

Chairperson Views on the Internationalization of Agricultural Economics Curricula at Land Grant Universities¹



William C. Lesch²
Department of Marketing
University of North Dakota
Grand Forks, ND 58202

Cheryl J. Wachenheim³
Department of Agribusiness and Applied Economics
North Dakota State University
Fargo, ND 58105-5636

Abstract

Overall, a very small percentage of U.S. students in departments of agricultural economics at land grant universities are gaining international experience through formal work- or study-abroad. This is in stark contrast to the relatively high percentage of department faculty with foreign experience and the large number of international programs offered to students. However, the degree of curricular internationalization achieved in individual departments varies substantially. Departments are classified based on methods used to internationalize their curricula and corresponding levels of perceived sufficiency of the result. Departments with less internationalized curricula appear to remain focused on improving student preparedness for positions with international responsibilities in-country. Departments demonstrating a more internationalized curriculum and those considering such more sufficient, place more value in preparing students for international positions by means of international experience.

Introduction

Internationalizing the agricultural economics curriculum represents an important objective for educators. Worldwide, economies are increasingly dependent on international trade as a source of growth. Overall growth in manufacturers' exports from the United States has recently been robust. While gains in the era of 1987-1992 were a respectable 63%, the period of 1992-1997 experienced an increase of 86% (Department of Commerce, 1999). Overall, one-fifth of U.S. held employment in manufacturing is associated with exports, and approximately one in fourteen U.S. employment positions

can be linked to exports (Department of Commerce, 2001). Some 765,000 agricultural positions are associated with exports (U.S. Office of the Trade Representative, 2001). The first general review of the NAFTA agreement mandated by Congress reported an increase of more than 44 % in two way trade between the United States and their trade partners, Mexico and Canada, over four years, with more than one-half of new U.S. exports in the first four months of 1997 so tied (U.S. Office of the Trade Representative, 1997). Annual exports from two rising exporters, India and China, nearly doubled between 1994 and 2001, advancing from 60 to nearly 120 billion dollars (World Bank, 2003).

As more firms transact business among a variety of nations, today's students will likely become involved in international commerce throughout their careers (Tillery et al., 1994). Those who understand the growing diversity of consumption and factors of production will be better prepared. Arguably, the best sources of such insight are knowledge and experience. These can create an appreciation for the global dimensions of agriculture and the importance of communication between the world's people (Woods and Miller, 1995). The initial burden for both preparation and access to early experiential opportunities lies predominantly on institutions of higher education.

The purpose of this paper is to evaluate the nature and scope of the internationalization of agricultural economics curricula. Background information is first provided on methods of and progress made in internationalizing business curricula in the United States. The analogous need for internationalization of agricultural economics curricula is then discussed. Finally, results of an empirical assessment of the extent and scope of

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²William Lesch, Professor, Box 8366, University of North Dakota, email: william.lesch@und.nodak.edu

³Cheryl Wachenheim, Associate Professor, 207C Morrill Hall, email: cwachenh@ndsuxent.nodak.edu

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progress toward curricular internationalization in departments of agricultural economics at U.S. land grant universities are presented and implications for the field are drawn. This information will provide a benchmark for academic units for comparative purposes and will aid readers in understanding curricular internationalization.

The Internationalization of Business Curricula

In the early 1970s, the American Assembly of Collegiate Schools of Business (AACSB), the primary accrediting group in business curricula, began requiring that member schools formally emphasize international issues in their business curricula (Kedia and Cornwell, 1994; Kwok et al., 1994; Lundstrom et al., 1996). Analysts report that some progress has been made. By the middle 1990's, Kwok et al. (1994) concluded that, while still falling short, international courses, programs, and other educational experiences available to U.S. business students had increased in number, variety, and richness. They found an increased number of schools reporting a commitment to curriculum internationalization and substantive activities to support that commitment. Others have been less generous in their assessment. Lundstrom et al. (1996) reported that American business education is not meeting the expectations and needs of business practitioners. Kedia and Cornwell (1994, p.12) asserted that U.S. business schools had "largely failed in providing the necessary knowledge and skills to prepare students to function in a global economy."

The results of a global survey of business schools was undertaken in 2000, sponsored by the Academy of International Business. It involved more than 1,100 institutions spanning the regions of Africa/Middle East, Asia, Europe, Latin America, U.S./Canada, and Australia/New Zealand. While response rates were understandably lower than desirable (13%), the design did permit specific comparisons between a benchmark undertaken in 1992 and this follow-up. Several conclusions are worthy of note. Respondent schools reported dramatic gains in the number of individuals or groups involved with curricular internationalization (65% in 2000 versus 9% in 1992), but virtually no improvement in the internationalization of research activities (31% in 2000 versus 30% in 1992). Respondents indicated greater involvement among faculty in international activities (e.g., international travel, attendance of seminars, self-education). A small majority of schools were members of some kind of institutional consortium for conducting international activities (58% in 2000) as compared with the earlier time period (50%, 1992). Similarly, a small majority offered student internships outside of the

United States in 2000 (55% as compared with 43% in 1992). Moreover, the majority of schools had reported a certain dissatisfaction with their degree of overall internationalization in 1992 (mean score of 2.47 on a scale of 1-5, 5 representing very satisfied). In the 2000 survey, this had improved to an overall score of 3.86 (somewhat satisfied). It appears that despite over two decades of effort, the collegiate business community has made strong gains, but has far to go in achieving maximal internationalization of curricula and associated activities.

So what has comprised these efforts? Efforts at curricular internationalization among business schools have varied by degree and method. Degree is defined by objectives, such as increasing student awareness and/or understanding of and competence in the international aspects of specific functional areas (e.g., marketing, finance) and the environment in which business is conducted (e.g., culture, language) (Kedia and Cornwell, 1994). The degree of curricular internationalization will be influenced by multiple factors; two of the most important are institutional commitment and available resources. The practical objective for many U.S. business schools is still awareness. This is consistent with the design of most business curricula around functional areas (e.g., marketing, finance) and the low level of faculty expertise in the international arena (Kwok et al., 1994).

Because of widely varying institutional missions, contributor competencies, and constituent interests, pedagogical methods for curricular internationalization have been far from uniform. The primary pedagogical methods available to meet curricular objectives are infusion, inclusion, and exchanges. [They are defined in the following paragraphs.] Infusion and inclusion can both be accomplished domestically. They address objectives and activities advocated by both AACSB (Lundstrom et al., 1996) and the federally funded Centers for International Business Education and Research (CIBER), a program initiated in 1988 to increase international instruction, training, and research (Kedia and Cornwell, 1994).

Infusion, the pedagogical process of including select, unspecified international issues in courses across the business curriculum, has been the primary method adopted to internationalize curricula (Lundstrom et al., 1996). An example is a marketing strategy professor choosing to introduce material on international sales force training or product adaptation for specific foreign markets in an existing course. The primary advantages of infusion include its ease of administration, relatively low cost, and opportunity for rapid implementation while still respecting faculty academic freedoms. Its disadvantages include the difficulty of internationalizing functional content

rooted in practices outside the United States (Lundstrom et al., 1996) and, when used alone, the resulting absence of education in the international environment (e.g., language, culture). Furthermore, continuity of coverage and the lack of coordination within/across curricular programs represent obvious challenges. The most likely consequence is the failure to integrate international issues throughout the curriculum in any consistent manner. A study by Arpan and Kwok (2001) revealed that, for the level of a bachelor's degree, U.S. schools relied more on infused courses than did their international counterparts, but when specific international programs were examined, non-U.S. schools offered greater international breadth than did those in the United States.

Inclusion, which involves creating courses specifically to teach international business, may require developmental funds and the addition of qualified faculty. This approach requires an advanced level of faculty and administrative commitment. However, the opportunity for direct business application is enhanced as a result of the specific international focus. In the most advanced form of inclusion, the curriculum includes a major in the functional international area or across disciplines (e.g., International Agribusiness). Eighteen percent of responding departments of agricultural economics at U.S. land grant institutions offered such a degree in 2001 (Wachenheim and Lesch, 2002). Lesser participation may include select course work and/or faculty with pronounced international emphases in teaching, research, and/or service.

A third strategy for curricular internationalization is international exchanges. Nearly 40% of business schools in the United States had entered into one or more consortium for conducting international business activities by the mid 1990s (Kwok et al., 1994). Throughout much of the developed world, international experience is an encouraged or required part of higher education. Whether the objective is to afford students personal experience in other cultures or to provide them with opportunities not available domestically (e.g., advanced technical competencies), the result is the same (Bor et al., 1995). Well-designed programs will "broaden a student's intellectual horizons and also immerse a student in the language, culture, and business practices of a host nation" (Kedia and Cornwell, 1994, p. 24). Kedia and Cornwell suggest that time abroad should be a component of internationalization regardless of specific curricular objectives.

Historically, U.S. universities have lagged painfully behind those of many of their trading partners in graduating students with any substantive international experience (Kedia and Cornwell, 1994). U.S. schools offer fewer foreign experiences as well as specialized international business degrees than

international institutions (Arpan and Kwok, 2001). Kwok et al. (1994) reported that, while one-third of U.S. business schools offered study-abroad programs or internships, less than 8% required them. They found that only 6% of U.S. business students participated in a study abroad program (3% in a summer program and another 3% over a semester). The percentage of students either studying or working abroad in agricultural economics is even lower (Wachenheim and Lesch, 2002).

The Status of Internationalization in the Agricultural Economics Curriculum

Consideration of the decidedly drawn out approach to internationalization taken by U.S. business schools might lead one to the conclusion that curricula can be internationalized by revising existing courses to include more international content (infusion), or by developing new courses devoted to international issues (inclusion) (Redman et al., 1999). A program might also or alternatively choose to offer study abroad opportunities, or increase job-related international experience through internships and cooperative education, on an elective or required basis (Kennedy and Harrison, 1996). Recent research in the (sister) business sector has found little uniformity in implementation of these approaches to internationalization of business curricula and has pointed out continuing inadequacies.

Little information exists about the nature and scope of internationalization efforts in agricultural economics curricula and consequent progress toward educational goals in this area. Such empirical inquiry is the purpose of this study.

Specific objectives of the study include:

- Assessment of the nature and degree of international program activities in agricultural economics curricula of the nation's land grant institutions; and
- Identification of factors associated with the degree or method of curricular internationalization.

Methods

Data for this project were gathered using a March 2001 mail survey of chairpersons of the Departments of Agricultural Economics at the 1862 land grant institutions in the United States (N=52). The survey instrument was designed to elicit the scope and form of curricular internationalization and to identify influencing factors. The perceived importance of curricular components and the curricular and co-curricular experiences and performance of students to graduate employability were also examined.

Drawing upon the experience of the business

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disciplines, the initial step was to develop a scale to measure the degree of curricular internationalization by conceptualizing the practice as a continuum from infusion through inclusion. Exchanges were measured separately as an activity. Chairpersons were queried about the breadth and scope of the internationalization of their curriculum. They were asked to indicate their level of agreement that their curriculum was sufficiently internationalized and with statements defining the means by which it is internationalized, and were asked to reference the level to which international content had been introduced within existing and new courses. Responses to these queries were used to group departments using hierarchical cluster analysis, where responses along the vector of variables were used as the basis for group (cluster) formation (see e.g., Hair et al, 1987). Clustering was performed at the level of the case (department). Relative internationalization was then used as the independent (grouping) variable in a series of descriptive one way analyses of variance (ANOVA's) with various international activities, support indices, and employment beliefs as the dependent variables. These included chairpersons' responses to queries about the number of courses in their department with an international emphasis, whether a degree with a specific focus in international issues was offered, the percentage of students and faculty who do or have worked or studied abroad, and the number and scope of international opportunities available to students. Perceived level of administrative support for international programs and faculty compensation were also examined. Finally, respondent beliefs about employer valuation of various student applicant credentials were elicited.

In sum, responses to the scale measuring administrator attributions of internationalization were first used to group the respondents. While an alternative (if not simpler) methodology to represent the continuum of degree of internationalization might have been to sum the items and perform a median split, cluster analysis was selected because of its ability to account for multivariate relationships and potentially reflect important, sizable subgroups beyond two in number. This increases the generalizability of findings by improving internal validity of the construct being measured and used as the independent variable in further analyses. Subsequently, details of each group's curricular

activities were compared to provide a better understanding of how internationalization was being implemented.

Results

The final sample included 30 usable (institutional) returns for a response rate of 58%. This compares favorably with the response rate obtained by other researchers (e.g., Cole and Thompson, 2002). Descriptive statistics of the sample population are provided in Table 1.

Table 1. General Descriptives

	Average	Standard Deviation	Range
University undergraduates	24,282	12,603	8,500 to 53,000
Departmental undergraduates	185	190	35 to 816
Departmental faculty	24.6	12.6	7 to 60
Departmental undergraduates/faculty	7.6	7.4	.93 to 42.9
Faculty with foreign experience, percent	48.4	21.4	17 to 100
Students studying abroad, percent	1.8	1.7	0 to 5
Students working abroad, percent	0.9	1.0	0 to 4
Graduates to international positions, percent	7.0	4.6	0 to 15
Exchange programs, number	31.3	54.7	0 to 200
Exchange program countries, number	32.0	32.3	1 to 100
Departmental international courses, number	5.5	9.3	1 to 48
		Percent	
Departments with international degree		16.7	
Departments collaborating on exchanges		36.7	

Curricular Internationalization

Nearly half of the faculty in the average department had worked or studied in a foreign country, but the percentages of students studying or working abroad for at least a semester annually were very small. No chairperson reported that more than five (4%) of their students study (work) abroad for at least one semester annually.

Seventeen percent of responding chairpersons reported offering a degree with a specific focus on international issues. These departments on average had more undergraduates (298) than those within which an international degree was not offered (163), although the average university had fewer students overall (Table 2). Application of ANOVA revealed that those departments with an international degree offered more international courses (14.5) than others (3.9), had a higher percentage of faculty who had worked or studied in a foreign country (64 versus 45%) and reported a greater percentage of students had participated in an international study (3.07 versus 1.55) or work exchange (2.15 versus 0.64) of at least one semester. However, level of agreement between the groups that the department curriculum

Table 2. Comparison of Departments Offering International Degrees with Those Not^{w,x}

	Offer degree	Do not offer degree	Significance, F ^y
University undergraduates	17,900	25,558	.021
Departmental undergraduates	298	163	.054
Departmental international courses, number	14.5	3.9	.000
Faculty with foreign experience, percent	63.9	44.9	.595
Students studying abroad, percent	3.1	1.5	.826
Students working abroad, percent	2.1	0.6	.125
Graduates to international positions, percent	12.5	6.3	.165
Faculty are encouraged to include an international component in their courses ^z	5.0	5.0	.630
Internationalization has included a content focus on regions of the world ^z	4.4	5.0	.306
Internationalization has included adding international content to our courses ^z	4.8	4.9	.771
Internationalization has included adding international courses ^z	6.4	4.7	.316
Our curriculum is sufficiently internationalized ^z	4.6	4.3	.215

^wTotal number of chairpersons fully completing this section was 28.
^xGroup sizes are 4 (Group 1), 11 (Group 2), and 13 (Group 3).
^ySignificant differences were tested using Tukeys.
^zLevel of agreement indicated on a scale of 1 = strongly disagree to 8 = strongly agree.

is sufficiently internationalized and the extent and nature of such were not significantly different. There was a substantially higher, although still not significant, level of agreement among those offering a degree with a specific international emphasis that curricular internationalization has included adding international courses. They also reported a higher percentage of graduates who took international positions (12.5 versus 6.3), although the difference was not significant. In its most advanced form, development of a degree program with an international focus, the range of international activities among adopting schools exceeds those of institutions practicing lower levels of inclusion. This is notable, but

Table 3. Nature and Scope of Curricular Internationalization^w

Statement	Overall Sample ^x	Standard Deviation	Group 1 ^{y,z}	Group 2	Group 3	Sign., F
Our curriculum is sufficiently internationalized	4.37	1.50	5.75 ^a	3.55 ^b	4.46 ^{ab}	.031
Faculty are encouraged to include an international component in their courses [Infusion]	5.04	1.73	6.75 ^a	3.91 ^b	5.46 ^a	.005
Most faculty do include an international component in their courses [Infusion]	4.93	1.76	7.00 ^b	4.36 ^a	4.62 ^a	.018
Internationalization has included a content focus on regions of the world	3.57	2.01	4.25 ^{AB}	2.45 ^B	4.31 ^A	.054
Internationalization has included adding international content to our courses [Infusion]	4.87	1.68	6.50 ^a	4.18 ^b	4.92 ^{ab}	.048
Internationalization has included adding international courses [Inclusion]	4.97	2.67	7.00 ^a	1.82 ^b	6.62 ^a	.000
Internationalization has been restricted to a few key courses	5.50	2.00	1.75 ^b	6.09 ^a	6.15 ^a	.000

^wLevel of agreement indicated on a scale of 1 = strongly disagree to 8 = strongly agree.
^xTotal number of chairpersons fully completing this section was 28.
^yGroup sizes are 4 (Group 1), 11 (Group 2), and 13 (Group 3).
^zSignificant differences were tested using Tukeys. Means that are significantly different are noted by differing lowercase ($\alpha < .05$) or uppercase superscript letters ($\alpha < .10$).

Table 4. Correlations Among Grouping Variables

Expected Sign ^x	Correlation ^{y,z}	Satisfied	Faculty encouraged	Faculty include	Regional focus	Added content	Added courses	Few key courses
Consider curriculum sufficiently internationalized	----	.251*	.415**	.274	.034	.486***	-.398**	
Faculty encouraged [Infusion]	+	----	.501***	.335*	.754***	.570***	-.269*	
Faculty include international component [Infusion]	+	+	----	.100	.581***	.161	-.550***	
Content focus on regions	?	?	?	----	.137	.417**	-.055	
Added content to courses [Infusion]	+	+	+	?	----	.353*	-.423***	
Added courses [Inclusion]	+	?	?	?	?	----	-.275	
Includes only few key courses	----	----	----	?	----	?	----	

^xOne-tailed test if directional hypothesis (expected sign of correlation noted on lower left diagonal of table); two-tailed test otherwise.
^yPearson's correlation statistic (P) reported based on assumption that the two variables are approximately normally distributed. Pearson's correlation statistic performs well even when assumptions of normality are violated or when one of the variables is discrete (George and Mallery, 2000).
^zSignificance of correlation indicated by * ($\alpha < .10$), ** ($\alpha < .05$), or *** ($\alpha < .01$).

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puzzling since even these schools do not appear to be overwhelmingly successful at recruiting students or faculty into international activities.

Respondents revealed their department's relative level of internationalization by responding to a series of items addressing the use of infusion or inclusion. Average level of agreement that the departmental curriculum is sufficiently internationalized was neutral (Table 3, Column 1). Level of agreement was only slightly higher for statements reflecting use of infusion to internationalize the curriculum (faculty are encouraged to include an international component in their courses and that they do, and that curricular internationalization has included adding international content to existing courses). Chairpersons agreed most strongly with the statement that curricular internationalization has been restricted to a few key courses rather than occurring throughout the entire degree program.

Correlations among statements reflecting degree and method of curricular internationalization were considered to investigate relationships between methods of internationalization (e.g., did methods tend to be adopted as complementary components?). It was expected that level of agreement that the curriculum is sufficiently internationalized would be positively correlated with statements that denoted support for, or progress in, curricular internationalization through infusion or inclusion and would be negatively correlated with agreement that internationalization of the curriculum has been restricted to a few key courses. These hypotheses were confirmed with one exception (Table 4). Agreement that the curriculum was sufficiently internationalized was most highly correlated with the higher level of internationalization, inclusion (adding international courses), but was also positively correlated with two statements denoting internationalization through infusion. Correlation with the level of agreement that faculty are encouraged to include an international component in their courses was much lower than for level of agreement that most do so. That is, the outcome rather than the intent was more strongly associated with satisfaction with curricular internationalization.

Table 5. Group Descriptives^x

	Mean (standard deviation) ^y		
	Group 1 ^z	Group 2	Group 3
University Undergraduates	39,487 ^a (6,443)	24,591 ^b (11,065)	21,308 ^b (12,534)
Department Undergraduates	275 (131)	141 (205)	215 (199)
Faculty	38.2 ^a (12.8)	21.2 ^b (14.5)	22.2 ^b (7.6)
Student/faculty ratio	6.89 (1.76)	5.62 (3.2)	10.42 (10.2)
Faculty with foreign experience, percent	66.1 (20.3)	42.6 (19.7)	48.0 (21.4)
Students studying abroad, percent	2.5 (1.7)	1.9 (1.8)	1.7 (1.5)
Students working abroad, percent	0.9 (0.6)	0.7 (1.2)	1.2 (1.0)
Graduates to international positions, percent	9.0 (5.8)	5.7 (4.0)	7.3 (4.7)
Offer international degree, percent	0	9.1	30.8
Exchange programs, number	93.7 ^a (85.2)	11.8 ^b (21.5)	17.9 ^b (35.5)
Exchange program countries, number	46.2 (27.8)	35.7 (55.8)	23.5 (25.7)
International courses, number	10.3 (4.7)	2.1 (1.37)	7.7 (13.6)

^xExcept the number of university undergraduates, values describe the department or programs available to departmental students.

^ySignificant differences tested using Tukeys ($p < .10$) are indicated by superscripts.

^zGroup sizes are 4 (Group 1), 11 (Group 2), and 13 (Group 3).

Table 6. Administrative Support

	Overall	Group 1 ^z	Group 2	Group 3
Administrative support, mean (sd) ^y	5.6 (1.6)	6.5 (1.78)	5.0 (1.7)	5.9 (1.4)
Percentage responding yes (unless noted)				
Designated faculty coordinator	40.0	50.0	18.2	66.7
Director	50.0	33.3	37.5	69.2
Receives compensation (if Director)	30.8	100	100	44.4
Reimbursed for expenses (if Director)	84.6	100	100	77.6
Faculty receive stipends	34.6	75	25	33.3
Faculty expenses reimbursed	80	100	62.5	84.6
Faculty receive recognition	70.4	100	55.6	69.2
If yes, level of importance, mean (sd) ^y	4.3 (1.3)	5.2 (.58)	4.1 (1.2)	4.2 (1.4)

^y1 = not supportive, not important, 8 = very supportive, very important

^zGroup sizes are 4 (Group 1), 11 (Group 2), and 13 (Group 3).

At first blush, many chairpersons/programs see value in blending approaches to internationalizing. All statements reflecting curricular internationalization through infusion were relatively strongly and positively correlated with one another. And, level of agreement with the statement reflecting internationalization through inclusion (adding international courses) was positively correlated with that for two of the statements reflecting infusion, that faculty are encouraged to include international content in their courses and that internationalization has included adding international content to courses.

Finally, level of agreement that internationalization of the curriculum has been restricted to a few key courses rather than occurring throughout the degree program was correlated with level of agreement that the curriculum is sufficiently internationalized and statements reflecting internationalization through infusion. As expected, the correlation was negative.

Scalar Review and Cluster Analysis

Cronbach's alpha test was used to evaluate internal reliability for the use of levels of agreement with the statements assigned to such by the departmental chairperson regarding the nature and scope of curricular internationalization within the department and degree of sufficiency to classify respondents. The resulting standardized Cronbach's alpha coefficient was 0.5645, adequate for internal reliability of a scale applied in a pilot study of this type. The items forming this scale were then used as input for a hierarchical cluster analysis (case level) resulting in the assignment of schools to mutually exclusive groups containing institutions with similar internationalization attitudes and practices.

The results of two and three group solutions were compared and evaluated for internal consistency and similarity, and actual group size. The analysts preferred a solution which resulted in maximal dispersion between groups (denoted by larger descriptive F ratio's in post hoc ANOVA's), comparatively high(er) internal similarity, and cell size conducive to additional profiling. The three cluster solution was retained. Refer to Table 3 for descriptive comparison of the groups on the scalar items. Tables 5 and 6 show differences among the three groups of schools.

Group Profiling

Group 1 consisted of only four departments. Chairpersons in this group most strongly agreed their curriculum was internationalized, with high levels of perceived international content and encouragement for the same in course work. The process appears to have been undertaken in a more sweeping manner than in counterpart institutions, with additions to existing courses, additional courses, and without restriction to a few key preparations. In the latter case, members of this group depart strongly from their peers.

This group represents the largest land grant institutions (university enrollments averaging 39,487) and had the largest department enrollments (averaging 275). An average of two-thirds of the faculty had worked or studied in a foreign country and a reported 9% of their new graduates accept positions with international responsibilities. The average number of international programs available to students was 94, substantially higher than at other universities. The average number of international courses offered in the department (10.3) was also higher than for other departments although none of the departments in Group 1 offered degrees with an international focus.

Chairs reported a strong level of administrative support. Half had a designated faculty member specifically tasked with coordinating most or all

international educational and work opportunities for students. Seventy-five percent reported that faculty participating in international exchanges received stipends, and all reimburse their expenses (as compared to 34.6 and 80% averaged over all departments, respectively). All reported that participating faculty receive recognition through the annual review process and the importance of their participation in such was numerically but not statistically higher than among the other groups.

The 11 departments comprising Group 2 reported the least "sufficient" degree of curricular internationalization. Chairpersons expressed ambivalence about the degree of internationalization of their programs. They neither agreed nor disagreed that curricular internationalization had occurred through infusion but strongly disagreed that it had occurred through inclusion—(adding international courses). (Chairpersons in both of the other groups strongly agreed with the latter.) Chairpersons in Group 2 strongly agreed that curricular internationalization had been restricted to a few key courses rather than occurring throughout the degree program. Finally, while there does not appear to be a regional focus advanced by any of the groups, members of Group 2 less strongly agreed than others that curricular internationalization had included a content focus on regions of the world.

Members of Group 2 represented chairpersons leading smaller departments, measured by number of students and faculty, at smaller universities than their counterparts in Group 1. These departments had the lowest percentage of new graduates accepting positions with international responsibilities and offered the fewest number of foreign program opportunities and international courses to their students. Only one of the eleven schools reported having a degree with specific emphasis in international issues.

Chairpersons in Group 2 reported the lowest level of administrative support for international programs. Only 18% of departments reported having a designated faculty member to coordinate international opportunities for students (versus 40% over all schools). Compared to the other groups, a smaller proportion of departments provided stipends for, or reimbursed the expenses of, faculty participating in international exchanges. Only one-half (56%) of the departments considered faculty participation in international activities as part of their annual review.

Sufficiency of internationalization among the 13 member schools comprising Group 3 was reported to be moderate. Members were similar in attitude and composition to those of Group 2 but departments exhibited more curricular internationalization and chairpersons considered such more sufficient, although still only moderately so. Average level of

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agreement with the statement that the curriculum was sufficiently internationalized was between that of other groups. The average chairperson strongly agreed that international courses have been added and agreed that faculty have been encouraged to include international content in their courses but less strongly agreed that they have done so. [Level of agreement with the latter two statements was correlated ($P = .533$, $\alpha = .060$) but the means were different ($\alpha = .043$)] There was no difference between Groups 2 and 3 in average level of agreement that faculty do include an international component in their courses and internationalization has included adding international content to courses. For each, level of agreement was substantially below that assigned by members of Group 1. Level of agreement that internationalization of the curriculum has included adding international courses (inclusion) was high for, and not different between, Groups 1 and 3. However, members of both Groups 2 and 3 much more strongly agreed than members of Group 1 that it has been restricted to a few key courses rather than occurring throughout the degree program. Thus, departments in Group 3 agree they have added international courses but consider the scope of internationalization throughout their curricula to be limited.

In general, the departmental profile of Group 3 did not differ substantially from that of Group 2. Responding departments came from the smallest land-grant schools but had mid-sized departmental programs. Group 3 had the largest average undergraduate student/faculty ratio. An average of 48% of the faculty had studied or worked abroad. Thirty-one percent of departments offered an international agriculture-related degree, the highest among the groups.

Level of administrative support reported by chairpersons (Group 3) was between that of the other groups. Two-thirds of the departments had a designated faculty member responsible for foreign opportunities for students, the highest percentage among the groups. However, this was the only group including departments that had an international exchange director who did not receive compensation and was not reimbursed for expenses. Percentage of departments providing stipends, expense reimbursement, and recognition for participating faculty was between those in the other two groups.

International Study and Work Experiences

Chairpersons were asked to estimate student

involvement in semester long study exchanges or work experiences, and the number of such programs across countries open to undergraduates. Group 1 schools offered the greatest number of opportunities to their graduates, although all institutions reported large numbers of target country options (no differences among the groups). While it appears to be the case that the largest schools also send larger numbers of students outside the United States each year, the numbers are (absolutely) very low and there is no significant difference in percentage of students participating between the groups. In this respect, none of the land grant institutions appears to have successfully emphasized lengthy in country experiences, despite a professed plethora of opportunities. Nor do most schools appear to place significant numbers of graduates into positions with international responsibilities. Less than 7% of graduates were reported to have been placed in this type of position by the average department. The groups do not differ statistically on this dimension although again the larger schools comprising Group 1 place a numerically higher percentage of graduates in positions with international responsibilities.

Chair Perspectives on Employer Valuation of Entry Level Employee Experiences

Further profiling was carried out to investigate chairperson beliefs regarding employer valuation of credentials of those students hypothetically considered for an entry-level international related position, defined as comprised of at least 25% international duties. With one exception, no statistically significant differences were observed in these data attributable

Table 7. Chairperson Beliefs about Importance of Considerations by Employers for Entry-level Positions with International Responsibilities

Educational Achievement	Average (standard deviation) ^x			
	Overall	Group 1 ^y	Group 2	Group 3
Foreign language competency	5.9 (1.7)	5.0 (2.6)	6.6 (1.2)	5.8 (1.7)
International business courses	5.7 (1.5)	5.7 (1.5)	6.0 (0.9)	5.6 (1.8)
Intercultural communication courses ^z	5.0 (1.7)	6.7 ^a (0.6)	5.5 ^{ab} (1.4)	4.3 ^b (1.8)
Foreign Internship	5.6 (1.6)	6.3 (0.6)	5.1 (1.6)	6.0 (1.8)
Foreign study	5.8 (1.2)	6.3 (0.6)	5.4 (1.1)	6.2 (1.3)
Degree in International Agribusiness	4.4 (2.0)	4.0 (2.6)	4.4 (1.8)	4.9 (1.9)

^xLevel of importance on a scale from 1 = not important to 8 = important.

^yGroup sizes are 4 (Group 1), 11 (Group 2), and 13 (Group 3).

^zSignificant difference is indicated with lower case subscripts ($\alpha = .074$).

to the degree/nature of curricular internationalization reported by chairpersons (Table 7). Beliefs held by chairpersons concerning employer perceptions were that most of the attributes were modestly important (ranging from 5 to 6 on the 8-point scale). This concurred with valuations actually assigned by industry members of the International Agribusiness Management Association (IAMA) (Wachenheim and Lesch, 2002). Credentials chairpersons perceived

employers to consider most important were foreign language competency, foreign study and internships, and international business courses. Somewhat surprising given the implicit interest of industry members surveyed from IAMA, academic chairpersons in general tended to somewhat overestimate the importance placed on these four criteria related to the preparedness of students to work in positions with international responsibilities by IAMA members surveyed.

Overall, chairpersons believed employers considered a degree with an international emphasis the least important among the credentials, particularly those in Groups 1 and 2. (See also Wachenheim and Lesch, 2002.) Only one school in those groups offered such a degree compared to 31% of departments in Group 3. Members of Group 1 considered intercultural communication courses and foreign study or work experience most important, but attributed lesser importance to foreign language competency. Contrarily, members of Group 2 considered foreign language competency the most important among the criteria and members of Group 3 assigned a low level of importance to intercultural communication courses.

Discussion

Treatment of international issues in departments of agricultural economics at land grant universities throughout the United States, perhaps not unlike the experience underway in business schools, varies depending upon the type of school. This study documented differences as well as similarities among institutions in international curricular and organizational issues, providing a first-time benchmark for members of the field useful for internal as well as disciplinary review. Findings worthy of consideration in the continuing development of this curricular issue are first highlighted, and then suggestions for policy review are offered.

International Curricula from an Absolutist's Perspective

Put plainly, the number of students participating in the most involved and engaging forms of international education (exchange or work opportunities outside of the United States), is small. Contemporary numbers suggest that even the most aggressive of programs in business or agricultural economics result only in a small minority of students participating at this level. Both fields have the impetus, and in agricultural economics in particular, at least two segments of schools appear to have well developed infrastructure components in place. Low student involvement in foreign-located academic and work experiences continues despite the attributions of educators that "foreign internships" and "foreign

study" are somewhat valued by employers (see Table 7), considerably more so than a degree in international agribusiness. Unraveling the reasons behind this gap in our performance is worthy of continued and intensive study. One reasonable hypothesis is that one or more requirements of an international studies degree represent more value to employers than the degree itself (e.g., foreign experience). This underscores the need to involve employers in curricula design.

Self-reported levels of sufficiency associated with contemporary international programming suggest that agricultural economics is in approximately the same perceptual frame as business school counterparts some years ago. While agricultural economics chairs considered curriculum internationalization as more sufficient than members of the business profession consider the level sufficient in 2001 or in the early 1990's, neither did they consider the level sufficient in 2001. Correlates of assigned level of sufficiency with the degree of departmental internationalization in this field included faculty support and involvement, the addition of international coursework, the decision to concentrate upon a world region, and avoidance of relegating internationalization to a "few key courses." While a blend of methods was observed, reliance on infusion as a curricular strategy was prevalent. The exception to this approach tended to be members of the largest group of schools in the sample ($n = 13$) wherein nearly one-third of respondents offered a bona fide degree in an international area. This case study design cannot discern whether this represents a trend or is long-standing in nature, nor can the analysts in the absence of documents associated with individual program reviews assess the "adequacy" or "appropriateness" of the offerings with the local or regional needs. Most chairpersons do report a less than sufficient level of curricular internationalization; however, they define it within their own contexts and in light of their own goals. However, the perceived gap between what is and what is required for sufficiency is cause for continuing concern, and suggests that disciplinary discussions leading to consensus on standards and "best practices" in their achievement might be welcomed.

Some Comparative Conclusions

The categorization of departments by degree to which their curriculum is considered sufficiently internationalized and the means by which curricular internationalization has been achieved demonstrates the multiple paths taken to accomplish curricular internationalization in agricultural economics and suggests that it may parallel the paths taken by business schools. The present study affords finer level detail in that it describes the segmentation that

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exists in the former, i.e., a group of departments emerges that expresses that the level of internationalization of their curricula is more sufficient and believe they have achieved such through both infusion and inclusion. These departments demonstrate administrative support for, and achievement of, curricular internationalization at their home school (e.g., course content, courses, available opportunities for students) but their students do not participate in any more international exchange opportunities than those at other universities. The faculty have international experience. Chairpersons reported that two-thirds of faculty in these institutions have worked or studied abroad; all schools in this group report that at least half of their faculty have done so. It is promising to find that the chairpersons of these departments look to the role of foreign exchanges as important for students who will enter a position with international responsibilities, but it remains puzzling as to why so little experiential education occurs before employment. This warrants further study, as closing this gap may improve employment opportunities as well as entry level performance. These schools appear to be best positioned to do so. Qualitative studies of factors contributing to or impeding participation would be useful to all groups of institutions, providing of course that all viewed the benefits of exchange equally. That, of course, is not the case.

Comprised of 11 institutions, members of the second group had the smallest program size (undergraduates), smallest student faculty ratio, fewest faculty with international experience, and tended to place fewer students overall in study/employment opportunities abroad and with the fewest number of countries of involvement. This group also had the smallest percentage of graduates go into international positions. These schools, in general, do not agree that their faculty have added international content to their courses and agree even less strongly that their faculty are encouraged to do so. They have not added international courses. These schools have a comparatively less internationally experienced faculty and report lower levels of administrative support. Again, as one would expect from the literature, the focus of these schools tends to be on achieving curricular internationalization through infusion of course content at the home university although even efforts at such are only moderate. They tend to attribute more importance to foreign language competency.

Intercultural communication courses and an international degree are seen as moderate in importance. Foreign work or study experience for their students ranks as less important than is the case among other schools. Substantial numbers of students (and employers) are served by these schools,

and thus it is important whether the circumstances therein are conducive to existing or future career needs. This certainly warrants further study from either of two vantages. First, are the mission and programmatic objectives well-aligned with the employer constituency? If administrators and faculty can respond with a resounding yes, then comparative arguments about sufficiency may be dispelled. Alternatively, and in the absence of strong outcomes assessment (in this or other groups), these institutions are open to a potential claim of inadequacy.

The strategy employed by Group 3 institutions appears to be more focused in at least one important respect: nearly one-third of its member-schools offer an international degree. This suggests that either the values of the faculty or the needs of the market(s) served, or both, have coalesced to move these institutions to advance the internationalization theme over and above others. This specialization, exhibited in the form of focal courses (as opposed to infusion) and the presence of a degree program, differentiates this group from the others. Reasons for this could not be the focus of this study, but warrant closer scrutiny by the field as institutions attempt to improve international coverage. Most notable perhaps is the fact that roughly two-thirds of these programs employed a faculty director for foreign programming, more than any other group. This suggests that the presence of an "internal champion" can make a difference, despite the fact that resources differed little between this group and the others.

Summary

Regardless of the clarity of its value to those who directly and indirectly work within the international arena, and in spite of evidence that students perceive international experiences positively (Sarathy, 1990; Tillery et al., 1994), the results of this survey demonstrate that U.S. students enrolled in agricultural economics curricula, at least at land grant universities, by and large are not gaining international experience by studying or working abroad. Annually, in an average department, a reported less than 2% of students participate in an international study tour of at least six months and less than 1% work abroad. Providing students the opportunity, and motivating them to partake in international experience opportunities, is largely an educator responsibility. The data from this study suggest that faculty have substantial experience and support. According to our respondents, nearly half of our faculty have worked or studied abroad and an attributed 7% of our new undergraduates take a position with at least 25% international duties. The discipline offers an average of 31 international program opportunities to our students in as many countries and 6 international courses within our department curricula. Critically, a

gulf exists between what is offered and what is considered sufficient. Additional research into the specific competency outcomes of these programs is a logical next step. Such studies would certainly enliven the debate about degree and scope of necessary curricular reforms to meet the perceived needs of economic globalization of constituent industries and employers. As the United States this year will incur its largest trade deficit in history (approximately one-half trillion dollars), it should be clear that international trade is a daily business consideration and improved performance a matter of the public interest.

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