How are Land Grant Institutions Internationalizing Undergraduate Agricultural Studies?

Shannon E. Brooks  
Oregon State University  
Clatsop County Cooperative Extension  
2001 Marine Drive, Room 210  
Astoria, OR 97103  
E-mail: shannon.brooks@oregonstate.edu

Martin Frick, Associate Professor  
118 Cheever Hall  
Montana State University  
Bozeman, MT 59717  
E-mail: uadmf@montana.edu

Thomas H. Bruening, Associate Professor  
335 Agricultural Administration Building  
The Pennsylvania State University  
University Park, PA 16801  
E-mail: TBruening@PSU.EDU

Abstract

The purpose of this study was to determine the status of international agricultural education at 1862 land grant institutions, by answering the question, what are our 1862 land grant institutions doing to integrate international studies into their undergraduate agricultural curricula? Two investigations were conducted: (1) a Web site content analysis and (2) an international director survey.

A Web site-based content analysis was conducted to determine the contents of 57 land grant institution’s colleges of agriculture’ Web sites; it identified current trends in agriculture regarding international themes. The programs identified were: (1) student study abroad; (2) faculty research and/or programs; (3) graduate research and/or programs; (4) training and/or visitors; (5) international students on campus; (6) foreign agreements and/or contracts; and (7) majors, minors, certificates, curriculum, and course content.

All questions were based on information for the 2003-2004 academic years. Of the 57 institutions surveyed, a total of 31 surveys were submitted for a response rate of 54%. The results of the content analysis and the survey indicated that the nature of international agricultural programs is predictable, yet approaches, support and implementation vary widely between institutions. Despite the strong belief in study abroad programs, very few agriculture students participate in study abroad programs at 1862 land grant institutions.

Keywords:  Certificates, Courses, Curriculum, Faculty Research, Minors, Study Abroad
Introduction

Many scholars see globalizing undergraduate education as an increasingly important university goal (Bruening & Frick, 2004). All colleges and universities in the United States are interested in having international students because it is believed that the presence of international students contributes to global awareness and the value of cultural diversity for all students (American Association of State Colleges and Universities, 2005). Our security, trade and cultural relations with other nations all make important contributions to our way of life and agriculture has the potential to make an impact to sustain our quality of life.

Bruening and Shao (2005) recommended that college of agriculture “faculty should seize the opportunity to develop relevant courses that teach students how to solve world problems in an active way” (p. 53). An additional “rationale for increased international study is that today one in six U.S. jobs are directly tied to international trade” (Bruening & Shao, 2005, p. 48). These circumstances have hastened educational institutions across the nation to examine curricula and revise programs to reflect current trends in internationalization.

Increasingly, land grant institutions have also looked at their role in teaching modern agriculture and have found that internationalizing agricultural curriculum was a priority (Alsup & Egginton, 2001). However, “colleges of agriculture in particular, have struggled to involve students directly in international programming” (Bruening & Shao, 2005, p. 48). Only “one percent of students that studied abroad in the 1999 school year were agriculture students” (Bruening & Shao, 2005, p. 48).

Colleges of agriculture offer discipline-specific undergraduate and graduate programs that provide students with comprehensive technical skills that offer their graduates opportunities to pursue a career with an international component. Agribusiness is a global business and students entering its workforce must be prepared (Acker, 1999). The value of international agricultural programs for students is evident. Whether in the classroom, or through field-based experiences, international agricultural programs augment the student’s college experience by providing meaningful opportunities to learn directly about culture and international political and economic issues related to food production (Frick, Baumbauer, & Bruening, 2003).

The U.S. Department of Education (2000) outlined the importance of international education through 10 key components identified as imperative to the internationalization of education. Among the 10 were two significant components that supported the need for this study. The first of these two declared, “Supporting the development of international awareness, knowledge, and skills in the classroom and on campuses...” (p. 3), and increased investment in undergraduate postsecondary curricula development a priority. The second declared it a priority to ensure that the results of all internationalization efforts in education are measured and reported.

According to the American Council of Education (Hayward, 2000), the current state of internationalization in the U.S. is poorly documented. In an effort to support the internationalization of agricultural curricula at the postsecondary level, a study such as this was necessary to increase understanding and guide the direction of developments and changes in international agricultural education at the college level.

Methods

The purpose of this study was to determine the status of international agricultural education at 1862 land grant institutions, by answering the question, what are our 1862 land grant institutions doing to integrate international studies into their undergraduate agricultural curricula?

The need for recognition within our educational systems of the importance of internationalizing agricultural education is
critical (Acker & Scanes, 2000). During the last decade land grant university officials expressed a deep need for agriculture curricula to include programs with international themes (National Research Council, 1992). Because there has been very little documentation of international themes in post secondary agricultural studies, a comparison of agricultural course content at land grant universities from eleven years ago to now was not appropriate. However, through a content analysis “snapshot,” it was possible to capture the current state of international studies.

An investigation of integration of international themes into undergraduate agricultural curricula through a content analysis of the Web sites of the 1862 land grant institutions was valuable because it identified the current types of programs that were available. The themes discovered through this content analysis were used to design the survey portion of this study. For the purposes of the population selection, only the 1862 land grant institutions were used as a sample to represent the land grant system. This sample also included seven 1862 land grant institutions located in U.S. territories.

**Web site Content Analysis**

A pilot study was conducted to analyze Web site content. First, the researcher used an electronic random sample generator to select a sample of 1862 land grant colleges of agriculture Web sites. Using the institutions’ Web sites, a college of agriculture homepage was found for each institution (if there was one). The homepage was then searched for a link of any kind to international agricultural programs. If no direct link was available through the homepage, a search was conducted with keywords: international, internationally, global, globally, world, worldwide, trade + international, import, export, world + market, and world + marketplace. The intent of this search was not to catalogue the occurrence of the keywords, but simply to determine if there were any international activities in agriculture available at each university within each respective college of agriculture. The keywords were used as standardizing search guides to evaluate the contents of each Web site.

There was no standard format for universities to present a catalogue of courses to students. Also, curricula and majors offered within the colleges of agriculture varied. One institution offered only a few degree options; others offered hundreds of different degrees, all with their own curriculum and course requirements. The pilot study using a random sample of just 15 institutions was enlightening and was invaluable to help develop the instrument. The pilot study results directed the research to the relevant areas of interest for the full content analysis and the survey.

Using the same methods outlined in the pilot study, a full content analysis of the Web sites through a census of all 57 of the 1862 land grant institutions was conducted. The population for the survey included all 57 of the 1862 land grant institutions identified in the content analysis portion of this study. Because each institution had its own system of organization, there was no unique way of locating each staff or faculty member who was responsible, interested, or otherwise involved in international programs. Therefore, survey respondents were chosen based on the expert advice from the National Association of State Universities and Land Grant Colleges (NASULGC) Commission on International Programs (personal communication, K. Bolognese, NASULGC International Agricultural Coordinating Committee steering member, March 2004).

NASULGC provided a list of the international program directors and committee members from each of the 1862 land grant institutions. A census was conducted through a survey that was distributed via email to all 57 of the 1862 land grant institutions. A letter of introduction attached to each survey
reflected the expectation that if the respondent believed it necessary, the survey might be forwarded to an appropriate respondent within each college of agriculture at each institution. Participants of this study were all employees of the 1862 land grant institutions and they were employed in one or both of the fields of agriculture and international studies.

The survey was designed using the results of the content analysis study to focus the survey and develop questions. The topics for the questions were derived from the seven subject areas identified in the pilot study: 1) student study abroad; 2) faculty research and/or programs; 3) graduate research and or programs; 4) training and/or visitors; 5) international students on campus; 6) foreign agreements and/or contracts; and 7) majors, minors, certificates, curriculum, and course content. The survey asked the respondents to describe the nature of agricultural undergraduate focus areas in international studies defined by the content analysis. Demographic information was collected to ensure that a wide variety of respondents and institutions were represented. There were no distinguishing features reported that could lead to the identification of respondents.

Results

Survey Content Analysis

Eight of the 57 land grant institutions did not have schools of agriculture or agricultural studies at the institution and were therefore discarded from the content analysis. Nearly 23% \((n = 49)\) reported via their Web sites that they have incorporated internationalization of course content, majors, minors, certificates or some form of curriculum development as part of internationalizing agricultural studies for undergraduates. Twenty of the 49 remaining did not have international programs in agriculture or an international link of any kind on their college of agriculture homepage. Of the remaining 29 institutions \((n = 29)\), 59% did have international programs in agriculture; 13 of which listed course content, majors, minors, certificates, or some form of curriculum development as part of their international programs in agriculture.

The following 1862 land grant institutions are the 29 that had international programs or an international link of some kind on their college of agriculture homepage: Auburn State University, University of Arizona, University of Arkansas, Colorado State University, University of California at Davis, University of Georgia, University of Idaho, Purdue University, Kansas State University, University of Kentucky, University of Maryland, University of Massachusetts, Michigan State University, University of Minnesota, Mississippi State University, University of Missouri, Cornell University, North Carolina State University, Oklahoma State University, Ohio State University, Oregon State University, Pennsylvania State University, University of Puerto Rico, University of Tennessee, Texas A&M University, Utah State University, University of the Virgin Islands, Virginia Polytechnic Institute and State University, and Washington State University. The 13 that listed course content, majors, minors certificates or some form of curriculum development as part of internationalizing agricultural studies for undergraduates are Colorado State University, University of Georgia, Purdue University, University of Massachusetts, Mississippi State University, Cornell University, Oklahoma State University, Ohio State University, Oregon State University, Pennsylvania State University, University of Tennessee, and University of Wisconsin.

Of the 57 institutions surveyed, a total of 31 surveys were returned for a response rate of 54% \((n = 31)\). Only completed surveys were used; partially completed surveys were omitted. Qualitative responses were interpreted so that repetitive responses were omitted.
Undergraduate Students

Enrollment of agricultural studies majors in the 2003-2004 academic years varied from zero to 4,500 students, with a mean value of 1,668 students. Respondents indicated that study abroad was the only program available at all 31 institutions. All of the other programs listed varied in availability from institution to institution. In Table 1, the response ratio for each international program is indicated. Respondents listed other available programs and indicated three unique international programs available to students of agriculture: international internships, self-designed majors, and an associate degree.

Table 1

Available International Programs in Agriculture at Land Grant Institutions, United States, 2003-2004

<table>
<thead>
<tr>
<th>Programs</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>31</td>
<td>100</td>
</tr>
<tr>
<td>International Extension Programs</td>
<td>9</td>
<td>29</td>
</tr>
<tr>
<td>Graduate Research</td>
<td>31</td>
<td>100</td>
</tr>
<tr>
<td>Graduate Programs</td>
<td>28</td>
<td>90</td>
</tr>
<tr>
<td>International Visitors</td>
<td>28</td>
<td>90</td>
</tr>
<tr>
<td>International Visitor Training</td>
<td>21</td>
<td>68</td>
</tr>
<tr>
<td>International Students on Campus</td>
<td>28</td>
<td>90</td>
</tr>
<tr>
<td>Foreign Agreements/Contracts</td>
<td>26</td>
<td>84</td>
</tr>
<tr>
<td>Major</td>
<td>22</td>
<td>71</td>
</tr>
<tr>
<td>Minor</td>
<td>27</td>
<td>87</td>
</tr>
<tr>
<td>Certificate</td>
<td>15</td>
<td>48</td>
</tr>
<tr>
<td>Curriculum/Course Content</td>
<td>25</td>
<td>81</td>
</tr>
<tr>
<td>Other, Please Specify</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

There were a wide range of structures and management types present in the institutions that participated in the survey. Some institutions administered a few of their own international programs, others administered most of them. In descending order of frequency, the programs that were administered directly through the academic institutions’ college/department of agriculture are ranked as following: International Visitors at 87%; Minors at 74%; Foreign Agreements/Contracts, Graduate Research and Graduate Programs all at 68%; Study Abroad at 65%; International Visitor Training at 55%; International Students on Campus at 42%; International Extension Programs and Certificates both at 35%; and at 10% two other international programs were indicated: Self-Designed Majors and an Associate Degree.

Respondents were asked to indicate the frequency of undergraduate agriculture students’ participation in study abroad programs at their institution. As seen in Table 2, the greatest number (11) of respondents indicated that between 3% and 10% of agriculture students studied abroad. However, one respondent indicated that between 30% and 40% of agriculture students studied abroad.

Table 2

Frequency of Undergraduate Agricultural Students from United States Land Grant Institutions Who Studied Abroad in the 2003-2004 Academic Year

<table>
<thead>
<tr>
<th>Student Percent</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>3 - 10</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>11 - 20</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>21 - 30</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>31 - 40</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>41 - 50</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>More than 50</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Nearly half of the respondents indicated that their institution offered some kind of undergraduate major that included specific international agricultural content and focus. Response ratios indicated that 48% of the respondent’s institutions offered undergraduate majors with specific international agricultural content and focus and 52% did not have this offering.

Respondents indicated that majors in international studies are available in a broad range of agricultural subjects and included

Besides majors, nearly half of the respondents indicated that undergraduate minors with a specific international agricultural focus were offered at their institutions. Response ratios showed that 52% of the respondents’ institutions offered undergraduate minors with specific international agricultural content and focus, and 48% did not offer an international agriculture minor. As with majors, respondents indicated that minors in international studies are available in a broad range of agricultural subjects and include the following: (1) International Agriculture, (2) Agricultural Development, (3) International Studies, (4) Agribusiness/Agricultural Business, (5) International Agricultural Marketing, (6) Global Agriculture, (7) Resource Economics, and (8) Environmental Science. However, only 17% of respondents indicated that their institution offered undergraduate certificates or specialty emphasis programs with specific international agricultural content and focus. Undergraduate courses with specific international agricultural content were offered at nearly all institutions that responded. Twenty-nine (94%) of the respondents indicated that their institutions offered undergraduate courses with specific international agricultural content and focus, whereas only two (6%) did not offer courses with specific international content.

**International Students and Visitors**

Enrollment of international undergraduate agriculture studies majors varied from zero to 374 students, with a mean value of 67 international students. More specifically, of the 31 respondents, 8 chose not to answer this question; 16 reported between 0 and 50 international undergraduate students; 4 reported that between 51 and 100 international undergraduates; and 3 reported between 300 and 374 internationals students. The response rate for this item was 84%.

A majority of respondents indicated that their agricultural college/department provided and/or participated in training of international visitors. All 31 respondents chose to answer this question. Twenty-seven percent of respondents replied that their agricultural college/department provided and/or participated in training of international visitors, whereas 13% did not participate in the training of international visitors. However, all respondents indicated that their agricultural college/department provided and/or participated in hosting of international visitors.

**Faculty and Funding**

Eight institutions indicated that between 10% and 20% of their agricultural studies faculty participated in research and/or programs that were international during the 2003-2004 academic year. Two respondents noted that over 50% of their faculty participated in research and/or programs that were international in nature during the 2003-2004 academic years. Table 3 shows that the response rate was 97% and presents a wide range of responses.
Table 3

Frequency of Agricultural Faculty from United States Land Grant Institutions Who Participated in Research and/or Programs that were International in Nature in the 2003-2004 Academic Year

<table>
<thead>
<tr>
<th>Category</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3 - 10</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>11 - 20</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>21 - 30</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>31 - 40</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>41 - 50</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>More than 50</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Institutions reported the number of current foreign agreements, grants, and/or contracts from zero to 137. The mean value of foreign agreements, grants, and/or contracts was 30 per institution. Only one institution did not have foreign agreements, grants, and/or contracts. The response rate for this item was 81%.

A minority of respondents indicated that faculty at their academic institution received training on integration of international content into undergraduate curriculum. The response rate for this item was 97%. Response ratios indicated that 33% of the professors at the respondent’s institution have received training on the integration of international content into the undergraduate curricula and 67% have not received training.

Respondents were asked if their academic institution provided incentives to faculty for developing international undergraduate curriculum. Response ratios indicated that 35% of the respondent’s institutions provided incentives to faculty for developing international undergraduate curricula, and 65% did not provide incentives.

A similar response was given by respondents regarding their academic institution’s encouragement to faculty to incorporate international themes into undergraduate curricula. Thirty-five percent of the respondents’ institutions provided incentives to faculty for developing international undergraduate curricula, and 65% did not provide incentives.

Respondents were asked to select the top three items they believed were the most effective methods of teaching undergraduate students about international agriculture. All respondents indicated that they believed study abroad experiences are the most effective way to teach undergraduate students about international agriculture. Table 4 shows the programs noted by respondents in descending order of frequency.

Table 4

Respondent’s Selection of the Most Effective Methods of Teaching Undergraduate Students about International Agriculture, Land Grant Institutions, United States, 2003-2004

<table>
<thead>
<tr>
<th>Most Effective Method</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>31</td>
<td>100</td>
</tr>
<tr>
<td>Curriculum/Course Content</td>
<td>21</td>
<td>68</td>
</tr>
<tr>
<td>International Students on Campus</td>
<td>15</td>
<td>48</td>
</tr>
<tr>
<td>Foreign Agreements/Contracts</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>International Visitors</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Major</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Minor</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>International Extension Programs</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Others*</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

*Other Specified Programs included international internships, undergraduate research on agriculture and biology topics, and certificates.
Comments and ideas about the integration of international studies into undergraduate agricultural curricula were provided by respondents. The following selected comments were taken from the responses.

We need to show direct benefit to students, such as placement rate upon graduation or quotes from agricultural firms about international importance.

We have asked and encouraged our faculty to incorporate an international dimension in all courses taught to undergraduates. Some courses have more emphasis than others depending on the course subject matter.

The problem is the perception that it is not an important topic and that there would not be much student interest.

Budget cuts have adversely affected our international programs.

The only effective means to integrate international studies into the undergraduate curriculum is to travel abroad.

It is important to get the students physically out of the country; they need to travel to get the experience they need.

It is essential, but given only token support at our institution.

Respondents indicated problems they faced regarding the integration of international studies into undergraduate agricultural curricula at their institution. Responses were grouped into themes based on response frequency. Themes included lack of support, lack of funding or resources, and lack of enthusiasm from both professors and students.

Summary

Content analysis of this study revealed that the 13 colleges of agriculture that had a specific international focus were not tied to any specific agricultural discipline. A study completed in 1994 at Iowa State University reported similar findings (Mason et al., 1994). Comparisons among majors within the colleges of agriculture did not indicate any substantial differences across majors in student interest and knowledge of international agriculture (Mason, et al.). International programs in agriculture existed in all agricultural disciplines from agricultural economics to animal and crop sciences.

Further, these 13 institutions varied greatly with respect to their international curricula, course development, majors, minors, and/or certificates. Although global studies minors, specializations, and certificates were available at some institutions, only one elective course was offered at the other institutions. Among the minors, specializations, and certificates available, most requirements were satisfied by courses taken outside the college of agriculture and did not involve international agricultural curricula. The content analysis of the web pages also revealed that gaps exist with respect to information on international program development in colleges of agriculture. Thus, further investigation of information regarding the structure of international programs may be needed to determine the exact nature of international programs. Perhaps analysis of course catalogs and face-to-face interviews with administrators and faculty will yield more precise results.

The content analysis portion of this study provided information regarding the range of internationalization within 1862 land grant universities. Colleges of agriculture are currently utilizing study abroad programs; faculty-based programs; hosting international training programs and visitors; increasing enrollment and awareness of international students on campus; and encouraging agreements and contracts with foreign institutions. All of these programs have the potential to impact undergraduate curricula. However, many of these programs have been in place for a long time and have always had effects on undergraduate curricula (National Research Council, 1992). While the content analysis mapped the current state of curriculum...
internationalization within colleges of agriculture overall, it did not provide insights about how undergraduate agricultural curricula have changed over the past fifteen years.

The survey component of this study provided additional evidence about the current extent of internationalization of agricultural studies. Institutions represented in this study varied demographically and structurally. The numbers of majors enrolled in agricultural studies ranged from zero to 4,000 students. Study abroad and international visitors/students were found at most universities. However, the respondents also indicated that many of the other international program activities were commonly offered at their institutions.

In addition, survey respondents indicated undergraduate majors and minors with specific international agricultural content and focuses were available in many land grant institutions. For example, international majors were available at 48% (15) of responding institutions and minors with an international focus were available at 52% (16) of the responding institutions. Also, 94% (29) of respondents reported that their institutions offer undergraduate courses with specific international agricultural content.

Training for, and visits by international participants appear to be prevalent techniques for internationalizing agricultural programs, as well as increasing enrollment and awareness of international students on campus. All respondents reported that their colleges of agriculture host international visitors and 87% (27) reported that their colleges participate in training international visitors. According to Hayward (2000), this is an effective internationalization technique for campuses across the nation.

While many administrators and faculty believed that study abroad programs are the most effective way of internationalizing undergraduate curricula, agriculture students who studied abroad in the 2002-2003 academic year made up only 1.5% of all U.S. students who studied abroad. This is by far the lowest percentage of all fields of study for that academic year (Institute of International Education, 2004). When respondents were asked to comment on problems associated with study abroad, respondents most frequently cited the following issues (in descending order of frequency): lack of support, lack of funding or resources, and lack of enthusiasm from both professors and students.

Ninety percent (28) of the respondents reported that their academic institution encouraged international themes in their undergraduate curricula. Yet, 67% reported that they had not received training in order to integrate international themes, and 65% report that there was no incentive for faculty to develop international undergraduate curricula. These findings are supported by Andreason’s (2003) work identifying barriers to internationalization of agricultural education and university infrastructure. Professional development of faculty in international programming represents a tremendous opportunity for colleges of agriculture.

**Recommendations**

This study may provide administrators and educators of land grant institutions with new insights into the complex issues involving the internationalization of curricula and the current state of international literacy in academic agricultural programs. The data of this study suggest that administrators and educators should consider the recommendations outlined below.

If undergraduate students wish to obtain international perspectives in their agricultural studies programs, then study abroad, although it may be costly and require planning, is likely to be the most effective option. If study abroad programs are going to gain traction as an integral part of the undergraduate program, then colleges of agriculture are going to need to find ways
to help students graduate on time and to reduce the cost of participation. Additionally, as noted by Acker and Scanes (1998), to maintain high quality programs education methods should be evaluated for effectiveness, relevance, and impact.

If administrators of colleges of agriculture wish to make positive, lasting initiatives that infuse international perspectives into undergraduate studies, then they may need to provide training and support for faculty and staff that fosters enthusiasm for those programs.

If international programs and coordinators of international agriculture programs wish to internationalize agricultural studies, they should consider employing several programs among the wide range of programs currently in use at the 1862 land grant institutions that are identified in this study.

Further research is needed. For example, examining the size and location of the schools with regard to the types of programs they offer, the extent of foreign agreements and contracts, and the number of foreign agricultural students enrolled at the institution may lead to further insights into the current trends of international education at 1862 land grant institutions.

Implications

The results of the content analysis and the survey provide new evidence about the current state of internationalization in the colleges of agriculture in 1862 land grant institutions. The nature of these programs is predictable, yet approaches, support and implementation vary widely among institutions. Furthermore, respondents recognized that many of the same programs are important to teaching students and developing a global perspective in undergraduate studies. For example, respondents reported that they thought study abroad to be the most effective method of teaching undergraduate students about international agriculture.

Despite the popularity of study abroad programs as an effective tool to increase internationalization, 33% of the respondents reported that less than 3% of their agricultural students actually studied abroad in the 2003-2004. This small percentage of college of agriculture students studying abroad is very similar to other national studies that reveal similar anemic participation. It is interesting to note that few colleges of agriculture administrators seem to recognize the importance of study abroad amongst their undergraduate population. Given many universities’ stated goals of 20% study abroad, the low percentage of college of agriculture students would seem to be at the crisis level. Thirty-seven percent of respondents reported that between 3% and 10% of their students study abroad and 23% of respondents reported that between 10% and 20% of their agricultural students studied abroad in the 2003-2004 academic year. Still, as noted above, in the 2002-2003 academic year, agriculture students made up only 1.5% of all U.S. students who studied abroad, by far the lowest percentage of all fields of study for that academic year (Institute of International Education, 2004).

The results of this study cannot be statistically compared to the national averages recorded in 2002-2003. Yet, the national average shows a much lower number of agriculture students who traveled abroad than students in any other field of study. The use of the term “study abroad” may be defined in different ways to consist of all overseas programs including, for example, short term summer programs, semester-long or annual programs. It should be noted that these findings raise an important issue. Study abroad programs were widely recognized by survey respondents as the most valuable internationalization technique, yet the evidence showed that it is not widely utilized. Unless some form of study abroad programs are required, most students are unlikely to choose to benefit from this type
of experience. Colleges of agriculture should reexamine the importance of study abroad and perhaps require all students to take part in this valuable experience. This action would set colleges of agriculture apart from the rest of colleges and emphasize the value and importance of studying abroad.

The data in this study indicated that the scope and relative importance of international studies at the 1862 land grant institutions is often driven by financial considerations. Faculty research and faculty development programs are primarily funded by external grants, which bring money to universities. Many universities offer partial support to students to study abroad. However, one of the hidden costs is the extra time that it often takes study abroad students to graduate. Foreign visitors, training, and international students all bring money to universities. In each case, the source of the funding does not originate with the university, but from a funding source outside of the university. In most cases, such programs have been in place at the universities for some time. The content analysis revealed that colleges of agriculture Web sites targeted agriculture students for study abroad, highlighted international students and visitors, and heavily featured faculty research projects and agreements and contracts that involved foreign countries. These programs undoubtedly have value and enhance the overall international image in schools of agriculture without expense to the university.

Overall results of this study were that international content appears to be incorporated within undergraduate curricula at many 1862 land grant institutions. The presence of these programs was largely unobservable in the content analysis of colleges of agriculture Web sites, but was more clearly articulated in the survey results reported in this study. This discrepancy may have been because there are no clear definitions or standards for adequate internationalization, international literacy, or evaluation of competence (National Research Council, 1992). This is supported by Etling’s (2001) illustration of “globalization” and understanding its implications and meaning. Also, respondents reported that faculty and students were unenthusiastic about the need for international studies. Thus, given that Web sites are largely designed by faculty and staff to appeal to students, it may not be necessary for those Web sites to provide more specific information on global aspects of curricula in order to attract students interested in participating in international programs.

Navaro’s (2004) findings demonstrate that faculty knowledge and participation in the internationalization process were positively linked with faculty perceptions of the relevance of internationalization of curriculum and their knowledge of international issues. Because there appears to be a lack of enthusiasm from students and faculty about the need for international studies does not mean that the need for it is lacking. Colleges of agriculture should improve their position as leaders who provide a positive vision and enthusiasm for internationalization through education of its importance and relevance in today’s world.

References


