative you have set for yourself, then the dollars needed to make it happen will be found!

Let me return to the Haitian situation for a moment. Haiti is, hands down, the poorest nation in the Western Hemisphere, if not the world. Per capita income at last accounting was under \$400/year. Years of political dictatorship, economic rape, and environmental devastation have left a nation crippled with poverty...but not without hope. In recent months we have seen Haiti elect its first truly democratically selected president, Father Bertrand Aristede. And the country has finally thrown off the yolk of the dreaded paramilitary group, the Ton-tons Macoute.

Agriculturally, despite tremendous input by a host of relief agencies, missionary thrusts, etc., Haiti is a disaster as well. It is mostly hilly, even mountaneous terrain. But 97% or more of the forests have been stripped to make way for coffee or, more often, to provide a cash crop for a politician now dead or living out of a Swiss bank account on the French Riviera. There are, in all of the country, only three relatively large patches of relatively level land suitable for the kind of cultivation that is the European heritage. One of these surrounds the city of Les Cayes in the SW corner of Haiti. There are still vestiges of the pre-1800 French colonial period in the the roads and the irrigation system in the area. (And, incidentally, Les Cayes is the birthplace of one of America's pioneering naturalists, John James Audubon.) But like the rest of Haiti, the population of this rural marketing center is poor beyond our experience in America.

Into this community there came in 1983 a small group of Americans affiliated with the New Mexico Educational Foundation and led by Czech-born Antonin Smrcka and his

lovely Haitian-born wife Solanges. Their dream was to build in the midst of Les Cayes an American-style university that would train Haitians in Haiti...so that they would remain to lift up their country. With some major funding support from the American Schools and Hospitals Abroad program in Washington, Solanges and Tony have seen their dream take on the shape of reality. Today there is a full-time faculty of about 15 led by Executive VP David Tucker that teaches a student body of 80 degree candidates and several hundred pre-matriculation "continuing education" students. The faculty is supplemented by voluntary "visiting professors" drawn from several American institutions, including the University of Maine, the University of New Mexico, and, beginning, I hope, this summer, Delaware Valley College.

As I mentioned earlier, the students in AULC's program in agriculture have had little opportunity to gain practical, hands-on experience in agriculture. Their level of "book learning" is really quite excellent...but they are literally unable to link a bolt to a box wrench! In 1990 we did what we could do to remedy that for 13 of the senior agriculture students with a four-week agricultural practicum at DVC. We will host a second contingent this summer.

Time is getting short and I will close here. There is lots more to tell. The point is that the need is there, the opportunity to make a difference is there, and the dollars it takes to make it happen somehow can be made to materialize if we really believe in what we are doing. If there are those among you who think you would like to help, AULC is always looking for volunteers to fly down to teach a four-week "crash course" -- compensation is roundtrip air fare, room and board and a very modest stipend...plus the reward of meeting great new friends and of knowing you have helped to make something very wonderful begin to emerge from the depths of the deepest rural poverty in the world today!

Thank you for allowing me the time to share this with you.

Student/Faculty Exchange Programs

Robert L. Beck
University of Kentucky

We are becoming increasingly aware that we are quickly moving to (or already live in) a global society. In our universities, we are currently training agricultural leaders for the 21st century who must lead in a global environment. Yet, we really haven't done a good job in incorporating the global dimensions of agriculture into our undergraduate curricula.

At the University of Kentucky, some effort has been made to capture a bit of the global aspects through: 1) required cross-cultural courses in the General Studies component of the curriculum and 2) through a student/faculty exchange program with Shandoug Agricultural College (SAC) in the Peoples Republic of China (PRC). This paper focuses on the latter--the student/faculty exchange program.

The student/faculty exchange program between the two institutions is only one part of the overall exchange agreement. In addition, there is to be an exchange of information and genetic materials. The faculty exchange component

involves graduate assistantships for qualified (SAC) faculty members pursuing advanced degrees, stipends for Visiting SAC Scholars and provisions for sending UK faculty to teach short courses or providing research consultation.

The student exchange component of the program involves SAC's hosting of a delegation of Kentucky student for a period of three weeks. SAC provides a program of travel during that period which attempts to give UK students a perspective of agriculture, rural life in China, culture, and history of the country. Part of that time is spent at SAC in combined student sessions and activities. It is interesting to observe the exchange of thought and ideas between UK and SAC students, once some of the barriers (language, etc.) were cleared.

Probably the bottom-line benefit of these types of exchange programs is that students begin to realize that regardless of the political environment, people (especially students) in other societies share many of the same goals, aspirations, and concerns as we. Our students' perspectives are broadened not only in terms of agriculture but in terms of society in general. This broadening experience is extremely important if our graduates are to be effective agricultural leaders in the 21st century.

Ag Alumni Distribution: Implications For Leadership Development

Foy D. Mills, Jr.
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United States higher education has received a mandate to assess effectiveness of the educational process. Philosophically, what constitutes effectiveness may differ among persons involved in the process. However, the products of higher education (i.e., former students) generating beneficial impacts upon society should be considered positive outcomes.

A working project was begun to utilize available data on agriculture graduates from Abilene Christian University, a private, liberal arts university located in Abilene, Texas. The project's general objective is ongoing outcomes assessment of agriculture graduates.

Usable data were available on 91% of the population (656 graduates). The data included graduation year, current location, current employment, gender and academic major. It was hypothesized that information gained should provide the foundation for subsequent phases of the working project.

Data analysis indicated 51% of graduates located in metro areas, 48% in non-metro areas and 1% in foreign countries. Employment included 49% in agricultural jobs, 38% in non-agricultural jobs and 13% in education. Chi-square tests were calculated to measure significant differences between (a) location and employment, (b) location and major, and (c) employment and major. The difference between location and employment was shown to be highly significant ($p < .01$). Graduates employed in agriculture and education had a greater likelihood of locating in non-metro areas while those engaged in non-agricultural jobs were located in metro

areas. However, the relationship between location and major was non-significant. Finally, employment and major were significantly different ($p < .05$). General agriculture, range and agronomy, and animal science majors were more likely to be employed in agricultural jobs relative to employment. Conversely, non-agricultural jobs were taken more often by agribusiness majors and education jobs by graduates with the general agriculture major relative to major.

This information should provide direction for additional data needs and for future analysis of leadership development as a component of outcomes assessment.

Student Interests/Personality Type Assessment of Agriculture Majors at a Private, Liberal Arts University: Implications for Program Enhancement for Leadership Development

B. E. Brokaw
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A study was begun by the Department of Agriculture and Environment at Abilene Christian University to develop a profile of students who enroll in the program. The Strong/Campbell Interest Inventory and the MBTI were administered to enrolled students during the 1991 spring semester. The initial objective was to assess differences in interests and personality types of beginning and upper level students.

Forty nine students were evaluated. Data includes the MBTI characterizations for four different pairs of traits and the Strong/Campbell profile in six general occupational themes and the basic interest scales within each of the themes. GPA, gender, major and agriculture hours completed were recorded.

Data were analyzed by groupings students according to number of agriculture hours completed; < 9 (B) ($n=22$) or > 10 (U) ($n=27$). T-tests were calculated between groups for personality or interest classifications. Chi-square statistics were used to test for frequency differences among groups in the MBTI. The U group had a significantly higher gpa ($p < .05$). MBTI data indicate that this group had significantly higher sensing and thinking scores, while scores for intuition and feeling were significantly and highly significantly ($p < .01$) lower respectively. Chi-square analysis revealed a highly significant increased frequency of thinking over feeling types in the U group. Strong/Campbell interests profile data indicate significant differences between the B and U groups for the Investigative occupational theme and basic interest categories of public speaking and law/politics. A highly significant difference for the basic interest, science was found. The U group was higher in each case.

Increased interest of upper level students in public speaking and law/politics may indicate development of leadership skills. The data indicates certain interests and personality types are successful in the program, giving direction for the development of recruitment strategies and for program enhancement of leadership training.

Agribusiness Program Assessment

Jerry G. West
M. J. Monson

Assessment in educational institutions has been widely stressed in recent years. Dr. Gary Pike documented some of the events leading to the current situation in his paper on "Assessment of Professionalism" at the 1989 NACTA Conference. This pressure to participate in assessment activities has continued.

Approaches to major field assessment have included faculty developed written examinations over the major field, review of dossiers, capstone courses requiring application of previous training, exit interviews, and nationally normed examinations. A University of Missouri approach is a self-evaluation of proficiencies in selected areas.

Agricultural Economics seniors were asked to evaluate their level of proficiency in 63 characteristics or skills, and identify classes or college experiences that contributed to that rating. The characteristics and skills correspond to those identified in a national survey of agribusiness employers conducted by Texas A & M University in which respondents were asked to rate the relative importance of the various traits (Litzenberg and Schneider). The competency areas considered were business and economics; computer and quantitative skills; technical agriculture; communication skills; and personal qualities.

Seniors rated themselves most proficient in the same major areas rated most important by employers. The senior ratings were also similar to ratings by alumni who were asked to evaluate their proficiency at the time of graduation. Seniors and alumni differed the most in computer and quantitative skills where changes in courses and requirements have been such that recent graduates should be more proficient.

Results indicate seniors can evaluate their proficiency in competencies considered important by agribusiness employers. *The methodology has proven successful in meeting the goal of assessment* as student ratings provide information on weaknesses that may need to be corrected through changes in curricula or individual courses. Strengths of the program are also identified.

Literature Cited

Litzenberg, K.K. and Schneider, V.E., "Competencies and Qualities of Agricultural Economics Graduates Sought by Agribusiness Employers," *American Journal of Agricultural Economics*, 69 (December 1987) : 1031-1036. [14]

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Poster Presentation

A Follow-up Study of Graduates to Strengthen the Curriculum

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Since the curriculum in Agricultural Mechanization began in 1973 at Iowa State University, a key ingredient in change has been a graduate follow-up study. Follow-up studies were conducted in 1980, 1985 and 1990. Some of the resulting changes were new specialization options, courses added and dropped, increased requirements in communications, public relations and management skills and a curriculum name change.

The basic objective of the follow-up studies was to obtain information to be used by faculty and administration to strengthen the curriculum. The data collection process involved a mailed questionnaire that was sent to the graduates and their employer. The names and addresses of the graduates were obtained from the Iowa State University Alumni office. The employers' (immediate supervisor) address was obtained from the graduates' questionnaire.

The graduates' questionnaire is divided into three sections. Section I was designed to obtain the graduates' perceptions of various aspects of their overall educational program. Section II asked the graduates to rate the relevance of ten subject matter areas to their education and to rate the adequacy of the training received in those areas. Section III was designed to obtain specific information regarding the graduates' employment history.

The employers questionnaire was developed to obtain employer responses to 1) compare the graduates with other entry level employees, 2) make comments concerning improvements they felt would improve the graduates preparation for their job, and 3) to rate the graduates knowledge in ten subject matter areas and to rate the relevance of the ten areas listed.

The follow-up studies conducted every five years has provided valuable information to update and strengthen the curriculum. In the fall of 1991, the curriculum will have a new name, Agricultural Systems Technology. Specialization options in grain operations and applied technology has been added. Numerous changes were made in course offerings to strengthen the graduates' background in computer technology, communications, water quality, grain processes and controls and instrumentation. The follow-up study continues to provide useful information to strengthen the curriculum. [14]

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