
Infusing a Global Perspective Into the College of Agriculture Curriculum: Topics, Activities, and Problems

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Introduction

America's young face a set of new national and international circumstances about which they have only the faintest of notions. They are, globally speaking, blind, deaf and dumb; and thus handicapped, they will soon determine the future directions of this nation. (Bonham, G. W., 1989:6)

Examination of the changes in agriculture and the entire educational system indicates great interest in internationalization. Bonham (1989) called for a major review of international education at colleges and universities across the U.S.A. A number of factors seem to be driving this movement. These factors include economics and economic competitiveness; interest of students, advances in agribusiness; relevance of educational programs in terms of their global nature and many problems; current and future market and job opportunities; and the need to interact with colleagues in other countries to gain access to information being generated elsewhere (Henson and Noel, 1989). These factors and others indicate the need for internationalization of the college curriculum if our agriculture industry is to remain competitive in today's global marketplace.

Today, one can hardly attend any professional meeting that relates to the teaching function at all levels of education where an emphasis is not placed on the need for internationalizing the curriculum. During the last five-year period, several educational organizations have had "internationalization of the curriculum" as the focus of their conferences. e.g. National Agricultural Research Association, Association for International Agricultural and Extension Education, and the Washington Conference on Internationalizing U.S. Universities and Colleges of Agriculture. In the paper entitled "A Plan for Internationalizing Agricultural Education in the United States of America", Martin (1987) stated:

The need for developing an awareness of the global nature of the agricultural industry has become one of the major issues of our time. It has become increasingly apparent that if a person is to be considered educated in agriculture, he/she must be cognizant of the interrelationships of various agricultural systems and

the governments, cultures and societies in which they function. It is no longer sufficient to know how to produce food and fiber and conduct or manage the many tasks in today's agricultural industry. Development and enhancement of one nation's agricultural system is unavoidably interwoven with those of other nations. If these developments and inter-relationships are to be successful, it is critical that students of agriculture learn as much as possible about systems of agriculture in cultures and societies around the world.

Recently, many universities and colleges have been examining the international dimensions of their programs and have concluded that the process of internationalization of the curriculum is a priority (Henson and Noel, 1989: 17).

The Problem

In the United States, a large number of studies carried out at national, regional and local levels have indicated a dismaying lack of knowledge of geography, languages, cultures, political and economic systems, and other internationally related topics among university students and the public (Lambert, 1989:103-1144). Lennon (in Reisch, 1987:75) stressed the importance of curricular change in colleges of agriculture in order to develop the visionary leadership essential to meeting increasing competition in the world marketplace.

Haynes (1990:4) also emphasized the need to internationalize higher education and indicated that the United States Department of Education was examining its programs to determine how to more effectively support university efforts to internationalize the curriculum. Haynes stressed that the environment has never been better for action directed toward internationalizing education. Americans are beginning not only to understand but to appreciate the critical relevance of an internationalized educational system (1990:5).

Many people believe that internationalization of the college curriculum has the potential to bring about substantial changes in student attitudes toward cultures and societies around the world and to provide alternative methods for dealing with them. What research has been conducted in this area has primarily centered on the internationalization of the entire university curriculum, and not on one aspect of it. A recent study focused on the internationalization of the cur-

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riculum of the College of Agriculture at Iowa State University.

For the purposes of this study, "internationalization" of the curriculum was defined as the incorporation of international dimensions, content and considerations into the teaching, research, extension and/or public service functions of the college to enhance their relevance in an interdependent world (Henson and Noel, 1989:17).

Purpose of the Study

The major purpose of this study was to assess and analyze perceptions regarding the infusion of a global perspective into the curriculum as identified by the faculty of the College of Agriculture at Iowa State University. An additional purpose was to determine those activities currently being used by teaching faculty to add a global perspective to the subject matter area of agriculture. More specifically, the objectives of this study were to:

1. Identify the extent to which teaching faculty in the College of Agriculture at Iowa State University agree or disagree with perception statements regarding internationalization of the agriculture curriculum.
2. Identify those concepts critical to adding a global perspective to the study of agriculture in the College of Agriculture at Iowa State University.
3. Identify specific demographic information of faculty members within the College of Agriculture at Iowa State University.
4. Identify activities or procedures currently being used by College of Agriculture faculty members which add a global perspective to the existing curriculum.

Methodology

The study was conducted using descriptive survey methods to analyze perceptions of College of Agriculture teaching faculty regarding the infusion of a global perspective into the agriculture curriculum, and to supply information on the performed activities, opinions, and concepts critical to adding a global perspective to the study of agriculture. The questionnaire was sent to 269 faculty members in the College of Agriculture at Iowa State University.

The instrument used in this study was primarily designed to identify the level of importance that instructors placed on internationalizing the curriculum in the College of Agriculture. The instrument also contained questions to determine perceptions held by instructors regarding teaching with an international perspective. The survey instrument consisted of 105 items organized into five sections. In two sections respondents were asked to use a five-point Likert-type scale (1-5) to indicate the level of their responses. In the other three sections respondents were asked to either list their responses or to fill in the blank.

Development of the instrument items was based on a comprehensive review of the literature, experiences of the re-

searcher and his major professor, and suggestions from faculty members in the Department of Anthropology at Iowa State University. Preliminary copies of the instrument for this study were distributed for review to Iowa State University professors who were not members of the College of Agriculture faculty, and to those faculty members serving on the researcher's graduate study committee. Additionally, graduate students in the Department of Agricultural Education and Studies were administered preliminary copies of the instrument. Upon receipt of the critiqued copies of the instrument, appropriate changes were made in the format and construction of questionnaire items in an attempt to assure face and content validity. A Cronbach's alpha coefficient was calculated as part of the data analysis in reliability tests for the sections which utilized the Likert-type scales of the instrument. The composite coefficient for these sections was .94.

Various statistical procedures were employed to analyze and summarize the data: means, standard deviations and frequencies. All analyses were conducted to answer the specific objectives of the study.

Major Findings

The major findings of the study were as follows:

1. It was the general perception of the respondents that the College of Agriculture curriculum at Iowa State University lacks a global perspective.
2. Internationalization of the curriculum was perceived to be important.
3. Approximately 41 percent of the respondents (teaching faculty) identified 'research' as their primary workload area.
4. Twenty-four percent of the respondents identified 'teaching' as their primary workload area.
5. Some teaching faculty in the College of Agriculture are incorporating teaching strategies and student learning activities into their coursework to add a global perspective to their instructional program.
6. Of the 155 respondents, eighty-one (52.2%) indicated that they were utilizing some activity to add a global perspective to the learning process.
7. Fifty-four of the respondents (35%) have spent a total of one year or more in countries other than the United States.
8. Respondents indicated a need for the College of Agriculture curricula to provide students with an international agriculture knowledge base.
9. Non-U.S. born individuals tended to be more supportive of internationalizing the curriculum.
10. Individuals who have had international experiences tended to be more supportive of internationalizing the curriculum.
11. Individuals who speak one or more foreign languages tended to be more supportive of internationalizing the curriculum.

12. Non-white respondents tended to be more supportive of internationalizing the curriculum.
13. Respondents indicated that environmental management and sustainable agricultural practices were the most important agricultural concepts to be taught from a global perspective. Other concepts important to be taught from a global perspective included: international marketing systems, world food production practices, political systems impact on agriculture, water management, and cultural traditions as they impact food production. Concepts of least importance to be taught from a global perspective included: mechanization in selected countries, labor availability, foreign language, global warming and world soil types.
14. Regarding departmental curricular problems, respondents indicated that the primary curriculum problem was that it is "too narrow and restrictive". The second most cited problem was that the curriculum needs "more student and faculty experiences", while the third most cited problem was that the curriculum "needs to be more applied." The least cited curricular problem was that there needs to be "more focus on research." (Figure 1).

15. Of the reasons cited by respondents for adding a global perspective to their coursework, "it is necessary for student development" and "it is pertinent to the course subject matter" ranked first and second. The least cited reason for adding a global perspective to their coursework was "because of student interest". (Figure 2).
16. Classroom discussion and debate were the primary student activities used to add a global perspective to the curriculum. The use of films, slides, videos and guest speakers both ranked second, while the student's and/or one's own international experience as a student activity was rated low by respondents. (Figure 3).
17. Of those topics used for discussion and/or debate, "world agricultural systems" (cropping, irrigation, management, etc.) was the general topic area most frequently discussed in courses to add a global perspective the curriculum, while "technical subject matter as it applied to specific courses, and "selected political and economic topics" were the second and third most discussed topics. "World education and extension systems" were the topics least discussed. (Figure 4).

Figure 1. Frequency distribution of the primary departmental curriculum problems impacting international agriculture as perceived by agriculture faculty at ISU (N=107)

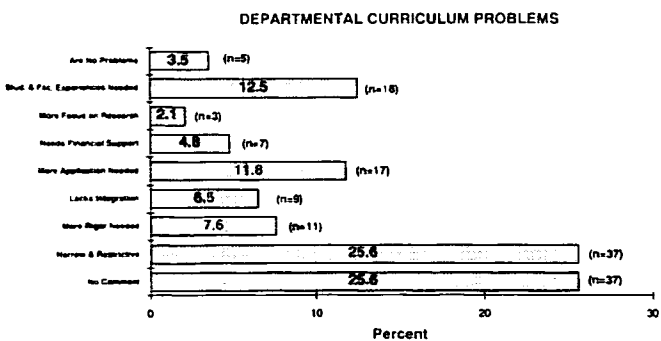


Figure 2. Frequency distribution and percentages of respondent reasons for adding a global perspective to the curriculum by agriculture faculty at Iowa State University (N=45)

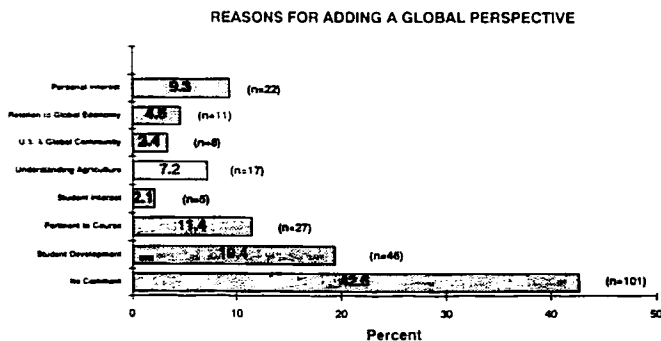


Figure 3. Frequency distribution of student activities used to add a global perspective to the curriculum by agriculture faculty at Iowa State University (N=57)

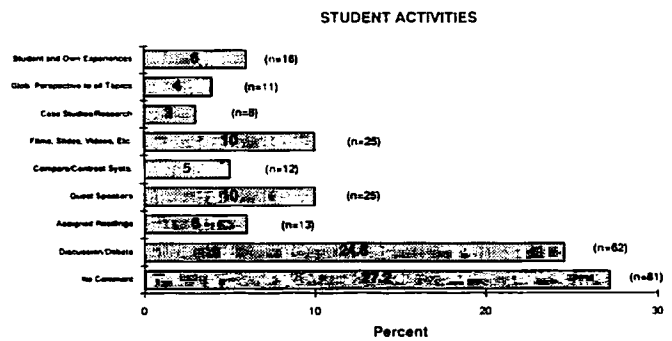
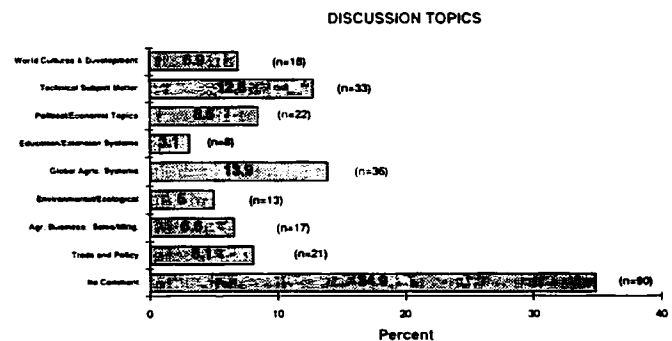


Figure 4. Frequency distribution of discussion topics used to add a global perspective to the curriculum by agriculture faculty at Iowa State University (N=56)



Conclusions

A review of the findings of this study resulted in the following conclusions:

1. In general, the curricula in the College of Agriculture at Iowa State University does not have a global perspective.
2. College of Agriculture faculty members indicated that the need for students gaining a global perspective while at the university is an important issue.
3. Respondents in this study, in general, seemed to indicate that it may or may not be necessary to add a global perspective to all courses but students should probably acquire this perspective while at the university.
4. A variety of teaching strategies (although narrowly focused) have utility in the process of adding a global perspective to the curriculum.
5. A narrow range of student learning activities from the international infusion effort.
6. International experiences have a significant impact on adding a global perspective to the teaching of technological agriculture.
7. Respondents, generally, were concerned about their departments' curriculum and that change was in order.

Recommendations

Based on the findings and conclusions of the investigation, the following recommendations were made:

1. The results of this study should be shared with agricultural faculty and administrators with the College of Agriculture at Iowa State University, and with other individuals and institutions responsible for planning and providing direction for internationalizing the agricultural curriculum.
2. College of Agriculture faculty should give serious consideration to studying a foreign language and encouraging students at the collegiate level to do likewise.
3. College of Agriculture faculty should become involved in various international projects and experiences and utilize these experiences in teaching.
4. The College of Agriculture at Iowa State University should foster and promote international experiences for faculty and students.
5. College of Agriculture faculty should be provided inservice education programs and workshops to develop strategies to add a global perspective to the teaching of agriculture.

Research Recommendations

The following recommendations for further research were suggested:

1. A more comprehensive study involving research and extension faculty should be conducted and results compared with the findings of this study.

2. Similar studies should be conducted to determine the perceptions of agriculture industry employers, policy-makers and government agency personnel, regarding internationalization of the agricultural curriculum at Iowa State University.
3. A similar study should be conducted to determine the perceptions of students of agriculture and graduates from the College of Agriculture at Iowa State University, regarding internationalization of the curriculum at Iowa State University.
4. Research should be initiated to further expand and validate the procedures used in this study with other target groups at Iowa State University and at other universities.

Concluding Remarks

One can conclude that faculty members serve as the key to successful internationalization of the curriculum. However, the process of internationalizing a curriculum rests on the development of a plan and a strategy. The development of this strategy should involve an appropriate participatory process which will promote ownership, define opportunities, benefits, and the current status of international efforts. The formulation of an overall plan provides direction and reduces the possibility of fragmentation and loss of opportunities as well as resources.

The international dimension of agriculture needs to be fully integrated into course offerings, and additional experiences and programs (exchange, training, etc.) are needed to provide administration, faculty, and students with the skills and knowledge to have at least an awareness, and preferable, an understanding of the world in which we live and work.

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