

A Model for an International Undergraduate Exchange Program in the Agricultural and Life Sciences



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Abstract

There is considerable interest in globalizing curriculum in colleges and universities. An important component of globalization is providing students an opportunity to study and travel abroad. This article provides a model for the establishment and conduct of a student exchange. In 1997, faculty from the University of the Free State, Bloemfontein, South Africa, visited Blacksburg, Virginia. Later, Virginia Tech faculty visited the University of the Free State, Bloemfontein, to assess the academic programs and student environment. From these visits came a Memorandum of Understanding for an undergraduate student exchange. A similar MOU was established with the University of the West Indies in Trinidad, Tobago in 2000. These memoranda provided for students paying tuition, fees, and lodging at their own universities, and paying for food at the host university. The only additional cost was the airfare. A full semester of classes was taken by students visiting each institution with courses approved and substituted for required curricula at each university. There have now been ten successful exchanges from 1998 through 2001. This paper is presented as an example of a successful model for student exchange.

Introduction

The time for debate as to whether colleges of agriculture and life sciences should incorporate some form of international topics and/or experiences into the curricula has long passed. The primary question today is "What role should universities with agricultural colleges play to bring about that renaissance?" (McPherson, 2001, p.17). The challenge before colleges now is how to integrate these international experiences into the curricula as a meaningful experience for students and in a sustainable way. Globalization means international experience should be an important component in the education of today's students, including agricultural students

(McPherson, 2001, p. 18), but with limited financial resources and time limitations on curricula, this task will not be easy. As an example, it is simple to devote a section of a course or one or two lectures to international related topics, but does this really develop in students a sense of understanding, compassion, or empathy for people with different cultures and traditions that a renaissance should accomplish?

The College of Agriculture and Life Sciences at Virginia Tech is no different than other land grant institutions which have accepted the responsibility that it is indeed their role to help develop in their graduates an international awareness and education. Even though internationalization is highly acceptable in the higher education community, the definition and implementation of the internationalization process is still a long way from being complete. (McBreen, 1992, p.251). While it is easy to make that commitment, it is much more difficult to initiate a program or activities that will make a difference in students. One of the most effective approaches is to have students visit another country for an extended period of time.

A few short weeks in another country, while valuable for a cultural introduction, will not be as effective as staying in another country for five months to grasp the full impact of worldly differences. Total immersion of students into another culture will bring home, in an everlasting way, that people and countries see the world differently.

Methods and Materials

To accept this challenge, the College of Agriculture and Life Sciences at Virginia Tech (VT) is taking up the challenge put forth by the Kellogg Commission Report "Returning to our Roots," by engaging the community. We believe an engaged university can enrich the student experience and help change the campus culture (Returning to Our Roots, 2001, p. 13). Our College decided the best way to

internationalize our curricula was through the engagement of our students with undergraduate international student exchange programs with other universities. To carry this out in a meaningful way, a framework for a linkage program was followed as a way to initiate and keep the development of the exchange program on track. Since space is not available within this article to cover all the recommended details and procedures to follow in a linkage program, the authors of this article refer readers to the article by Finch and Crunkilton (1991) that outlines the five basic components for establishing successful international linkages. These are discussed briefly.

1. Identifying Basic Linkage Considerations. An important step at this stage is for the institution to be sure that international exchange programs fall within the mission and vision statements of the university and college. This is critical since financial and human resources will be needed to carry out this program effectively, thus financial commitment must match philosophical commitment and intent.

2. Examining Linkage Options. Several linkage options exist which a college may explore. The most obvious one is student exchanges. But other options to consider would be faculty exchanges, collaborative efforts at offering workshops and conducting research projects, or teaching credit courses. Another area that would need to be considered is whether the institution would desire to link up with another institution similar in course offerings and curricula, or whether it should be an institution that offers instruction in areas that are different. Language is another consideration. For example, if the development or enhancement of foreign language skills were one of the goals of an institution, then a college might want to link up with one that would provide opportunity for that language skill development.

3. Selecting a Partner. This stage in the process may take the greatest time. However, the identification of potential institutions and countries to participate in an exchange should not be a problem. Many times, faculty members have traveled abroad and have made contacts with other colleagues that are at institutions where a linkage program might be possible. Ideas of other institutions can come from graduates who have returned to their home countries. Once potential institutions are identified, the institution of first choice should be selected and arrangements made for an exchange of on-site visits. In this way, each institution can have the opportunity to see first hand the campus and facilities, talk with faculty, and learn more about the culture and country. Before this exchange of on-site visits occurs, institutions can share catalogs, course materials, and review

each other's web pages to make the visit more beneficial to all involved. Other considerations in the selection of a partner should be the safety of visiting students and faculty, and current relationships the countries have with each other.

4. Establishing a Formal Linkage Agreement. Discussions of developing an agreement between two institutions should evolve into a contract spelling out the conditions or understandings the two institutions think appropriate for their collaborative arrangement. Many times these contracts become known as Memorandums of Agreement (MOA) or Memorandums of Understanding (MOU). Either way, it is a written contract outlining in general terms the conditions under which the linkage is to operate. Many times these MOAs and MOUs are followed up with more specific documentation concerning specific joint agreements, e.g. student exchanges, faculty exchanges, joint research projects. These agreements should be effective for specific lengths of time and provisions made for review and cancellation or renewal. After agreement is reached on the substance of the contract, chief executive officers of each institution should jointly sign the documents to give an indication of the institutions commitment.

5. Maintaining the Linkage. Any linkages that are formed must be nurtured, maintained, and active to be effective and beneficial to all parties involved. Sustainability of linkages may be accomplished through annual written reviews, face-to-face meetings, formal evaluations, or other forms of sharing ideas and observations to determine the perceived effectiveness of the linkage. One of the keys to maintaining the linkage are to keep the flow of people going to and from each institution on a regular basis. The other point is that for linkages to be effective, they need to be tied to department, college, or university commitments, and not to specific agendas that individual faculty may have with other colleagues or institutions.

The Virginia Tech Model

The College of Agriculture and Life Sciences at Virginia Tech (VT) has developed successful linkage agreements with the University of the Free State (UFS) in South Africa and the University of West Indies (UWI) in Trinidad and Tobago. These universities were chosen because they offered curricula that were different than Virginia Tech. For example, UFS offered courses in grassland science and agrometeorology and Virginia Tech did not. Also, the programs at VT in Food Science and Technology and Animal Sciences were stronger than those at UFS. Thus, this student exchange allowed students the opportunity to take courses not available on the home campus. At UWI, they naturally focus on tropical

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agriculture, something that was not available at VT and VT offered courses dealing with agriculture in the Northern Hemisphere, something that was not available at UWI. And last, the two institutions provided different cultural, historical, and geographical settings, thus providing the VT students with a rich and everlasting experience. Students coming from those institutions to VT were also being provided with the same enriching experiences of cultural and geographical differences. In the process of establishing these agreements, faculty and administrators from both institutions visited the campuses on-site to get a better idea of the resources, facilities, curricula, and level of commitment from each institution in the linkage agreement. MOUs were signed between all institutions, followed by specific agreements focusing on details for the undergraduate student exchange program.

Responsibility for implementation of the student exchange program rests with the Associate Director of Academic Programs in the College of Agriculture and Life Sciences. The placement of the coordination of this activity in this Office indicated that the College was serious about the international exchange activity and it provided a college-wide exposure. Likewise, specific people have been identified on the UFS and UWI campuses to serve as a contact point and to help maintain the exchange program. All people remain in contact with each other regarding the effective operation of the exchange efforts.

The exchange agreements were set up for a five-year period, with provision for renewal if both parties agree. Since UFS was a larger institution than UWI, the goal for the UFS exchange was ten students per year and UWI, two students per year. At the end of five years, the intent was to have an equal number of students exchanged between institutions. This was necessary in that for the UFS and VT groups, students paid tuition, fees, and housing costs at their home institutions. The students upon arrival at the host institution paid board. UWI and VT students paid only tuition and fees at their home institutions and paid room and board upon arrival at the host institutions. This arrangement makes student exchanges a much greater fiscal possibility for students since payment can be made to their home institutions in their own currency.

It was deemed important early in the exchange with UFS that a faculty member should accompany the group in both directions. With ten students, opportunity for problems can occur and an on-site advisor helps to assure parents and students that needs of the group can be dealt with quickly and appropriately. The need for on-site faculty is also important in course selection for the students. Even though students leave home with an advisor approved list of courses, timetable changes occur and

substitutions are often needed. Recent advances in e-mail systems now allow on-site advisors to communicate quickly with advisors back home to assist with decisions affecting course selection and how they relate to graduation requirements. The intent is that students will be able to take a full complement of courses at the other institutions so as to keep pace with planned graduation dates.

Freshman students are not allowed to participate in the exchange program and preferences are given to sophomores and juniors. Freshmen would not have the opportunity to take foundation courses common in the first year if they were allowed to participate in exchange programs, plus they have not had time to develop their academic study skills, build solid academic records, and develop academic and personal maturity for such an experience. While seniors are not eliminated from consideration, many times they must take required advanced courses in their major the last year and cannot find allowable substitutes, plus the prospect of missing spring graduation is disheartening. Although the exchange program was initiated for students in agriculture and coordinated by the College, invitations to participate in the exchange are extended to students in the College of Natural Sciences and the Biology Department in the College of Arts and Sciences.

To protect the students medically, the University requires that VT students as well as the visiting students prove that an insurance policy covers them while in the US or another country. Since the cost of airfare could be a major factor in the decision for a student to participate in this program, students going to UFS receive a \$1000 travel scholarship and those to UWI receive a \$500 scholarship. The reality is that for an extra \$500, students can gain a valuable international experience.

Program evaluation

The first exchange between UFS and VT began in the fall of 1998 with students from South Africa visiting Blacksburg. The exchange with UWI began in 2000. Evaluation forms were completed at the end of each exchange by VT, UFS, and UWI participants. They were asked to evaluate the program using a scale from 1-5 with 1=poor, 2=fair, 3=good, 4=very good, and 5=excellent. The areas ranked were as follows:

- Quality of the housing
- Quality of meals
- University meal plan
- Quality of instruction
- Adequacy of information received before leaving home campus
- Adequacy of information received concerning the exchange campus before leaving
- Adequacy of course information for selection

- of courses
- Overall educational and personal growth experiences during the program

In addition, students were asked to comment on the following questions:

1. As compared to the courses at your home campus, did you feel the courses you took in the exchange were easier? More difficult? Or if different, in what way?
2. What were the 2-3 more positive experiences with the exchange program?
3. What was the most difficult, disappointing, or unpleasant experience with the exchange program?
4. What suggestions would you have for improving the exchange program?
5. Were there things you wanted to accomplish during your stay, but were never given the opportunity to do? If so, what?
6. Any additional comments you would like to make?

Results

The data presented here are the evaluations of 40 students representing 7 exchanges between VT and UFS and 3 between VT and UWI from 1998 to 2001.

Student perceptions and comments. Students from the UFS and UWI provided uniform "very good" for nearly all parameters of the survey (Table 1). Their overall evaluation of the educational and personal growth of the experience was a 4.8 on a 5.0 scale.

In contrast, the VT students were much more critical of the quality of meals and the university meal plans at UFS and UWI (Table 2). They rated information provided by the host university only "fair to good" compared to the "very good" rating by the UFS and UWI students on this same parameter. Although remaining perceptions were slightly lower than expressed by the international participants, responses for the other evaluations were very similar. Most importantly, the VT students rated the overall educational and personal growth of the experience at a 4.6 on a 5.0 scale.

Student comments were more valuable in that they assisted in the modifications and improvements of the exchanges. However, they are more difficult to report in tabular

form. Table 3 provides a sample of comments received from UFS and UWI students. The comments from the VT students are presented in Table 4.

Student answers to some of the other questions were more descriptive of their view of the experience. One student commented, "This was an incredible experience. The negatives quickly fade and the memories remain. . . ." Another said, "I had the time of my life." A South African student said, "Thank you so much for a life-time opportunity." Finally, a student from UWI stated, "I think that the entire educational experience was wonderful. I have really decided now what my next career objective will be. I am just hopeful that the transition from here to graduate school is smooth."

Discussion

Overall there were few negatives from the student standpoint with either exchange (the exception being the VT students criticism of the food service and meal plan.) The overall evaluation of the program across all parameters was nearly "very good" and the overall value of the experience was between "very good" and "excellent."

Student comments supported the design of the exchange program. The importance of having an

Table 2. Summary of perceptions of students from Virginia Tech participating in the student exchange programs with the University of the Orange Free State and University of the West Indies - 1999-2001.

	1999	2000	2001	Mean
1. Quality of the housing	4.0	3.6	2.6	3.4
2. Quality of the meals	3.8	2.6	1.6	2.7
3. University meal plan	3.0	2.0	1.7	2.2
4. Quality of instruction	3.5	3.8	3.6	3.6
5. Adequacy of information you received about UFS & UWI before you came	3.8	4.0	4.0	3.9
6. Adequacy of advising about our courses when you first arrived	4.0	4.0	3.8	3.9
7. Adequacy of information about UFS and UWI policies, procedures, and campus life when you first arrived	3.3	2.8	2.6	2.8
8. Overall educational and personal growth experienced during the program	4.5	4.6	4.8	4.6

advisor accompany the students on the exchange was best expressed by a student who said, "I think one of the most positive parts to the exchange was Dr. McKenna." Although we may not have needed him all the time, it was a real comfort knowing that he was there supporting us - that he was there to help us if or

Table 1. Summary of perceptions of students from the University of the Free State and the University of West Indies participating in the student exchange program with Virginia Tech - 1998-2001.

	1998	1999	2000	2001	Mean
1. Quality of the housing	4.8	4.4	3.6	4.6	4.3
2. Quality of the meals	4.4	4.4	3.6	4.4	4.2
3. University meal plan	3.8	4.0	3.6	4.4	3.9
4. Quality of instruction	4.6	4.4	4.0	4.4	4.4
5. Adequacy of information you received about Virginia Tech before you came	3.6	4.1	4.0	4.0	3.9
6. Adequacy of advising about our courses when you first arrived	4.8	4.4	4.0	4.0	4.3
7. Adequacy of information about Virginia Tech policies, procedures, and campus life when you first arrived	3.7	4.3	4.4	4.1	4.1
8. Overall educational and personal growth experienced during the program	4.7	5.0	4.7	4.8	4.8

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Table 3. Positive and negative comments from UFS and UWI students of experiences with the exchange program.

Positive Comments	Negative Comments
Enriching culture	\$30.00 for blood tests/shots
Good food	Re-adjusting to new system
English improved	Multiple choice exams
Group work with other students	Homesickness
Visiting interesting places	CALS students were sometimes cold/distant
Field trips	Not knowing American students before coming
Helpfulness of people involved with exchange program	Classes full that we wanted to take
America!!!	Being almost run over every time I went out
Met a lot of people	It cost a lot of money
Got to know myself better	Having no computer of my own
Burger King!!	Trying to express myself in English
Free bus riding	Converting meters to miles

Table 4. Positive and negative comments from VT students on experiences with the exchange program.

Positive Comments	Negative Comments
Making friends/overseas experience	The dorm conditions
Meeting such different people	Dealing with different views
Taking classes not offered at VT	Being "The American" blamed for everything good and bad
More "laid back" atmosphere	No air conditioning in room
The weather was awesome	Bug bites
Traveling in South Africa	Need more information on courses
Learning about different cultures	Lack of computer access
Visits to homes and farms	Larium - don't take it

when needed. It also showed that the university was supporting the exchange."

Another important component of the success of the exchange was the travel scholarship. A VT student stated, "I would like to thank CALS for the \$1,000 travel scholarship. It was a big help." As far as class work, the VT students felt the UFS system was easier with less homework, but more difficult because the organization was more relaxed and weight given to exams was higher. The UFS and UWI students thought the tests were easier, but they had more homework assignments. In the end, each group felt the university expectations and rigor were about equal.

Summary

This has been a very positive experience for Virginia Tech. The nature of the one-for-one exchange makes it possible for more students to participate because there is a relatively small increase in cost over a semester at home. The travel scholarship is needed to minimize the cost of airfare. Travel and study abroad for a full semester allows for a more complete opportunity to become immersed with another culture. Having course substitutions agreed upon prior to the exchange makes it possible to keep students on track for graduation, and the ability to take classes on subjects that are not offered at their own university broadens their curriculum.

This model will work for any size institution. Even a single department can locate a cooperating institution and develop an MOA or MOU. With the one-for-one exchange concept, there is no restriction on the number of students in the exchange, only that over a period of time the same number are exchanged

from each university. This model is presented, not as the only model, but a model for exchange that is ongoing and successful. Virginia Tech is currently investigating similar exchanges with other universities and expanding the program to include graduate student and faculty exchanges as well.

The authors would encourage readers that desire to learn more about the obstacles and best practices in international educational exchanges to read the recent study completed by the National Association of State Universities and Land-Grant Colleges (NAS-ULGC). This study surveyed land-grant institutions to determine their experiences with international exchange programs and what have been the problems in conducting such programs, and practices that were found to be effective. The booklet is entitled Major Obstacles and Best Practices in International

Educational Exchange and is available from NASULGC or can be found on their web site: <http://www.nasulgc.org>.

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